

**OBSTETRICS AND GYNAECOLOGY
SHORT AND LONG COMMENTARIES**

**PRESENTED FOR PART
FULFILMENT OF MASTERS OF
MEDICINE IN OBSTETRICS AND
GYNAECOLOGY, UNIVERSITY OF
NAIROBI**

BY

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NOVEMBER 2002

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DECLARATION

First my sincere thanks goes to the Board of Postgraduate studies for selecting me to join the master's course in Obstetrics and Gynaecology in the Department of Obstetrics and Gynaecology, University of Nairobi.

My special thanks goes to my wife Anne Wanjiru Wachira, my sons, Victor Murage, Eric Roy Kimani, my daughter Stephanie Gathoni for being a source of inspiration and encouragement even when the going was very hard.

Special thanks are expressed to the Director of Kenyatta National Hospital for sponsoring me for the course and allowing me the study leave.

I wish to thank in a very special way Dr. Njoroge Gichuhi, Head of Department of Obstetric and Gynaecology, Kenyatta National Hospital, for his moral and financial support that enabled me to complete my studies.

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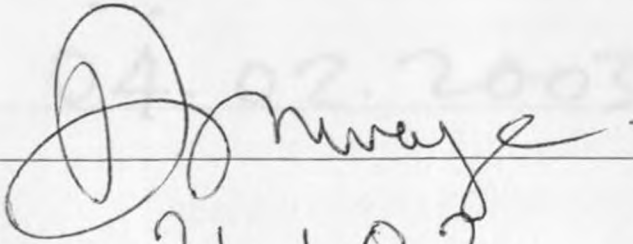
DECLARATION

The obstetrics and gynaecology short case reviews and long studies are original studies conducted by me.

The short cases were treated and operated by me under the supervision of senior members of the Department of Obstetrics and Gynaecology at Kenyatta National Hospital, Nairobi, Kenya.

Dr. Ephantus W. Murage

Signed



Date:

21.1.03

CERTIFICATION VISION

CERTIFICATE OF SUPERVISION

This is to certify that Dr. Ephantus W. Murage researched upon the long commentaries presented in the book under our guidance and supervision and that this book is submitted with my approval.

Signed



Date

04.02.2003

Dr. J.B.O. Oyieke, MBCHB, MMED (Obs/Gyn)

Chairman and Senior Lecturer,

Department of Obstetrics and Gynecology, University of Nairobi.

CERTIFICATE OF SUPERVISION

This is to certify that Dr. Ephantus W. Murage researched upon the long commentary presented in the book under our guidance and supervision and that this book is submitted with my approval.

Signed _____



Date _____

3. 2. 2003

Dr. C.S.G. Wasike MBCHB, MMED (Obs/Gyn)

Specialist Obstetrician and Gynaecologist

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CERTIFICATE OF SUPERVISION

This is to certify that obstetric cases 1,3,8,10,11,12,13,14,15 and Gynaecology cases 1,3,7,8,11,12 and 15 were managed by Dr. Ephantus W. Murage under my guidance and supervision at Kenyatta National Hospital.

Signed Wanjala

Date 28/2/03

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CERTIFICATE OF SUPERVISION

This is to certify that obstetric case 15 and Gynaecology cases 2,6,9 and 14 were managed by Dr. Ephantus W. Murage under my guidance and supervision at Kenyatta National Hospital.

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CERTIFICATE OF SUPERVISION

This is to certify that obstetric cases 2,4,5,6,7 and 9 and Gynaecology cases 4,5,10 and 13 were managed by Dr. Ephantus W. Murage under my guidance and supervision at Kenyatta National Hospital.

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DEDICATION

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To my wife Anne W. Wachira, my sons Victor Murage, Eric Roy Kimani and daughter Stephanie Gathoni for their continued support and understanding throughout the study. To my parents for their moral and spiritual support that has continued to assist me in my quest for more knowledge.

INTRODUCTION

KENYATTA NATIONAL HOSPITAL

Kenyatta National Hospital (KNH) is the largest hospital in Kenya. It is situated about three kilometers from Nairobi city center, on the western side of Nairobi. It is built on approximately 304 acres of land. It was started in 1901 when it was known as the Native Civil Hospital and later as King George's Hospital until 1964 when it became Kenyatta National Hospital. In 1987, it gained Parastatal status and now has its own management board headed by the Chairman. It has a capacity of about 1920 beds.

The hospital caters for the population of Nairobi and its environs. It is also the national referral hospital. Occasionally, it also receives patients from the neighboring countries for specialized treatment. It serves as training centres for both undergraduate and post-graduation students of the college of Health Sciences of the University of Nairobi. It also offers training for the students of Medical Training College, Nairobi.

- The ultra-modern ten-storey block which houses the main in-patient facilities, operating theatres, various pharmacies, physiotherapy and occupational therapy departments.
- The renovated old hospital complex which houses the radiotherapy department, dental and pharmacy departments, department of diagnostic radiotherapy, paediatric oncology wards, male and female adult observation ward, the administration department, a section of Kenya Medical Research Institute and some offices for the centre for Research in Reproduction.

- The out-patient department which comprises the casualty, various outpatient clinics including a family welfare clinic and the X-ray department. Recently the Nairobi hospice (Nairobi for the terminal care centre) was added.

Personnel drawn from the Ministry of Health and the University of Nairobi run the hospital.

OBSTETRICS AND GYNAECOLOGY UNIT

This unit was commissioned in 1965. Initially it catered for about 1500 deliveries annually but now it caters for 7000 deliveries yearly.

The outpatient services are offered at clinic 18 (for antenatal care, adolescent clinic, post-natal care, general gynecology, infertility and oncology clinics), family welfare clinic (No. 66) for family planning services and laparoscopy services and the casualty for emergency services.

In-patient services are offered in labour ward, six lying-in wards (3 maternity wards, 'cold' gynecology ward, and acute gynecology wards), amenity wards and maternity, a neonatal unit and a mothers' hostel (for the mothers whose babies are admitted to the neonatal unit) Patients are also reviewed in other wards on consultation.

The department is divided into three firms, each headed by two senior consultant obstetricians/gynecologists with a backup team of senior registrars, registrars, interns, nurses and paramedical staff. The staff that serves the University Departments of the Obstetrics and gynecology also helps the unit. The University Departments of OBS and GYNE offer the following services: radio immunoassay,

chemiluminescence, semen analysis, exfoliative cytology, surfactant bubbles test, glucose tolerance test, bilirubin spectrophotometry and chromosomal analysis. The unit also had an ultra-sound machine installed in labour ward. Non-emergency obstetric and all gynecologic scanning is done in the X-ray department by a consultant radiologist.

THE CASUALTY DEPARTMENT

In this section of the hospital, there is a receiving area for all gynecological and obstetric patients not already booked at the clinic. A medical officer screens all these patients and admits those requiring emergency admission and treatment or treats those he can and discharges them home. Some are given referral consultation papers to the clinic 18 (Gynaecology outpatient clinic).

OBSTETRICS UNIT

Obstetric services at KNH are provided at the antenatal clinic, casualty, labour ward, the three maternity and the postnatal clinics.

ANTENATAL CARE (ANC)

Only high-risk patients are booked for antenatal care at KNH. The booking clinics are held every Monday by the three firms in rotation and each week about fifty (50) high risk patients are booked for follow up. The patients are first interviewed by the midwives who record the personal history, medical and obstetric history. Next their height, weight and blood pressure are measured and urinalysis done. Finally, a senior registrar reviews all the patients and selects those who are high risk for follow-up in the ANC. Some of the criteria for booking are:

- Primigravida: The single teenage primigravida are all booked to a special adolescent antenatal clinic run on Monday afternoon. The others are elderly or short primigravidae below 145 cm in height.
- Grand multiparity: Para 5 and above.
- Bad obstetric history: Including recurrent abortions, previous stillbirths, neonatal deaths, and premature deliveries.
- Previous operative deliveries: Cesarean section, vacuum extraction.
- Previous obstetric complications: Obstructed labour, prenatal deaths, postpartum haemorrhage, uterine rupture, and obstetric fistulae.
- Medical conditions complicating pregnancy: Anaemia, diabetes, hypertension, psychiatric illness, and thyroid disease.
- Miscellaneous: Suspected multiple gestation, previous infertility, and ovulation induction.

Once a patient is booked, her personal, past obstetric, gynecologic, medical and surgical histories are taken; blood pressure and urinalysis results are recorded on the antenatal card. The patient is then examined by the registrar, who notes the gestational age, uterine size, fetal lie and presentation and fetal heart sounds on the antenatal chart. Blood test for haemoglobin estimate, Venereal disease research laboratory (VDRL), blood group and Rhesus factor are requested. Currently, screening for HIV-1 by ELISA has been introduced. Other tests such as random blood sugar, coombs tests, urea and electrolyte and uric acid, glucose tolerance tests or ultrasound may be requested depending on individual patients. The patients who are not booked are advised to attend various peripheral health units closest to their homes for their ANC.

SUBSEQUENT FOLLOW-UP

These are held on Tuesdays, Wednesdays and Thursdays in the morning period on FIRM basis occasionally before the clinic begins. The patients are given antenatal education on personal hygiene, exercise, diet, breast care, labour and care of the newborn and group counseling for HIV testing by the midwives. Subsequent visits are four weekly up to 28 weeks gestation, two weekly up to 36 weeks and then weekly until delivery. However, some patients may be seen more frequently depending on the individual needs.

During each visit, the following are done:

- Physical measurements except height are repeated.
- Abdominal palpation is done to determine fetal lie, presentation size, and fetal heart sounds are calculated.
- A urine specimen is examined for protein in particular.
- The patient is questioned regarding symptoms and signs of any disease.
- Treatment is then started, changed or conditioned depending on the findings on examining the patient.

At thirty-six weeks, clinical assessment is carried out on all primigravida. A clinical and radiological pelvimetry is done for those with one previous cesarean section or with breech presentation to decide on the mode of delivery. On erect lateral pelvimetry, if the true conjugate is less than 10.5cm repeat cesarean is planned for those with one scar, and if the true conjugate is less than 11.5cm or more, then virginal delivery is allowed. At thirty-seven weeks, amniocentesis (lung maturity) is done in-patient planned for elective induction of labour or delivery by

cesarean section. Patients with complications are admitted to the maternity ward for observation, investigations and treatment.

AMNIOCENTESIS

This is done for:

- Surfactant test to assess fetal lung maturity in-patients scheduled for elective cesarean section delivery or induction of labour. This is done at 37 completed weeks.
- Bilirubin spectro-photometric measurement in cases of rhesus iso-immunization.
- Alpha- fetoprotein measurement in cases of suspected neural tube defects.

Full aseptic technique is necessary. The skin is cleaned with methylated spirit or any other antiseptic lotion and draped and the operator scrubs and puts on sterile gloves. In the majority of patients, a 21- gauge needle is long enough and local anesthesia is not required.

The patient empties her bladder and lies on a couch. The suprapubic area is cleaned after auscultating the fetal heart tone and noting the rate and regularity. By gentle manipulation, the presenting part is displaced out from the pelvis and held with one hand. Without moving this anchoring hand, the needle is plunged into the uterus and about 5ml of liquor aspirated. The fetal heart rate is checked again. The patient then lies on the left lateral side and the fetal rate is checked again. The patient then lies on the left lateral side and the fetal heart rate is checked every fifteen minutes for two hours.

THE SURACTANT TEST

This done in the laboratory in labour wards. One militre of amniotic fluid and an equivalent amount of 95% ethyl alcohol are added to the test tube A; 0.5ml of amniotic fluid and 0.5ml of normal saline and 1 ml of ethyl are added to test tube B. Both tubes are vigorously shaken for 15 seconds and left to stand in good light for about 15 minutes. The persistence of an intact ring of bubbles at the air-liquid interface is a positive test.

MATERNITY UNIT

This comprises of the labour ward, three antenatal or lying in wards and the newborn unit and private maternity cum labour ward. The labour ward and two antenatal wards are on the ground floor of the tower block, while the third antenatal ward, private maternity cum labour ward and newborn unit are on the first floor.

MANAGEMENT OF LABOUR

Active management of labour is universally practiced in this unit. On admission, the patient is first seen by the midwife and the houseman, then by the registrar. A full history is taken, the antenatal card is reviewed (if available) and a thorough examination conducted.

FIRST STAGE OF LABOUR

In the first stage, the patient is reviewed by the registrar on duty. If the patient is in active labour, a partogram would have been started by the houseman. The patient's perineum may be shaved and soap water enema is given for those in early labour or those for induction of labour. Aseptic digital examination is performed if the patient is in labour except where history of antepartum haemorrhage or premature

rupture of membranes is present, when a sterile and gentle speculum examination is done.

PELVIC EXAMINATION

The patient is explained the necessity of the examination and is then asked to lie comfortably on the bed with her legs flexed and abducted, after emptying her bladder. A vulvo-vaginal toilet is done with a swab's dipped in antiseptic solution. The vulva is cleansed above downward and a way from the introitus. Vulva folds are carefully cleansed, and as a swab passes over the anal region it is discarded. After this the examiner's gloved left thumb and index finger are used to separate the labia widely to expose the introitus while the index and middle fingers of the right hand are introduced in to the vagina-first one then both. The following are particularly noted:

- **Cervix:** assess, softness, length/effacement, dilatation, position and relation to the presenting part.
- **Membranes:** assess, whether intact or ruptured
- **Cord:** presentation or prolapse
- **Presenting part:** nature, position, station, presence of caput and/or moulding
- **Clinical pelvimetry:** adequacy of pelvic is judged from the diagonal conjugate by defining the sacral promontory, estimating the depth of the sacral concavity, by checking on the prominence of the ischial spines, and pelvic walls, estimating the sub-public angle intertuberous diameter.
- **Vaginal and perineum:** distensibility and moistness, presence of any discharge.

If the cervix is 3-4cm dilated and the membranes are bulging, amniotomy is done.

AMNIOTOMY

Done when the patient is in the active phase of labour or is for induction of labour. When the presenting part is not engaged; an assistant is asked to stabilize it into the pelvic cavity. An aseptic vaginal examination is done to rule out cord presentation and to sweep the membranes free from the lower uterine segment. The index and middle fingers of the right hand are introduced in to the cervical os to ensure that the cervix is not traumatized. Using the left hand, a straight Kocher's forceps is used to nip the fetal membranes after which the liquor is allowed to drain out under control. The lower segment is then swept after ensuring that the cord has not prolapsed and the portion of the presenting part is defined. The presence of meconium is noted.

Repeat pelvic examinations are performed every 4 hours or more often as the circumstances dictate and the patient is encouraged to lie on the left lateral position. A partogram is utilized to record the progress of labour as well as maternal and fetal behaviour in labour. The following are recorded on a partogram:

- The patient's particulars and in-patient number
- Date and time of each examination and procedure
- Blood pressure, pulse rate, respiratory rate and temperature
- Duration and frequency of uterine contractions
- Fetal heart rate and rhythm
- Descent of the presenting part into pelvis (in fifth)
- Cervical dilatation
- State of membranes –time and method of rupture, colour of liquor
- Degree of caput and molding

- Medication administration, dosage and time
- Urine examination

The partogram observation are made half hourly. Alert and action lines are drawn from the time active labour start (at a cervical dilatation of 3 cm in primigravidae and 4-5cm for multigravidae) to a gradient of 1cm cervical dilatation 4 hours a part. Using the partogram, abnormalities of labour such as maternal or fetal distress, poor progress, cephalopelvic disproportion, impending uterine rupture, can be detected and timely action taken. Analgesia is given in the first stage. Pethidine given in early stage or those in false labour. Morphine is used in cardiac patients and sicklers.

In case of inadequate uterine contractions and in the absence of cephalopelvic disproportion, labour can be augmented with oxytocin (syntocinin) infusion. Routine induction of labor is achieved usually by amniotomy and oxytocin infusion. Prostaglandin vaginal pessaries/swabs may be inserted the day before to ripen the cervix where indicated. Extra-amniotic prostaglandin is preferred for cases with intrauterine fetal deaths.

SPECULUM EXAMINATION

This is performed in cases of antepartum haemorrhage or rupture of membranes. The patients is placed in lithotomy position on a delivery couch, the vulva is cleansed with antiseptic solution and draped with sterile towels. The labia majora are separated by the thumb and index finger of the gloved left hand and the Cusco's speculum is gently inserted in to the vagina with the blade horizontal and the valves slowly opened. Using a good light source, the cervix is visualized and inspected closely for dilatation, bleeding, drainage of liquor, any local lesion

presence of discharge. The vaginal walls are also inspected as the speculum is gently withdrawn in the same manner as it was inserted.

SECOND STAGE OF LABOUR

This starts from the time of full cervical dilatation to the complete delivery of the baby. Once the patient is confirmed to be in second stage of labour as per abdominal and vaginal examination and has the urge to bear down, she is transferred to the delivery room and placed on a delivery couch. Most normal deliveries are conducted by midwives or student midwives and medical students under supervision. Cases such as multiple gestation, breech presentation and premature deliveries, these are conducted by the registrar with the pediatrics registrar in attendance.

The doctors or midwife performing the delivery scrubs, then a dons a sterile gown and gloves. An assistant then places the patient in supine position with the flexed and abducted. The perineum is cleaned with antiseptic solution and draped with sterile towels. A digital examination is done to confirm full dilatation of cervix and to establish the station and position of the presenting part. The patient is encouraged to bear down with each contraction and to relax in between. The fetal heart rate is monitored every five minutes.

When indicated by a tight perineum or premature baby, an episiotomy is made as the head crowns. The perineum is infiltrated with 10ml of 1% procaine or 1% lignocaine hydrochloride and once the perineum is distended by the presenting part, then a mediolateral episiotomy is made by starting at the midline and weering to the left side. When the fetal head distends the perineum, the latter is supported by a sterile pad in the right hand and the left hand is used to maintain flexion of the

head. The head is delivered slowly and steadily with each uterine contraction. Once the head is delivered, mucus is wiped from the mouth and nostrils with gauze and finger is passed round the neck to rule out the presence of the cord and if found and not tight, it is slipped over the head to free it, if tight it is doubly clamped and divided. By downward and forward traction, the anterior shoulder is delivered and then posterior shoulder. Intramuscular ergometrine 0.5 or syntometrine one vial is given with the delivery of the anterior shoulder in normal uncomplicated deliveries. Ergometrine is not given to cardiac, hypertension, anemic, sickle cell disease and multiple gestation patients. In-patients with multiple gestations, ergometrine is only given after delivery of the last baby.

The rest of the body is delivered by gentle traction and maternal effort. If not already done, the cord is divided between two clamps, the baby is shown to the mother and then handed over to the assistant who extracts the mucus, resuscitates the baby if necessary, labels the baby, does Apgar scoring, examines for congenital abnormalities and then weighs the baby. The normal duration of second stage is half an hour.

OPERATIVE VAGINAL DELIVERY: VACUUM EXTRACTION

Vacuum extraction is used to assist in the second stage. Indications for its use include poor maternal efforts, fetal distress and to shorten the second stage of labour in cardiac disease, hypertensive disease, sickle cell disease and severely anemic patients. It is either an elective or an emergency procedure.

The patient is placed in lithotomy position, external genitalia cleaned with antiseptic solution and the patient draped with sterile towels with only the vulva exposed. Aseptic catheterisation to bladder is done and a repeat vaginal

examination to rule out any contraindications to a vacuum delivery such as cephalopelvic disproportion, malpresentation, etc. The biggest ventouse cup that will slip into the vagina and through the cervix which must be over 8cm is then applied onto the fetal head, as close to the occiput as possible and avoiding the fontanelles.

Any vaginal or cervical tissue between the cup and fetal head is swept off to avoid any trauma. A vacuum negative pressure is built up slowly and gently at rate of 0.1 kg/cm² every minute up to 0.5kg/cm² and should not exceed 0.8kg/cm², allowing an artificial chignon to form within the ventouse cup and continuously ensuring not to traumatize maternal tissue. Traction is then applied with each contraction with one hand pressing the cup onto the fetal head at right angles to the line of traction. An episiotomy is required to allow the posterior pull needed by a vacuum extractor. Once the baby's head has been delivered as for any delivery.

THIRD STAGE OF LABOUR

A kidney-dish is placed against the patient's perineum to receive the blood and the placenta. Once the signs of the placenta separation (firm contraction uterus lengthening of the umbilical cord, or a gush of blood vaginally) appear, the placenta is then delivered by controlled cord traction.

The left hand is applied to the uterine fundus pushing it upwards while the right hand pulls gently but firmly on the umbilical cord with antero-posterior movements. The third stage should be completed in half an hour. Once delivered, the placenta is examined for completeness, infarcts, and abnormalities and is then weighed. The total blood loss is estimate. The uterus is palpated to make sure it is well contracted. The perineum, vagina and cervix are inspected for injury which if

present, can be repaired at the same time as the episiotomy but if extensive then under general anesthesia.

REPAIR OF EPISIOTOMY

The patient is placed in lithotomy position. The episiotomy wound is exposed by packing sterile gauze high in the vagina and retracting the posterior vaginal wall towards the perineum with the index and middle fingers. The repair is carried out in three layers, using number 0 chromic catgut. The repair is started at the apex of the vaginal incision- the mucosa is repaired first in a continuous suture while the muscle layer is next approximated with interrupted sutures. The skin then repaired last with interrupted sutures burying the knots to reduce post-operative pain. The vaginal pack is removed and the repair is inspected especially at the apex to make sure it is properly done. A sterile sanitary pad is then placed on the vulva. The patient is observed for two hours in labour ward and if vital signs are stable, she is then transferred to be postnatal ward with the baby, after the midwife has notified the birth of the baby.

THE IMMEDIATE PUERPERIUM

The patient is kept in labour ward for two hours during which the uterus is evaluated frequently to avoid post partum haemorrhage resulting from uterine relaxation. At the slightest sign of relaxation, the fundus is massaged. The vulva and perineum are also inspected frequently to allow prompt identification of any excessive bleeding. The patient is then transferred to the lying in ward when her general condition and vital signs are stable. In the ward the patient is observed four hourly for vital signs and lochia loss. Early ambulation is encouraged and postnatal exercise and episiotomy care is taught. If there is no complication, both mother and

baby discharged home after 24 hours, to be reviewed in the postnatal clinic after six weeks.

OBSTETRIC OPERATIONS

The common operative procedures include amniotomy, episiotomy, manual removal of the placenta, repair of cervical tear, vacuum extraction, cervical cerclage, postpartum tubal ligation and cesarean section. Some of these procedures are discussed elsewhere in the introduction, while others are presented under appropriate case records.

CAESAREAN SECTION

The lower uterine segment cesarean section is the commonest major obstetric operation performed. It is done either electively or as an emergency. Classical sections are rarely performed.

PRE-OPERATIVE MANAGEMENT

Those undergoing the elective operations are starved for six hours prior to the operation. The haemoglobin estimation and the blood grouping and cross matching will have been done earlier in the ward. Informed consent for the operation and general anesthesia is obtained. Two units of compatible blood are obtained. The abdominal wall, vulva and perineum are shaved clean. Pre-medication with intramuscular atropine sulphate 0.6mg is given half an hour before the patient goes to theatre. For cardiac patients 0.4 mg hyoscine is used instead.

THE OPERATION

In theatre, the patient is placed in a supine position and an intravenous infusion if not already up, is started through a large bore intravenous cannula. The patient's legs are then flexed and abducted and the vulva-vaginal toilet done with antiseptic solution. Aseptic catheterization is carried out and all the urine is drained and the catheter retained. The legs are then straightened out. The surgeon, an assistant and an instrument nurse then scrub up and put on sterile gowns and gloves. The patient's anterior abdominal wall is then cleansed with antiseptic solution and methylated spirit or iodine before being draped with sterile drapes exposing only an area bounded by the mons pubis below to 4cm so above the umbilicus and for 2cm on each side of the midline.

For five minutes, the patient is pre-oxygenated with 100% oxygen. General anesthesia is then induced with intravenous thiopetone sodium 200-300mg depending on the patient and a short acting neuromuscular blocking agent-suxamethonium 100mg. Endotracheal intubation is then done and anesthesia is maintained with nitrous oxide and oxygen in a ratio of 1: 1 before the baby is born and ratio of 2:1 after delivery of the baby. A total of 6-8 litres per minute is used depending on the circuit used.

Throughout halothane 0.5% is used to maintain unawareness. When the effects of suxamethonium wears off, usually after pancuronium bromide 0.08mg/kg, a non-depolarization neuro-muscular agent, is used for muscle relaxation. Curare, also a long-acting muscle relaxant if used, is only after delivery of the baby in a dose of 0.5 mg/kg.

The abdomen is then opened in layers through a midlines sub-umbilical incision and rarely through a pfannesteil or paramedian incision. The incision is deepened through the subcutaneous fat to the rectus sheath with a clean knife. The sheath is then opened longitudinally with curved Mayo's scissors. One side of the divided rectus sheath is elevated with two artery forceps and the rectus abdominis muscles are separated from their attachment to it using a surgical blade, then drawn to one side expose the peritoneum. The latter is picked at its upper thirds between two Spencer-wells forceps 2cm apart and with a scissors after inspection and palpation is done to ensure that the bowel and bladder are safe. It is opened and the incision extended up and down to the incision limits. The uterus is then identified and any marked dextro-rotation is corrected. Wet sterile warm abdominal packs are placed on either side of the uterus to prevent spilling of blood and liquor in to the general peritoneal cavity.

A Doyen's retractor is then used to reflect the bladder downwards as well as to expose the utero-vesicle fold of peritoneum. Using a non-toothed dissecting forceps the peritoneum over the lower uterine segment is picked up incised with curved scissors in an elliptical manner. The peritoneum is then stripped off the lower uterine with a mounted swabs. The Doyen's retractor is shifted to include the lower part of the peritoneal fold in retraction of the bladder away from the lower uterine segment.

The lower uterine segment is then incised in the middle about 2cm below the uterine attachment of the utero-vesicle peritoneal fold. Once the membranes are reached, the incision is extended laterally on either side in elliptical manner using curved delivery of the head and trunk. The retractor is removed. The membranes are then ruptured and then either the left or right hand is slipped in to the uterus

between the fetal head and the symphysis pubis and the fetal head is lifted with the fingers and palms through the incision while modest fundal pressure is applied.

After delivery of the head, the nostril and mouth are cleaned, the shoulders are then delivered using gentle traction plus fundal pressure and the trunk follows readily. As soon as the shoulders are delivered, the anesthetist gives the intravenous ergometrine 0.5mg. The cord is then clamped and divided and the baby handed over to an assistant for resuscitation if necessary. The placenta and membranes are delivered manually by controlled cord traction. Green Armytage uterine clamps are used to hold the cut edges of the uterus especially the lateral angles to control bleeding and the uterine cavity is cleaned of blood clots. If the cervix was not dilated in labour, it is now dilated with a swab on a sponge holding forceps to allow postpartum lochia drainage. Adequate hemostasis is ensured from the placenta bed before closure. The Doyen's retractor is re-applied.

The uterus may be lifted out through the abdominal incision. The uterine incision is then closed in two layers with number 2 chromic catgut, a continuous stitch for both layers, the second layer burying the first one and extending beyond its lateral edges. The utero-vesicle peritoneum is then closed with number one chromic catgut also in a continuous stitch.

The abdominal packs are removed, the abdominal cavity cleaned and the pelvic viscera then inspected for any abnormality. Instruments and swabs are counted and if reported correct, the abdomen is then closed in layers- the peritoneum with continuous number one chromic catgut, the rectus sheath with continuous number 2 chromic catgut, subcutaneous fat layer with interrupted number 2-0 chromic catgut and the skin with interrupted number two silk or nylon.

The wound is cleaned with antiseptic solution, dried with gauze, then dressed with sterile gauze. The bladder catheter is removed and the colour of the urine noted. The uterus is massaged and any blood expressed and evacuated from the vagina and a clean sanitary pad applied.

General anesthesia is reversed with 1.2mg intravenous atropine sulphate and 2.5mg neostigmine. Extubation is done and the oropharynx sucked to remove secretions. Total blood loss is estimated and recorded and the patient transferred from the theatre into the labour ward after establishing that initial post-operative vital observations are stable.

POST CASAREAN SECTION CARE

The pulse, temperature, blood pressure and respiratory rate are observed half hourly until the patient is fully awake, then four hourly. For analgesia, pethidine is used. Intravenous 5% Dextrose and normal saline are given alternately each 1000mls every 8hours until the bowel movements are re-established. Oral sips are then introduced followed gradually by the diet. Blood transfusion is rarely necessary after cesarean section. Prophylactic antibiotics are given routinely to all patients. Initially the patient is observed in labor ward. If her general condition remains stable and satisfactory, she is transferred to the lying in ward.

On the third post-operative day, the hemoglobin level is checked and the urine specimen cultured. The patient is regularly attended by a physiotherapist and early ambulation is encouraged. On the third day, the dressing is opened and wound is inspected. After inspection, the wound is dressed. If there are no complications, the stitches are removed on the seventh post-operative day. If patient is doing well, she is discharged on the fourth or fifth day. The patient is discharged with a case

summary. Before discharge, patients are explained the nature and possible consequences of the operation. She is also advised on the necessity to space her next pregnancy to allow adequate scar healing. She is also advised to take the baby to the child welfare clinic in two weeks and to attend the postnatal clinic in six weeks.

CARE OF THE NEWBORN

Normal babies are allowed to stay with their mothers unless the mother is very sick in which case the baby is admitted to the nursery. All babies with problems are admitted to the nursery and the premature ones are managed there till they acquire the weight of 1800g. All babies are immunized with BCG before discharge. The mothers who themselves are well but have babies in nursery are lodged in the mothers' hostel.

POST NATAL CLINIC

This is held every Friday morning and is conducted by the registrars of each firm in rotation. The mothers who attend it are those who have operative delivery or had problems such as pre-eclampsia, chronic hypertension, cardiac disease, etc. The blood pressure and body weight is checked and urinalysis is done. A physical examination is carried out to check for anemia, uterine involution, abdominal tenderness or masses and for any breast problems.

Resumption of menstruation and lactation is enquired. The health of the baby and breast-feeding is also reviewed. The patient is counseled on contraception and anticipated problems in future pregnancies. For contraception, patients are referred to the family welfare clinic.

THE GYNAECOLOGY UNIT

This consists of out patient clinic No. 18, the two family planning clinics, one situated within the gynecology clinic and the second one, the Family Welfare Clinic (No. 66), situated near the casualty, the three gynecological wards, ward 6 for emergency gynecological admission and ward 4 for non-emergency conditions and casualty. Emergency and non-emergency gynecology theaters are among the ten operating theatres.

THE GYNAECOLOGY CLINIC

There are out patient clinics sessions on Tuesday, Wednesday and Thursdays in the afternoon for each of the three firms. The consultants, senior registrars, man these general clinics and each of the patients seen here are either referred from other hospitals, health centers or casualty, and post-operative patients discharged after gynecologic surgery. In the clinic, history is taken, thorough physical examination is conducted and most of the investigations are carried out in readiness for the surgery when indicated. The specialized clinics held are:

- The infertility clinic on Monday afternoon. The infertility couples are seen and investigations commenced.
- The gynecology oncology clinic held on Friday morning is for patients discharged from ward 6 with oncology problem.
- A senior registrar runs the colposcopy clinic, every Friday morning. Patients are referred to this clinic from all over the country.

WARD SIX (1D)

This is the emergency gynecology ward having 33 beds. An average of 25-30 patients is admitted daily and most of these are abortion cases admitted via casualty. All patients are first examined by the interns, then reviewed by the registrars and then the seniors registrar if the need arises.

The three firms are responsible for the running of ward 6 alternately on weekly basis. The cases admitted are all the complications, which are related to abortion, pelvic inflammatory disease, ectopic pregnancy, pelvic abscess, bartholins abscess/cyst, abdominal uterine bleeding, carcinoma of the cervix, etc.

Uncomplicated cases of incomplete abortion undergo uterine evacuation using Karman's canular in the procedure room within the ward. The patients are discharged home the same day. The single patients admitted with incomplete abortion are counseled before discharge. Patients who have undergone laparotomy, which is usually performed within 24 hours of admission, are discharged home after between 4-7 days then to be followed up to the gynecology clinic.

WARD 4 (1B)

These are the non-emergency ward with 32 beds each and are shared by three firms. Patients are admitted via the clinic or are transferred from the emergency gynecology ward. These patients usually with established diagnosis and adequate work up undergo only basic routine investigations (hemogram, blood group, and cross -matching, urea and electrolytes, pap smear, HIV screening, occasionally liver function tests or intravenous urography) on preparation for scheduled operations on specify theatre days. Appropriate chemotherapy is administered to specific patients with specific conditions (choriocarcinoma, ovarian malignancies).

Majority of the patients in these wards has uterine fibroids, urinary and rectal fistulae and infertility and all awaiting surgery.

THEATRE SHORT CASES

CAESIUM THEATRE EMERGENCY CAESAREAN SECTION

This is situated within the radiotherapy department. On Tuesday morning, examination under anesthesia, staging and biopsy of all malignancies especially cervical cancer is done by the registrar. At the same time, the intra-cavity cesium insertion on cervical carcinoma patients is done by the radiotherapist.

THEATRE PRESENTING ILLNESS

THEATRE FACULTIES

Each firm has one specify day non-emergency operations such as hysterectomies, tubal surgery, and repair of vaginal fistulae, etc. All the firms use theatre 7 within the main theatre complex. In addition, each firm on the rotational basis operates on Fridays. A second theatre is available everyday for emergency procedures such as laparotomies for ectopic pregnancy, pelvic abscess and others such as fractional curettage, marsupialization of Bartholin's abscess, removal of displaced intrauterine devices, etc.

FAMILY WELFARE CLINIC (CLINIC 66) HISTORY

This offers family planning services and operates out of the two areas, the Family Welfare Units (clinic 66) near the casualty and the small Family Planning Clinic in clinic 18. It is mostly run by especially trained nurses. One registrar is posted to the clinic every week mainly to review patients with complications and insert or remove Norplant implants or intrauterine devices.

2. AND FAMILY HISTORY

was housewife and lived in Karlozongi. She did not smoke.

OBS CASE 1

OBSTETRICS SHORT CASES

CORD PROLAPSE - EMERGENCY CAESEREAN SECTION

NAME: B.M. IP NO.: 0873200
AGE: 24 YEARS D.O.A.: 16.7.2002
PARITY: 0 + 0 GRAVIDA 1 D.O.D.: 20.7.2002

HISTORY OF PRESENTING ILLNESS

She presented in labour ward as a referral from a city health clinic where they had done artificial rupture of membranes and got a pulsating cord hence referred for emergency caesarean section.

HISTORY OF PRESENT PREGNANCY

Her LMP was on 13th December 2001 therefore making the gestational age 36 plus weeks. She was a primigravida and had attended clinic at St. Johns Health Clinic from a gestation of 16 weeks till delivery. No antenatal profile was done.

3. EXAMINATION

PAST OBSTETRICAL/GYNAECOLOGICAL HISTORY

She attained menarche at 13 years. The flow was regular coming every 28 days and lasting every 2-3 days. She had not cited any method of contraception.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was a housewife and lived with husband in Kariobangi. She did not smoke nor drink alcohol. Her husband was a casual worker. There was no family history of chronic illness.

PHYSICAL EXAMINATION

Her general condition was good, afebrile and she was not pale and did not have oedema or jaundice. Vital signs: BP 100/60 mmHg, pulse 50 beats per minute, respiratory rate was 80 per minute and the temperature was 36.4°C.

ABDOMINAL EXAMINATION

It was evenly distended with no area of tenderness; the fundal height corresponded to term. The foetus was in longitudinal lie, cephalic presentation and 2/5 of the presenting part was palpable abdominally. The foetal heart was heard and was irregular ranging from 120 - 100 beat per minute. She had 2 contractions every 10 minutes each lasting about 40 seconds.

VAGINAL EXAMINATION

The external genitalia was normal, the pad she had was soaked with liquor, which was green. On digital vaginal examination, the cervix was well effaced, 8 cm dilated, the membranes were intact. The true conjugate was estimated at 10 cms, the Ischial spines were prominent, the pelvic sidewalls were convergent The subpubic angle could admit one and a half fingers. The pelvis was therefore considered inadequate by clinical evaluation. A cord was palpable which was pulsating; the liquor was meconium stained grade 1.

OTHER SYSTEMS

The respiratory, cardiovascular and nervous systems were all found to be normal.

DIAGNOSIS

A diagnosis of cord prolapse in a primigravida at term was made.

INVESTIGATION

Haemoglobin level - 12 g/dl
VDRL - Negative
Blood group - O rhesus positive.

MANAGEMENT

The diagnosis and the need for emergency operation was explained to her and consent obtained. Meanwhile she was placed in Trendelenburg's position Oxygen was given by mask. An intravenous line was established and blood drawn for grouping and cross matching. A theatre list was made and an intramuscular injection of 0.6 of Atropine was given before the operation.

LABOUR AND DELIVERY

An emergency caesarean section was performed as described above. The outcome was fresh stillbirth female weight 3000 gm. The liquor was meconium stained grade I. Placenta was fundal and was delivered by controlled cord traction, it weighed 400 gm, no abnormality was noted on the placenta, membranes or cord. The estimated blood loss was 300 - 400ml.

POSTOPERATIVE CARE

The general care was as described in the introduction. She was on an intravenous infusion of 500ml of normal saline alternating with 5 or 10% dextrose every four hours for the first 24 hours. During that period she was to take nothing orally and she was on prophylactic antibiotics of crystalline penicillin 2 mg every six hours and gentamycin 80mg every 12 hours intravenously. For analgesic, Pethidine was given intramuscularly at 50 mg every six hours. After the bowel sounds were noted, she was allowed oral sips and started on Amoxicillin 500mg every eight hours and paracetamol 1 gm every eight hours. In forty-eight hours, she was allowed a light diet and then a normal diet by the third postoperative day. She was put on bromocriptine 2.5mg twice daily for one week to suppress lactation.

She did well postoperatively and on the seventh post-operative day, the stitches were removed and she was discharged home. The mother was advised to come for review in the post-natal clinic at 6th week postpartum.

FOLLOWUP

She was seen in the postnatal clinic after six weeks, she had no complaints. The wound had healed well. She was discharged from the clinic and advised to come to hospital next time when pregnant for follow-up.

DISCUSSION

The patient presented was a primigravida who was done artificial rupture of membranes while being examined and was noted to have cord prolapse. She was delivered successfully by emergency casearean section.

Cord prolapse is defined as descent of the umbilical cord into the lower segment where it may lie adjacent to or below the presenting part. Cord prolapse can be described as occult when the cord is adjacent to the presenting part, overt - when the cord can be seen or felt and funic - when the cord lies between the membranes and the presenting part. (1,2). This patient most likely had funic cord prolapse, which become overt after the membranes ruptured.

When the cord prolapses, it gets exposed to intermittent compression between the presenting part and the pelvic inlet, cervix or vaginal canal. This compromises the foetal circulation and depending on the severity may lead to foetal hypoxia, brain damage and death. In overt cord prolapse, the exposure to air results in cooling and irritation of the cord vessels resulting in vasospasm.(1)

The incidence of cord prolapse in cephalic presentation, frank breech and complete breech is 0.5%, in footling breech it is 15% and transverse lie it is 20%. The incidence of occult cord prolapse is difficult to establish. Of patients 50% with foetal heart irregularities were monitored by continuous cardiac monitor, have features of cord compression. (1) In Kenya the incidence of cord prolapse was found to be 1/125 in the Nairobi birth survey (3). Ochiel (4) in his study found an incidence of 1/175 deliveries at KNH. In a teaching hospital in Nigeria, Dare - FO(5) found an incidence of 1/240 deliveries. The incidence was observed to be higher among the unbooked patients. The conditions that predispose to cord

prolapse include prematurity, abnormal presentations e.g. breech, pelvic tumours, placenta previa, cephalopelvic disproportion, multiple gestations, polyhydramnios and premature rupture of membranes. (1,2,5). The patient presented was at a gestation of 36 weeks. Cord prolapse has also been associated with high parity due to delayed engagement of the presenting part.6. However Ochiel 4 observed that the mean parity was 3 with 73% of his cases being below para 4. He also found a mean age of 24.7 years with 76% of his cases being below 30 years of age. The patient presented was 24 year old and a primigravida at 36 weeks gestation.

At onset of labour, the diagnosis of cord prolapse can be made by use of an ultrasound scan. During labour, the diagnosis of occult cord prolapse is made from foetal cardiac monitoring, which shows variable decelerations. Overt cord prolapse is diagnosed by vaginal examinations to feel the cord in the vagina. In funic presentation the diagnosis is made clinically. The cervix is dilated with intact membranes; the cord is felt to lie between the membranes and the presenting part (1,2). In this patient, the foetal heart had been noted to be irregular and pelvic examination during which the membranes ruptured with resultant occult cord prolapse.

The management of cord prolapse depends on the foetal viability and cervical dilatation. In funic presentation, the patient is delivered by primary caesarean section. In occult prolapse, the patient is placed in lateral or Trendelenburg's position in an attempt to relieve the cord compression and oxygen should be given. If the foetal heart remains irregular or develops bradycardia, then emergency caesarean section should be performed (1).

In overt cord prolapse with a viable foetus, the management will depend on the cervical dilatation. If the cervix is not fully dilated, the patient should be placed in knee chest position. The examiner should apply continuous upward pressure on the presenting part to relieve cord compression while awaiting theatre to be ready. The patient should be given oxygen while theatre is prepared. Attempts to replace the cord are impractical and ineffectual. If the cervix is fully dilated with no features of cephalopelvic disproportion, vaginal delivery may be allowed. This can be hastened by vacuum extraction. (1,2) The patient presented was a primigravida at 8 cm dilatation with features of an inadequate pelvis and emergency caesarean section was preferred. The possibility of cephalopelvic disproportion may explain the cord prolapse despite the head being 3/5 in the pelvis.

The complications of cord prolapse include foetal hypoxia, brain damage, foetal death, and high risk of abdominal delivery. The perinatal morbidity and mortality is quite high. Delay in delivery by caesarean section and the perinatal mortality was 198.2/1000. (4) Foetal prognosis depends on the duration of cord compression. If the occlusion is less than 5 minutes, the prognosis is good. Prematurity and birth trauma also affect the prognosis (1). Complete compression of the cord for more than 5 minutes may result in foetal death or brain damage. 1 The patient presented delivered a fresh stillbirth that weighed 3000gm.

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OBS CASE 2

FOETAL DISTRESS – EMERGENCY CAESAREAN SECTION

NAME: D. T. AGE: 35yrs
RARITY: 3 + 0 ID NO.: 0824878
DoA: 28.7.02 DoD: 2.8.02

HISTORY OF PRESENTING ILLNESS

The patient was admitted at 3.30 p.m. as a referral from Provide International Clinic with a history of foetal distress with poor progress of labour. She had been admitted there the previous night at 8.00 p.m. in latent labour. She had developed an irregular foetal heart during monitoring of labour and was referred for further management.

HISTORY OF PRESENT PREGNANCY

Her LMP was on 21.10.01 making her gestation of 40 weeks by dates. She attended her antenatal clinic at Nairobi City Council, Dandora Clinic, from 26 weeks and had attended six times. The antenatal period was uneventful.

Her haemoglobin level was 8 g/dl VDRL negative. Other investigations of the antenatal profile had not been performed.

PAST OBSTERIC/GYNAECOLOGICAL HISTORY

She was a para 3+0, 1st delivery was in 1987 SVD male infant, weight 3 kg, 1988 SVD female weight not given and 1999 SVD breech weight not given.

Her menarche was at 18 years of age; her flow lasted 3 days and occurred every 28 days. Had used oral contraceptives for 9 years.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was a second born in a family of five siblings. She was married and lives in Voi. She was staying with a sister at Dandora. She was a housewife. She did not smoke cigarettes nor drink alcohol. There was no family history of chronic illness in the family.

PHYSICAL EXAMINATION

She was in good general condition not pale and was afebrile. She did not have jaundice or oedema but was mildly to moderately dehydrated.

Vital signs: BP 120/70 mmHg, Temperature 36.3°C, respiratory rate 20/minute, pulse 86 beats per minute.

ABDOMINAL EXAMINATION

The abdomen was evenly distended, there was not areas of tenderness. The fundal height was term, the foetus was longitudinal lie, cephalic presentation, the presenting part was 3/5 above the pelvic brim. The foetal heart was heard, with late decelerations and a rate ranging from 140 to 160 beats per minute. She had 3 strong contractions every 10 minutes.

VAGINAL EXAMINATIONS

The external genitalia was normal, there was no per vaginal bleeding or discharge. She was draining meconium stained liquor grade III. The cervix was central,

effaced and well applied to the presenting part, the os was 6 cm dilated. There was first-degree moulding and a small caput. The sacral promontory was not tipped.

OTHER SYSTEMS:

The infant scored 7 at one minute, 8 at five minutes and

DIAGNOSIS

A diagnosis of severe foetal distress was made and a decision to deliver her urgently by emergency caesarean section was reached.

INVESTIGATIONS

Haemoglobin level 14 g/dl

Blood group O rhesus positive

Sodium : 137 mm/l

Potassium : 3.8 mm/l

Blood urea : 3.0 mm/l

MANAGEMENT

The condition and the need for an operation if treatment failed was explained to the patient. Blood was drawn for grouping and cross matching, an intravenous line was established and 10% dextrose put up, the abdomen and vulva were shaved. Meanwhile, she was placed in the left lateral position and put on an oxygen mask as she waited to go to theatre. Observation of the foetal heart over 30 minutes while on the above treatment did not show any improvement on the foetal heart rate. The need of urgent delivery of the baby by an operation was confirmed to the patient and informed consent obtained. A theatre list was made and handed to theatre.

LABOUR AND DELIVERY

An emergency caesarean section was performed as described above. The outcome was a live male infant in cephalic presentation and in right occipital transverse position was delivered. The infant scored 7 at one minute, 8 at five minutes and weighed 2500 gm. The liquor was scanty with thick meconium staining and not foul smelling. The placenta was fundal anterior and was delivered by manual extraction complete with membranes. It was noted to have multiple infarcts. The cord was centrally inserted and had the three normal vessels. The uterus, ovaries and tubes were normal. The liver, gall bladder spleen and kidney were palpated and felt normal. The rest of the operation was as described earlier. The estimated blood loss was 600ml.

The infant was observed in the newborn unit and was not found to have any abnormality or complication. He was discharged to join the mother after 24 hours in good condition.

POST OPERATIVE

She was given the standard care as described in the text above. She did well post-operatively and was discharged on the five postoperative day on oral Amoxicillin and Paracetamol and advised to have the stitches removed at the nearest health facility to her home on the seventh post operative day. She was to come again for review in two weeks in the post-natal clinic.

FOLLOW-UP

She did not return to the clinic for review as appointed.

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DISCUSSION

The patient presented was admitted with severe foetal distress in labour. She was delivered of a live male infant.

Foetal distress is defined as a complex of signs, which indicate a critical response to stress. It implies metabolic derangement's especially hypoxia and acidosis that affect the functions of the vital organs to the point of temporary or permanent injury or even death may occur (cunningham et al, 1994). In KNH, meconium stained liquor has been found in 7 of all deliveries. Fongoh,1984. Meconium stained liquor is one of the suggestive signs of fetal distress.

Aetiology of foetal distress is varied. Some factors include subnutrition in the uterus due to placental inadequacy from a variety of causes including partial separation of the placenta, mechanical stresses in labor, intra uterine infection and drugs. Fetal causes include multiple gestations postmaturity, congenital anomalies, congenital infections and erythroblastostosis fetalis. Maternal causes include decreased uterine blood flow, decreased blood oxygenation and uterine hyertoniam. Placenta and cord problems include abruptio placenta, placenta praevia, umbilical cord compression knots prolapse or entanglement, lack of sufficient placenta reserve to tolerate labor and ruptured vas praevia Herrera and pernell, 1987.

The incidence of foetal distress is not known but skilful monitoring will pick some degree of fetal distress in at least 20% of all obstetric patient¹. Foetal distress may be divided into two phases - acute and chronic. Chronic distress implied an interval of sublethal foetal deprivation that affects growth and development that may be caused by a reduction in placental perfusion, by a placental abnormality or by deficient foetal metabolism, while, acute foetal distress is a shorter reflection of

the distress in labour when the stress of uterine contractions is added to a chronic lack of transfer of nutrients and/or oxygen². Our patient had multiple placental infarcts and this probably predisposed to acute foetal distress at the onset of labour.

FHR monitoring as a means of assessing well-being has been the subject of some controversy. Clinical and laboratory studies demonstrated that foetal hypoxia reliably produces changes in FHR patterns, however, these changes in FHR may also occur in the absence of foetal distress. The reason it is still important to detect a compromised foetus is because current estimates indicate that about 20% of stillbirths, 20-40% of cases of severe mental retardation arise from intrapartum events leading to asphyxia³.

FHR monitoring can be effected using either auscultatory monitoring or electronic monitoring. The electronic monitors can be external or internal. The auscultatory method is the most widely used method of monitoring FHR in labour worldwide. It is subject to considerable human error and must be used with considerable care. The foetal heart tones should ideally be recorded for 30 seconds immediately after a uterine contraction^{3,4} at least every 30 minutes during the first stage, every 15 minutes during the second stage and every 10 minutes in the delivery room. This method requires an adequate number of fully trained personnel at the bedside³. Ideally, if an abnormal FHR pattern is detected, direct FHR monitoring should be instituted. In our setup, the auscultatory method is the principal method used with each patient assigned a primary nurse. Electronic foetal heart monitoring is rarely used due to poor servicing of the only available machine.

Electronic monitoring should be considered only as a screening tool for intrapartum foetal distress. It is not specifically diagnostic Herrera and Pernoll,

1987. The external electronic monitors include the Doppler ultrasound, direct foetal electronic cardiography and phonocardiography. The last two are more difficult technically especially for routine use therefore the Doppler has enjoyed wide popularity. The internal FHR monitor provides the most accurate information as the electrode is directly attached to the foetal presenting part.³ Use of electronic FHR monitors during labour as compared with intermittent auscultation have shown a doubling of caesarean section for foetal distress when complimented by selective foetal blood sampling and a four times increase when it was not. There is no evidence that FHR monitoring during uncomplicated labour improves neonatal outcome.⁵

Continuous electronic monitoring can be reserved for the following circumstance:

- Variation in the foetal heart rate detected by auscultation for which immediate delivery is not considered necessary.
- Meconium in amniotic fluid
- Induction or augmentation of labour with Oxytocin
- Previous caesarean delivery
- Increased likelihood of uteroplacental insufficiency or compromised foetus
 - (a) Hypertension
 - (b) Bleeding
 - (c) Preterm and post-term pregnancies
 - (d) Small foetus, probably growth retarded
 - (e) Abnormal presentation
 - (f) Previous unexplained stillbirth
 - (g) Sickle cell haemoglobinopathies

- (h) Haemolytic disease of the foetus
- (i) Diabetes.

The FHR can be divided into several rhythms with different interpretation:

1. Basal foetal heart rate. The normal rate is 120-160 per minute and shows small rapid rhythmic fluctuations referred to as beat to beat variations. They indicate good autonomic interplay in the foetal heart regulatory mechanism. Foetal hypoxia and acidosis may lead to flattening as can drug injection.
2. Transitory changes
 - a. Decelerations. A deceleration is transient fall in FHR in relation to a uterine contraction. There are three types.
 1. Early deceleration. Usually due to uterine contraction applying pressure on the foetal skull and eliciting reflex bradycardia. It occurs at the beginning of a contraction phase and returns to normal when the contraction ends.
 2. Late deceleration. A transitory decrease in FHR that occurs after the contraction begins. These changes are presumed to be caused by any of the factors that reduce uteroplacental gas exchange.
 3. Variable decelerations. Usually due to cord compression.
 - b. Accelerations. Usually reassuring but may be a sign of foetal distress if sustained and associated with lack of variability or development of late decelerations.
3. Sustained changes. This fall into three categories
 - (a) Beat to beat variation is normal but its absence in the presence of an unmedicated foetus.

- (h) Haemolytic disease of the foetus
- (i) Diabetes.

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 3. Variable decelerations. Usually due to cord compression.
 - b. Accelerations. Usually reassuring but may be a sign of foetal distress if sustained and associated with lack of variability or development of late decelerations.
3. Sustained changes. This fall into three categories
 - (a) Beat to beat variation is normal but its absence in the presence of an unmedicated foetus.

- (b) Tachycardia. May be associated with maternal fever or hyperthyroidism, drugs, foetal hypovolemia etc. In no underlying pathology is found, a foetal cardiac tachyarrhythmia must be considered.
- (c) Bradycardia. May occur with maternal hypothermia or beta-blocker drug therapy. It may reflect congenital cardiac conduction defects.
- (d) Sinusoidal pattern. Has been reported with extreme foetal jeopardy especially in association with rhesus isoimmunisation and foetal anaemia, but is also seen after administration of narcotics.

The diagnosis of foetal distress is present when there is absence of any abnormality of foetal heart rate (FHR) or rhythm and no response to uterine contractions other than early deceleration.^{1,2,6} Foetal scalp blood sampling can also be used in assessing foetal distress. If the pH is over 7.25, the foetus is probably normal; if the pH is between 7.20 and 7.24, the foetus is somewhat compromised; and if it is less than 7.2, serious foetal distress exists.^{3,7} Foetal scalp pH sampling is not practiced in our unit and with the current prevalence of human immunodeficiency virus infection, it will probably never be used.

Hypoxia has been implicated in the evacuation of meconium from the large bowel of the foetus into the amniotic fluid. This mechanism may result from the release of arginine vasopressin (AVP) from the foetal pituitary secondary to hypoxia. The AVP thus released stimulates smooth muscle of the colon to contract resulting in intraamniotic defecation.⁸ Meconium staining of amniotic fluid is not synonymous to foetal distress. It is identified in 19% of mothers during labour or at delivery.⁹ In KNH, at least 7% of all deliveries have some meconium staining.³ Meconium may be passed during episodes of asphyxia, but unfortunately, this does not

indicate the severity nor the time of occurrence.¹ Upto 81% Fongoh 1984 of patients with meconium staining of liquor had normal delivery with good Apgar scores.¹⁰ The risk to the foetus is in inhalation of thick meconium stained liquor which may lead to severe morbidity and mortality referred to as the meconium aspiration syndrome. Prevention of further aspiration by suctioning is what is recommended.¹¹ The presence of meconium in the amniotic fluid should therefore be considered only as an indicator of perinatal risk.

Foetal distress certainly exists if tachycardia, lack of FHR short-term variability and late FHR deceleration occur and are confirmed as an ensemble characteristic of the uterine contraction and FHR patterns. Another exceedingly critical combination is severe and prolonged variable deceleration and development of late deceleration. If severe variable deceleration persists for 30 minutes or more, or if any degree of late deceleration persists despite attempted therapy, foetal distress is present. Concomitantly, the foetal scalp pH will probably be 7.20 or less and meconium most likely will be passed.¹ The patient presented had meconium staining of liquor with an irregular FHR.

Management of foetal distress or possible foetal distress involves several steps; The mothers position should be changed, this may relieve pressure on the umbilical cord and also uterine pressure on the inferior vena-cava thereby improving uterine blood flow with increased oxygen supply and carbon dioxide removal; Maternal hypotension should be corrected, the change in position will probably correct supine hypotension but additional measures include elevation of the legs, application of elastic leg bandages and rapid administration of fluids. This helps restore arterial pressure and increase the blood flow in the intervillous space; steps taken to decrease uterine activity by stopping the administration of Oxytocin,

decreased uterine activity permits better placental perfusion and reduces the stress of violent contraction; Administration of oxygen at the rate of 6-7 L/min by face mask increases the maternal-foetal oxygen concentration gradient and will increase maternal-foetal oxygen transfer; If maternal acidosis is the cause of foetal distress, the acid-base balance should be corrected by giving sodium bicarbonate; and intravenous hypertonic glucose (usually 50g) may be administered when there is maternal deprivation acidosis or hypoglycemia.¹ Despite all the above being carried in our patient, the foetal distress did not show any signs of change.

If the signs of foetal distress persist for 30 minutes, or if there is foetal distress despite conservative treatment, immediate delivery is mandatory. The mode of delivery should be dictated by obstetric judgment by considering the presentation, station, position, cervical dilatation and presumed foetal state. ¹ Our patient was at 6 cm dilatation and was therefore delivered by emergency caesarean section. The infant was mildly depressed with an Apgar score of 7 at one minute, but the score of 8 at five minutes indicated a good chance of long-term outcome.¹²

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OBST CASE 5

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34718

LMP: 9.9.01

111 278

EDD: 16.6.02

PATIENT HISTORY

Presented through the antenatal clinic where she had been booked for pregnancy blood group. She was 40 weeks of gestation.

PATIENT HISTORY

Presented in the antenatal clinic at 40 weeks gestation. Initially she was booked at the District City Council clinic. No records available. Her blood was A Rh positive. Her Hb was 11.8 g/dl, VDRL was negative. She made a total of 4 visits. Follow up records left was not done.

At admission she was admitted to labour ward for labour induction.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

Gravida 4-0. No history of any abnormal or blood transfusion.

Menstruation at 16 years 21-30 regular

3-4

No miscarriages before she conceived.

UNSENTIZED RHESUS NEGATIVE PREGNANCY

NAME: V. A. D.W. DOA: 19.6.2002

ID No.: 0816295 DOD: 23.6.2002

AGE: 24 yrs LMP: 9.9.01

PARITY: 0 + 0 EDD: 16.6.02

PRESENTING HISTORY

She was admitted through the antenatal clinic where she had been booked for Rhesus negative blood group. She was 40 weeks of gestation.

ANTENATAL HISTORY

She was booked in the antenatal clinic at 40 weeks gestation. Initially she was attending Embakasi City Council clinic. No records available. Her blood was A negative, Haemoglobin was 11.8 g/dl, VDRL was negative. She made a total of two visits. Indirect coombs test was not done.

At 40 weeks gestation she was admitted to labour ward for labour induction.

PAST OBSTETRICS AND GYNAECOLOGICAL HISTORY

She was para 0 + 0. No history of any abnormal or blood transfusions.

Her menarche was at 16 years 21-30 regular
3-4

Had used oral contraceptives before she conceived.

PAST MEDICAL AND SURGICAL HISTORY

These were not significant.

FAMILY AND SOCIAL HISTORY

She was a married housewife and stayed with the husband in Nairobi. She did not drink nor smoke. There was no history of any chronic illness in her family.

EXAMINATIONS

She was in good general condition. She was not pale, no leg oedema and no lymphadenopathy, she was afebrile. Her pulse was 80/min regular and of good volume. The blood pressure was 120/80 mmHg and the respiratory rate was 20 per minute.

Central nervous, respiratory and cardiovascular systems: these were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended. The liver and the spleen were not palpable. The fundal height was corresponding to a term gestation. The foetus was in longitudinal lie, cephalic presentation and the head was $\frac{3}{5}$ up. The foetal heart tones were heard at 138 beats/minute and were regular. There were no uterine contractions.

PELVIC EXAMINATIONS

She had normal external genitalia. The vagina was soft and moist. The cervix was long and soft, the os was admitting tip of finger. The pelvis felt borderline. There was no discharge or blood on examining finger.

INVESTIGATIONS

1. Haemoglobin - 11.8 g/dl
2. Blood group - 'A' Rhesus 'D' negative
3. VDRL - Negative
5. Urinalysis - NAD
6. Indirect coombs test - not done

DIAGNOSIS

Rhesus negative mother at 40 weeks gestation.

MANAGEMENT

The condition was explained to the patient. She was admitted for induction. She was bishop scored at score of 4 out of 10 prostaglandin E₂ pessary was inserted at the posterior fornix, patient was advised to rest in bed and to alert the nurse in the ward if she gets any contractions. She was reviewed after 8 hrs and the bishop score was still at 4 out 10 A second prostaglandin pessary was inserted. After four she progressed and was taken to labour ward. Cervix had dilated to about 4cm and effaced. Artificial rupture of membrane was done and clear liquor realised. She was started on syntocinon 5iu to run in 10 drops per minute and to increase every half hourly till 60 drops per minute or three strong contractions. She progressed well and before the next review she delivered normally. The outcome was live female infant, Apgar score was $9/1$ $10/5$ weight was 3300gm. Cord blood for haemoglobin, bilirubin, direct coombs test, blood group was taken. Mother was given anti-D 300 mg stat before the results were obtained.

RESULTS

She was discharged to be seen in post-natal clinic after six weeks.

FOLLOW UP

She was seen on the appointed date. She was in good general condition. The breasts were lactating and were normal. The uterus was fully involuted. The baby was also well. Contraception was discussed and patient wished for a reversible method as she felt she needed another child. She opted for the oral pill and was referred to the family clinic.

COMMENT

The case presented is of 24 year old para 0+0 who was blood group 0 rhesus 'D' negative. She had a spontaneous vertex delivery and got a live baby who did not develop a haemolytic condition.

According to Ballontyne (1892), Isoimmunization and its concomitant syndrome, hyrops fetalis, was described as early as 400BC by Hippocrates (1). In 1940, Landsteiner and Weiner discovered the rhesus factor. While Levine and Associates (1941) confirmed that erythroblastosis fetalis was due to maternal isoimmunization with paternally inherited fetal factors (1,2). Approximately 45 of rhesus positive individuals are homozygous for D antigen while the other 55 are heterozygous.

Isoimmunization against rhesus antigen, which may result in haemolytic disease of the fetus and the newborn, was once a major cause of perinatal mortality, neonatal morbidity and long-term disability and mental handicap. The condition is rare nowadays (3). The incidence of rhesus negativity is variable according to race and

geographical region. Basque population have the highest incidence of Rh - Negatively at 30- 35%, the Caucasian population in general have 15-16%, American blacks have a rate of 8%. The rate amongst Mongoloid races is nil (1,4). In Nairobi the incidence of 5% of all patients attending antenatal clinics (5) while in Kenyatta National Hospital it is 4.1% (6).

Previously rhesus isoimmunization was thought to arise where a rhesus negative mother carries a rhesus positive foetus (1). Isoimmunization may occur by two mechanisms, following incompatible blood transfusions, or following fetal maternal haemorrhage between rhesus negative mother and rhesus positive fetus (1,2,4). It has been suggested that a rhesus negative fetus may be sensitized by a maternal fetal transfusion of rhesus positive cells transfusion of rhesus positive cells, the so called 'grand mother theory' (4,7,8). A Rhesus negative woman delivered of a rhesus positive ABO-compatible baby has a 16% likelihood of becoming Rh immunized as a result of her pregnancy. A total of 2% will be overtly immunized by the time they are delivered. Another 7% will have demonstrated Rh immunization within 6 months after delivery. The remaining 7% will first show that they were Rh immunized by mounting a secondary Rh immune response on their next Rh - positive pregnancy (8). ABO incompatibility confers partial protection against Rh immunization (1,2,4). The Rh - Positive ABO woman who is delivered of a Rh-positive ABO incompatible baby is at 2% risk by 6 months after delivery (8). This patient had negative indirect coombs test (ICT) at the first antenatal visit and subsequent tests were negative. At 37 weeks of gestation, she had a slightly positive ICT, this is likely to have been a false positive, since subsequent tests were negative, even 6 weeks postpartum. The baby's blood group was 'B' Rhesus positive against the mothers 'O' Rh negative.

This scenario is likely to have mitigated upon the risk for Rh - immunization and hence the favourable maternal - fetal outcome.

Fetal-maternal haemorrhage may occur during pregnancy or at delivery (1,4). With no apparent pre-disposing factors, fetal red cells have been detected in maternal blood in 6.7% of women during the first trimester, 15% in the second trimester and 28.9% in the third trimester (4). The predisposing factors to fetal maternal haemorrhage include abortion, amniocentesis, abdominal trauma, placenta praevia, abruptio placentae, fetal death, multiple pregnancy, manual removal of placenta and ceasarean section (4,8).

It has also been noted that 30% of Rh negative persons never become sensitized when given Rh positive blood and are referred to as non responders (4).

The initial maternal immune response to Rh sensitization is low level of Igm. Within 6 weeks to 6 months, IgG antibodies become detectable. IgG antibodies are capable of crossing the placental barrier and destroying fetal rhesus positive cells (4). Haemolytic disease of the newborn occurs when the maternal antibodies destroy the Rh-positive fetal red blood cells. Fetal haemolytic anaemia develops leading to the condition of erythromblastosis fetalis. This patient did not get immunized and hence haemolytic disease of the newborn was not a subject of discussion.

The reduction in the frequency of Rhesus isoimmunisation is sometimes credited entirely to modern programmes of immuno protection. It should not be forgotten however, that a large part of this reduction is the result of increased awareness of the need for a small family following appropriate counseling and family planning

(3). Rhesus immune globulin should always be successful in preventing Rh immunization if it is given before Rh immunization has begun and if it is given in sufficient dose (8).

There is no treatment for the mother who is already sensitized and a further pregnancy of a rhesus positive baby only sensitizes her further (2).

Prevention of Rhesus immunization is the mainstay of management of rhesus negative woman.

On the 1st antenatal visit all pregnant women should be screened for the ABO blood groups and the Rh group. Those who are negative are further done indirect Combs test for antibody screening. Testing paternal ABO - and Rh blood group may be useful if the woman is Rh negative (4). This patient had ABO and rhesus blood group done, as is routine antenatal-profile in our clinic. The husbands' blood group was also determined. Routine antenatal anti-D immunoglobulin, given at 28 and 34 weeks have been advocated and can contribute to decrease the number of new sensitizations (9). Due to cost and unavailability, antenatal prophylaxis is not routinely done in our unit.

The recommendation is to use anti-D immunoglobulin when appropriate during pregnancy, for example after amniocentesis antepartum haemorrhage and external cephalic version (1,4,8,9).

Where antepartum prophylaxis is to be given antibody screening is performed at 28 weeks (4,9). Fetal maternal haemorrhage is thought to be greatest at delivery (2,3). After delivery 300 micrograms of anti-D is given preferably within 72 hours. (2,6,8). There are a number of studies to determine if fetomaternal haemorrhage has occurred and the amount of blood exchanged, for example the Kleuhaeur Betke

test however, these are not commonly employed as screening tests because of the rarity of the circumstances where massive fetomaternal haemorrhage occur (4). This patient received 300 micrograms anti-D after delivery. At the post-partum visit, antibody screening should be repeated, if negative and the baby's blood group is rhesus positive another dose of anti-D should be administered (4,8,9). This was not done for our patient citing unavailability of anti-D.

Fetal Surveillance

When sensitization is detected patients are followed up with antibody titres until a designated critical titre is reached (2,4,10). After the critical titre is reached, patients undergo serial amniocentesis and ultrasound evaluations to rule out signs of hydrops. The amniotic fluid is tested for absorbance of light in the yellow portion of the spectrum for semiquantification of the bilirubin content of the fluid. Increasing optical densities indirectly reflects the degrees of fetal haemolysis (10). These results are interpreted clinically by gestational specific curves, the Liley Chart (1). The Liley chart sets an intervention criterion according to the fetal affliction. The mildly affected fetus has amocentesis repeated every 2 weeks and delivery should be after the fetus has achieved lung maturity. The moderately affected fetus will have aminocentesis repeated every 1- 2 weeks. Enhancement of lung maturity may be necessary and the fetus is delivered as soon as long maturity is reached. In the severely affected fetus, intervention is usually needed. Amniocentesis will be repeated weekly and ultrasound is used to search for fetal ascites or oedema (84). Intra-uterine transfusion, early delivery and exchange transfusion may be the only hope for the severely affected fetus (1,4,10,11).

Perinatal mortality and morbidity remains high amongst the isoimmunised women. In a study of rhesus isoimmunization at Kenyatta National Hospital, a perinatal mortality of 600:1000 was reported (12).

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OBS CASE 4

CEPHALOPELVIC DISPROPORTION – CAESERIAN SECTION – LIVE BABY

NAME: S.W. PARITY: 0+0
AGE: 23 yrs. DoA: 22.6.02
ID No.: 0657575 DoD: 2.7.02

PRESENTING COMPLAINTS

She was admitted with complaints of labour pains for two hours. There was no vaginal bleeding.

HISTORY OF PRESENTING ILLNESS AND PREGNANCY

She was well until 2 hours prior to admission when she started experiencing lower abdominal pains that was intermittent and increasing in intensity. This was shortly followed by draining clear liquor. Her last menses period was on 15.9.01 and hence her expecting date of delivery was 22.6.02. The gestation was 38 weeks. Her antenatal care was at Kenyatta National Hospital since 34 weeks and was uneventful.

PAST OBSTETRIC AND GYNECOLOGICAL HISTORY

She was para 0+0. She attained menarche at 16 years of age. Her periods had been regular occurring every 28 days, and lasting 3-4 days. She had no history of contraceptive use.

PAST MEDICAL AND SURGICAL HISTORY

This was not significant.

FAMILY AND SOCIAL HISTORY

She was married housewife for two years. She lived with her husband in Nairobi who is a second clothes dealer. She did not smoke nor take alcohol. There was no history of any chronic illness in the family.

EXAMINATION

General

She was in good general condition, not pale, afebrile not jaundiced and had no oedema. There was no peripheral lymphadenopathy. Her pulse was 80/min and her blood pressure was 110/70 mmHg.

CENTRAL NERVOUS, RESPIRATORY AND CARDIOVASCULAR SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was symmetrically distended and moved with respiration. There were no areas of tenderness. The liver and spleen were not palpable. The uterine size corresponded to term gestation, the fetus was in longitudinal lie, cephalic presentation and the head was $\frac{4}{5}$ up. The fetal heart was heard at 138/minute and was regular. She was having two moderately strong contractions in 10 minutes.

PELVIC EXAMINATION

She had normal external genitalia. The vagina was moist and warm. The cervix was 75% effaced and the os was 4 cm dilated. She was draining clear liquor. The position was left occiput anterior. The pelvis felt clinically adequate.

IMPRESSION

An impression of primigravida in 1st stage of labour was made.

INVESTIGATIONS

The results from the antenatal clinic were as follows: -

1. Haemoglobin - 12g/dl
2. Blood group - O Rhesus positive
3. V.D.R.L. - Negative
4. Urinalysis - PH 5
- Sugar - Nil
- Protein - Nil

MANAGEMENT

She was admitted to the first stage room in labour where she was started on a partogram and her vital signs were monitored half hourly and recorded on the partogram sheet. She was reviewed after 4 hours and found to still have two moderate contractions.

A repeat vaginal examination showed that the cervix was only 5 cm, there was no caput or moulding on the fetal head. She was draining clear liquor and the fetal heart was heard and regular. A decision to augment labour was made and a venepuncture to establish an intravenous line was done. Blood was taken for grouping and cross matching. Five units of syntocinon was put in 500 mls of 50% dextrose and allowed to run at 10 drops per minute and increased every 30 minutes by 10

drops. The drip was to run unto 60 drops per minute was achieved and she had 3 strong contractions in ten minutes. She was placed in the left lateral position and partogram continued.

She was reviewed again after four hours. She was having 3 contractions in ten minutes, the head was $\frac{3}{5}$ up and the fetal heart was heard, it was irregular with late decelerations. A vaginal examination revealed a moderate caput and second degree moulding of the fetal skull. The cervix was 6 cm dilated. An impression of cephalopelvic distroportion was made. The syntocinon drip was stopped and patient was put on plain dextrose infusion. She was explained about the condition and the need for operative intervention. She gave an informed consent for caesarian section. She was premedicated with atropine sulphate 0.6 mg intramuscularly and two units of blood were ordered. She was then wheeled to theatre.

In theatre, she was aseptically catheterized. The abdomen was cleaned with savlon lotion and draped. Anaesthetic was induced with thiopentone and succinyl choline. She was intubated and anaesthesia maintained with nitrous oxide, oxygen and halothane.

Through a midline sub-umbilical incision, the abdomen was opened in layers. The lower uterine segment was identified and an elliptical transverse incision was made. A female baby was delivered scoring 8 and 10 in one and five minutes respectively and weighed 3.300 gms. The placenta was delivered manually. The uterus was repaired in layers achieving hemostastis. The uterine tubes and ovaries were inspected and were grossly normal. The abdomen was closed in layers often ascertaining correct count of swabs and instruments.

Vulvo-vaginal toilet was done, estimated blood loss was 600 ml. Anaesthesia was reversed and patient wheeled to labour ward for observation till fully awake.

POST-OPERATIVE MANAGEMENT

Vital signs were observed half hourly till she was fully awake then four hourly. She was put on intravenous fluids of normal saline alternating with 5% dextrose amounting to 2,500ml/24 hrs. Pethidine 100 mg eight hourly and crystalline penicillin 2 mv six hourly was given intramuscularly for 24 hours. On second postoperative day, she was started on oral feeds and oral amoxicillin 500 mg eight hourly. On third post operative day check haemoglobin was found to be 10.6 g/dl. The postoperative period remained uneventful. On seventh postoperative day all stitches were removed and the wound was noted to have a form of infection. The wound was cleaned and dressed twice daily for another three days after which it was noted to be clean and dry. The patient was discharged to attend the well child clinic and attend a post-natal clinic in six weeks.

FOLLOW-UP

She attended the postnatal clinic on 16.7.02. She had no complaints, the uterus was fully involuted and the incision wound well healed. She was counseled on contraceptives and opted to use the oral contraceptives pill. She was referred to the family planning clinic.

COMMENT

The patient presented was a primigravida who came in labour. She was closely monitored for vaginal delivery but an intrapartum diagnosis of cephalopelvic disproportion was made and an emergency caesarean section done.

Cephalopelvic disproportion refers to disparity in size between the fetal head and the maternal pelvis. It may be defined as lack of engagement of the fetal head when the cervix is fully dilated and the membranes are ruptured (1,2,3). The latter definition applies when effective uterine contractions are present while the former may be determined antenatally.

The overall incidence of dystocia in women in labour is difficult to define; perhaps because of unclear generally applied definitions (37). Dystocia, which is defined as difficult labour malpresentation and uterine dysfunction. Dystocia is said to account for 30% of the total caesarean sections performed in America (2,3).

Cephalopelvic disproportion is one of the common causes of dystocia (2,3). Pelvic contraction of varying degree is the principal cause. However, excessive size of the foetus particularly of the head and shoulders in itself may produce dystocia. More often, minor degrees of pelvic contraction combined with a large foetus may result in mechanical dystocia (2).

Cephalopelvic disproportion can be anticipated during the antenatal period and should be diagnosed in the early part of labour. The relationship between stature and pelvic size has been recognized for many years (1). Height should be measured at antenatal clinics and women, who are abnormally short, are considered a high risk for cephalopelvic disproportion (1,4). Women whose height

is 165 cm or greater will rarely manifest disproportion (1). Women with orthopaedic deformity and history of pelvic fracture will require careful review. Past obstetrical history give valuable information. Clinical evaluation and measurement of the fetal weight may be done by abdominal palpation, but failure of engagement of the fetal head at term amongst the Negro population is not significant (4). A small woman is likely to have a small pelvis, but at the same time, she is more likely to have a small infant. Impression of the foetal head into the pelvis by applying Mullers impression method may be a useful clinical evaluation (2). Clinical pelvimetry should be performed at 36 weeks, and it provides accurate information about possible pelvic contraction (1,6).

If as a result of clinical assessment before or during labour, cephalopelvic disproportion is suspected, and then radiological pelvimetry will avail accurate information about the pelvic dimension (1,6). Appropriately monitored labour, however remains of the fetal head is aid to produce a diminution of 0.5 cm or so concurrent pelvic relaxation, a woman previously labeled as having cephalopelvic disproportion may just accomplish save vaginal delivery (1,5).

Intrapartum, cephalopelvic disproportion will be suggested by the head remaining three fifths high or above, the latent phase may be prolonged, the active phase of dilatation is retarded and progress of dilatation may cease at between 7 - 9 cm, excessive head moulding is likely to become apparent and foetal heart rate deceleration during contraction tend to occur (1). This patient presented in labour and vaginal delivery was anticipated. She developed protracted active phase, dilation and descent with foetal heart decelerations.

In the management of cephalopelvic disproportion it is necessary to consider primigravidae and parous women separately because the pattern of their labour is quite different (1). The patient presented was a primigravida. The uterus of a primigravida reacts to mechanical difficulty with reduced contractility; there is often the development of an ominous sign for eminent rupture of the uterus by formation of the Bandl's retraction ring. Hence the undamaged or unscarred primigravida uterus therefore, can be relied on not to rupture spontaneously. In the case of mild or moderate pelvic contraction in a primigravida, trial of labour should always be attempted (1,2,5). Trial of labour implies that the outcome of labour is uncertain because of mechanical difficulty, and that particularly vigilant monitoring of progress and foetal well-being are required (1). If uterine activity is in coordinate or dysfunctional, oxytocin augmentation may be initiated (1,2). Should there be protracted labour or foetal distress occurs, caesarean section should be performed (1,2). This patient as stated above developed signs of labour protraction and foetal distress and caesarean section was performed. Symphysiotomy has been shown in many parts of the world to provide a safer alternative than caesarean section for appropriately selected cases (1,5).

Complications of cephalopelvic disproportion include obstructed labour uterine rupture and other associated obstetric trauma, there is increased perinatal mortality and morbidity and maternal outcome is also compromised (1,6).

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ELBS/Blackness Scientific Publication pp 373, 1988.

OBS CASE 5

MALARIA IN PREGNANCY – PRE TERM LABOUR (LIVE BABY)

NAME: A.N. DoA: 19.6.2002

ID: 0817566 DoD: 25.6.2002

AGE: 28 yrs PARITY: 1+0

PRESENTING COMPLAINTS

The patient was admitted from labour ward with complaints of abdominal pains, headaches, fever, joint pains, general malaise and diarrhoea for three weeks.

HISTORY OF PRESENTING ILLNESS

Patient was well until about three weeks prior to admission. She developed abdominal pains not associated with frequency or dysuria. She later developed joint pains, general malaise fever with alternating with chills. She went to a private clinic where she was treated with amodiaquin and haematinics.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She was a para 1+0. Her last delivery was by a normal vaginal route. Her menarche was at 13 years. She had used oral contraceptives pills for three months, prior to her pregnancy.

HISTORY OF PRESENT PREGNANCY

Her LMP 28.10.02, EDD 8.8.02, GBD 34 weeks. She had not started any antenatal follow-up.

PAST MEDICAL & SOCIAL HISTORY

She was a married housewife. She did not smoke and did not drink alcohol. There was no history of major illness in the family.

EXAMINATION

She was ill-looking. She was febrile with a temperature of 39°C, she had mild pallor. The pulse was 120 per minute regular and of good volume. The blood pressure was 120/80 mmHg and the respiratory rate was 36 per minute.

CENTRAL NERVOUS AND CARDIOVASCULAR SYSTEMS

These were essentially normal.

RESPIRATION SYSTEM

She was tachypnoeic with features of respiratory distress. On auscultation it was clear.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and moved with respiration. The liver and spleen were not palpable. The fundal height corresponded to a 34 weeks gestation. The foetus was in longitudinal lie with cephalic presentation. The head was 5 fifths above the pelvic brim. The fetal heart sounds were heard at 138 per minute and were regular. There were no uterine contractions.

VAGINAL EXAMINATION

She had normal external genitalia. The vagina was moist and soft. The cervix was soft and long. The external os was parous but the internal os was firmly closed. The pelvis felt adequate. There was no draining of liquor and no vaginal bleeding.

IMPRESSION

An impression of malaria in pregnancy was made.

MANAGEMENT

She was admitted to the antenatal ward before commencing treatment a blood slide was taken for malaria parasites and sample of blood for full haemogram taken. She was started on artemnam injection intramuscularly 160mg stat, followed by 80mg once daily for 4 days. Other investigations were carried out to include blood group, urinalysis, urea and electrolytes, liver function tests and VDRL.

RESULTS OF INVESTIGATION

1. Blood slide - Positive for malaria parasites
- There was no report on degree of parasitaemia
2. Haemogram - Haemoglobin – 6.9 g/dl
- RBC – Anisocytosis, moderate polychromasia,
RBC – $14.34 \times 10^9/l$
3. Stool - No ova and cysts
4. Ultrasonography - Single live foetus, fetal cardiac activity demonstrated. The BPD was 8.4 cm corresponding to 34 weeks placenta was fundo-posterior no abnormalities detected.
5. Blood group - 'O' Rhesus 'D' positive
6. VDRL - Negative
7. Urinalysis - NAD
8. Urea and electrolytes - Sodium – 135 mm/l

- Potassium – 4.7 mm/l

- BUN – 3.2

After 3 days of treatment the fever seemed to abate. She was started on ranferon tablets, three days later the patient started complaining of lower abdominal pains and on review she was found to in labor and was transferred to labour ward. In labour ward she was started on I.V. drip of 5% dextrose, she was put on oxygen by mask and nursed on the left lateral position. The partogram was strictly observed.

The 1st stage of labour progressed uneventfully and after 8 hours she was transferred to delivery room where a vacuum extractor had been assembled. She was placed in semi-recumbent position and instructed not to bear down. An early assisted vacuum delivery was achieved. A female baby was delivered with an Apgar score of 9 at one minute and 10 at 5 minutes, weight 2700 gms. The baby did not show any signs of congenital malarial but was nevertheless admitted to nursery for observation. The placenta and membranes were delivered by controlled cord traction. It was complete and weighed 500gms. The estimated blood loss was 150 mls. The check haemoglobin was found to be 8 g/dl after 10 days postpartum. She was discharged on paludrin 10 mg daily and haematinics until 6 weeks post partum. She was to be seen in the postnatal clinic in 6 weeks.

COMMENT

This was a 28 year old para 1 + 0 lady who presented with Malaria in pregnancy in third trimester. The infection was complicated by anaemia and she went on to have preterm delivery and other complications.

Malaria is an infection characterized by relapsing fever, rigors, splenomegaly and anaemia. It is caused by either of four plasmodium species transmitted from human to human by the bite of female anopheles mosquitoes. These species include plasmodium falciparum, malaria, vivax and ovale. The patient presented had typical clinical presentation of malaria with fever, headaches, rigors and anaemia. She was infected with plasmodium falciparum. Plasmodium falciparum is the commonest malaria infection in pregnancy. It causes an acute life threatening disease (1,8,9). Other symptoms and sign are likely to be those of complications (1,2).

Malaria is an endemic disease in many parts of tropical and subtropical Africa, Asia and Central and South America, where environmental features including temperature, humidity, bodies of water and agriculture, support the breeding of the mosquito vectors and encourage frequent contact between mosquitoes and man.

In malarious areas infection first occurs in early childhood. Persistence of the parasite and repeated inoculation of parasites produce humoral and cell mediated immune responses. After 5 to 10 years of residence in an endemic area, sufficient immunity to reduce the severity and duration of repetitive attacks has developed. Disruption of host parasite balance by malnutrition, pregnancy or introduction of new strains of parasite may precipitate recrudescence or more severe clinical attack (1,8,9). This patient immunity is likely to have been disrupted by the pregnancy and probably explained the severe disease thereto.

Worldwide, it is reported that over 92 million people are infected with malaria every year (3). The prevalence of malaria in pregnancy varies from place to place depending on the epidemicity of the disease. In a study in the Coast Province of Kenya Rukaria found prevalence of 21% among pregnant women (4). This is opposed to the finding of a prevalence of 42% in Western Kenya by Steketee (5), while Sinei et al reported a prevalence of 33% in pregnant women in a rural area of Eastern Kenya (6). Rukaria reported that 45.9% of malaria infections were resistant to chloroquine *in vivo* with levels RI, RII and RIII being 36.1%, 8.2% and 1.6% respectively (4). The patient presented had chloroquine resistant strain by *in vivo* evaluation having been treated prior to admission and on admission and then getting recrudescence.

There is increased propensity to severe malaria in pregnancy (4). The severity is modified by maternal parity in semi-immune women living in endemic areas (2). Young women of low parity are at an increased risk for malaria with the primigravida at greatest risk (2,4). Steketee reported that a woman is more susceptible to malaria infection in her first malarial exposed pregnancy. He observed a higher prevalence of parasitaemia and higher parasite density in primigravid compared to multiparous women (5). Rukaria study concurred with this finding and further reported increased severity amongst primigravida (4). Other studies have reported to be more severe in primigravidas and diminishing severity with higher parity (6,7).

The morphology of the parasite in the infected erythrocyte is characteristic and helpful in identification of the infecting species. Diagnosis of the active infection depends on careful examination of thick and thin blood films for the parasite. Serologic tests are of help in chronically infected patients with unexplained fever (1).

The severity of the clinical attack is related in part to the level of parasitaemia (1,8). The merozoites of *Plasmodium falciparum* will invade erythrocytes of any age. It is capable of increasing the concentration of parasitised erythrocytes, rapidly and to high concentrations. There is increased deformability of the parasitised red blood cells. High parasite concentrations and diminished red blood cells compliance produce reduction in capillary flow with resulting tissue hypoxia. The brain, kidneys and placenta are especially vulnerable. Severe hemolysis, renal failure, coma, pulmonary oedema and intrauterine foetal death may be the eventual sequelae (1,2).

This patient had marked haemolysis as evidenced by the low haemoglobin, reticulocytosis and hyper-bilirubinaemia.

In addition to the typical clinical attack, profound anaemia, predisposition to serious intercurrent illness, intrauterine infection and placental insufficiency all contribute to intrauterine growth retardation, pre-maturity, abortion and stillbirth (1,2,4,5,7,8). This patient had severe anaemia and went on to deliver prematurely.

The mechanisms of anaemia causation are multifactorial. This includes hemolysis, bone marrow dyserythropoiesis and folate deficiency (1,2). Malaria produces haemolysis when parasitised erythrocytes rupture, and other cells are constantly removed from circulation by the lymphoid - macrophage system. Nevertheless, this may not be sufficient to account for the degree of anaemia seen. Autoimmune haemolysis is thought to be responsible for the accelerated haemolysis and subsequent anaemia (1,8,9).

Plasmodium falciparum infected pregnant women are at a particular risk for developing hypoglycaemia (1,2,9). Falciparum malaria commonly induces uterine contractions, which may lead to preterm labour or abortion. Pyrexia is implicated in the genesis of the uterine contractions (2,9). Other complications include pulmonary oedema and increased susceptibility to bacterial infections. This patient had haemolytic anaemia, went into preterm labour and had intercurrent bacterial infection of respiratory tract.

The principles of management involve treating the acute infection and the detection and treatment of the complications of the plasmodium infection. Drug resistance in malaria has been defined as the ability of a parasite strain to survive and/or multiply despite the administration and absorption of a drug given in doses equal to or higher than those initially recommended but within the limits of tolerance of the subject (10). The levels of resistance RI, RII, and RIII based on response of a serial parasite to schizonticidal drug (10). Quinine is the treatment of choice where chloroquine resistant infection is encountered. The baby was admitted to nursery and did not develop signs of congenital infection.

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at 17 weeks She was attending ANC at KNEB She was put on vitamin
at 16 weeks when the complaint of pruritus in the lower
and blood group A rve, Hb 10.0 g/dl. VDRL results were not
normal height was bigger than date throughout the follow up. She had
ultrasound, which revealed twin gestation at 34 weeks both in breech
and no fetal abnormalities were noted. The last normal amount of liquor

Her menarche was at the age of 16 years. Menses were regular with bleeding of 3 – 4 days and interval of 28 – 30 days. She had never used any contraceptive method.

PAST MEDICAL HISTORY

Nil contributory.

FAMILY AND SOCIAL HISTORY

She was married. She was working as a secretary. She does not drink alcohol or smoke cigarettes. She was staying with husband who was unemployed. There was no history of twins in the family or chronic illness.

EXAMINATION

She was in good general condition. She was not pale and did not have jaundice or edema.

Central nervous system, respiratory, cardiovascular and musculoskeletal system were all normal.

ABDOMINAL EXAMINATION

Fundal height was term. There were multiple fetal parts felt. Two fetal hearts were heard both regular. No contractions were palpated.

PELVIC EXAMINATION

She had normal external genitalia. Cervix was 4 cm dilated with feet felt in the os. Pelvis was clinically adequate.

DIAGNOSIS

A working diagnosis of primigravida with twins both breech with PROM was made.

TREATMENT PLAN

She was planned for delivery by emergency CS. Consent was obtained. IV line was established; blood for group and cross match was taken. She was premedicated with atropine 0.6 mg 30 minutes before theatre.

OPERATION NOTES

She was brought to theatre 12 hours after onset of drainage. After VVT and catheterisation, vaginal examination, cervix was 8 cm dilated with feet in the vagina. No cord was felt she had septic wound at the mons pubis. Abdomen was cleansed, draped and general anesthesia (GA) was induced and maintained. Abdomen was opened via subumbilical midline incision. Uterus was opened via lower uterine elliptical incision after packing of the peritoneal cavity. First twin was delivered by retrieving feet from the vagina and performing the breech delivery maneuvers. First twin was male, birth weight (Bwt) 2700 gm, score 8/1 min, 10/5 min. Second twin, the membranes were intact. The membranes were ruptured. There was clear liquor. Baby was delivered by breech extraction. Second twin was female infant, Bwt 2500 gm, score 8/1 min, 10/5 min. Placenta was manually delivered. There were two amniotic sacs on one placental disc. Placenta was complete and healthy. Uterus was cleaned and repaired in 3 layers, hemostasis was achieved. She had sustained a right lateral tear of the uterus, not involving the bladder. The tear was repaired before the repair of the uterus. Abdomen was repaired in 3 layers. VVT was redone and clots were expelled.

Estimated blood loss was 700 mls. Instruments and swabs were correct. GA was reversed and uneventful.

POST OPERATIVE CARE

She recovered fully for GA and was taken to labour ward. After she stabilised, she was taken to post – natal ward. She was put on crystapen, gentamycin and flagyl. She had a smooth post-operative recovery. She was scheduled for post-natal clinic at 6 weeks.

FOLLOW UP

She came for postnatal clinic as scheduled. She had no complaints. Examination was normal. She was given contraceptive advice and was referred to clinic 66 for the FP method.

POST OPERATIVE INVESTIGATIONS

WBC	13.2 x 10 ⁹ /l
Hb	7.7 g/dl
RB	3.29 x 10 ¹² /l
Polymorphs	61
Lymphocytes	39%

DISCUSSION

Twin pregnancy results from fertilisation of two separate ova, dizygotic or from a single fertilised ovum that subsequently divides into two, monozygotic.

The incidence of monozygotic twins is 1:250 births (Cunningham et al, 1993). Race, hereditary, maternal age, parity and fertility drugs influence the incidence of

dizygotic twins. The incidence varies according to geographical regions. An incidence of 9.1-16.3 per 1000 in Europe, 10-14 per 1000 in USA, 9-11 per 1000 in India and 29-56 per 1000 in Tanzania (Tengio 1983). At KNH an incidence of 1 in 58.8 deliveries was reported in 1978 (Oyieke, 1978). The incidence increases from 2% in the first pregnancy to 6.6% in the sixth or later pregnancies. This also increases with maternal age (Azubuike, 1982). There is a hereditary factor, more important in the maternal side.

The diagnosis of multiple pregnancy is based on clinical suspicion, careful palpation and is confirmed by X-rays or ultra sonography. Quite often, the diagnosis is missed. Oyieke, 1978 reported that correct diagnosis before term was made in 54.1% of the patients. 38% of twins are diagnosed either in labour or after the delivery of the first twin. Suspicion arises when there is a discrepancy between gestational age determined from the menstrual dates and fundal height. In our patient, the fundal height was larger than maturity by dates. Ultrasonography confirmed twin gestation.

Twin pregnancy is associated with several complications. These include discordant fetal growth, fetal malformations especially heart, renal and neural tube defects, polyhydramnios and premature delivery. Maternal anaemia also occurs due to diminished iron stores and there is megaloblastic erythropoiesis. Our patient was put on routine hematinics as part of the standard antenatal care. Twin pregnancy is also, associated with a 3-5 risk of hypertensive disease in pregnancy. This tends to occur early and it has a fulminate course. Oyieke 1978 reported frequency of PET as 14.4%, PROM, 15.7%, Hydramnios 7.5%, APH 44% and anaemia 22.6%. Prematurity is the leading cause of perinatal mortality. It is 5-10 fold more common than in singleton pregnancies (Cunningham et al, 1993).

Preterm labour can be prevented by use of hospitalisation for bed rest, use of tocolytics or even a cervical suture.

The role of hospitalisation and bed rest is controversial. Some studies have suggested that clinical bed rest in twin pregnancy is only justified in a case of associated obstetrical problem (Van den Pol et al, 1982). O'Connor 1981 noted that more frequent visit in a special term clinic i.e. twice weekly until 28 weeks and weekly thereafter and advise on adequate bed rest at home was better in lessening occurrences of preterm labour than routine admission.

The mode of delivery will depend on the presentation and position of the twins. Vaginal delivery is usually allowed when the first twin is cephalic presentation. When the first twin is breech, major problems are most likely to develop such as difficulty in delivery of the after-coming head or the umbilical cord may prolapse. There may be interlocking of the twins if the first presents as breech and second as cephalic. In our patient, both twins were breech. The postpartum period may be complicated by postpartum haemorrhage. An incidence of 24.5% of PPH was reported by Oyieke 1978. Of the 24.5%, 79.2% were due to uterine atony and the rest were due to cervical or vaginal laceration or due to CS. Our patient has uneventful postpartum period.

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OBS CASE 7

CARDIAC DISEASE IN PREGNANCY – GRADE IV VACUUM DELIVERY – LIVE BABY

NAME: G.O. DoA: 11.6.02
ID: 0254975 DoD: 28.6.02
AGE: 30 yrs. LMP: 16.12.01
PARITY: 0 + 0 EDD: 23.9.02

PRESENTING HISTORY

The patient was referred from the cardiac clinic and was admitted through the antenatal clinic for cardiac assessment and subsequent antenatal care as an in-patient until delivery. She had complaints of dyspnoea on performing ordinary domestic chores. She then developed progressive lower limbs pains Orthopnoea, paroxysmal nocturnal dysnoea and she had skipped her usual medication.

Obstetric and Gynaecological History

She was a para 0 + 0. Her last menstrual period was on 16.12.01 and hence expected date of delivery was on 23. 9 02. Her periods had been regular occurring every 28 days and lasting for 3 days. She was at 26 week of gestation on admission. She had not previously used any contraceptives method.

Past Medical and Surgical History

She was a known cardiac patient since 1991. Had cardiac surgery in 1994 (closed mitral valvotomy due to mitral stenosis). She had been on digixon 0.25g once daily wafarin 5g OD, junior aspirin 80g OD and cardinol 40g.

Family and Social History

She was a married housewife. She did not smoke nor take alcohol. There was no family history of any chronic illness.

Examination

She was sick looking and had dyspnoea at rest. She was not pale, not febrile and had pitting oedema. She did not have jaundice, no lymphadenopathy, nor finger clubbing nor splinter haemorrhage. Her temperature was 36.2°C, pulse rate 108/min irregular, irregularly and of good volume. The blood pressure was 110/60 mmHg.

Cardiovascular System

The pulse was 110/min, irregularly, irregular and of good volume. The jugular venous pressure was raised. The precordium was active. The apex beat was active.

There was normal chest expansion bilaterally. Had bilateral basal crepitation.

Abdominal Examination

The abdomen was uniformly distended and moved with respiration. The liver and spleen were not palpable. The uterine fundus was corresponding to 30 weeks gestation. Fetal heart was heard and was regular.

Diagnosis

A diagnosis of cardiac disease in pregnancy grade iv at 30 weeks gestation was made.

Antenatal Management

She was admitted in the antenatal ward and managed by obstetrician in consultation with the cardiologist. Routine antenatal profile to include blood group, VDRL and haemoglobin were done. She was advised on minimal excises and adequate bed rest. She was put on digoxin 0.25 g daily, atenolol 25g daily, lasix 40mg daily, junior aspirin 150mg daily, warfarin 5 mg daily, oxygen by mask as required, prop up, intravenous crystapen 2mega units six hourly, gentamycin 50mg eight hourly. A cardiologist was consulted and concurred with the diagnosis and the treatment.

The vital signs were monitored recording the pulse, temperature and blood pressure. The chest was also examined daily to rule out basal crepitation serial ultrasound, echocardiogram and electrocardiogram were obtained as part of the cardiovascular assessment. Contraception was discussed and the patient opted for bilateral tubal ligation postpartum. At 36 weeks of gestation a clinical pelvimetry undertaken and this revealed an adequate pelvis.

Results of Investigation

1. Haemoglobin - repeated severally and remain normal
2. VDRL - negative
3. Blood group - A rhesus 'D' positive
4. Urinalysis - NAD – repeated severally
5. Urine and electrolytes - remained normal on several repeat specimens
6. Chest x-ray - no evidence of cardiomegaly
- lung fields were normal
7. Echo cardiogram - rheumatic heart disease with mitral valve

disease mainly mitral stenosis and moderate mitral regurgitation. Has no pulmonary hypertension.

Doppler us – mitral sclerosis with mitral regurgitation.

Left atrium measurement – 4 cm

8. Cardiogram – A notched and prolonged 'P' wave with a prominent negative deflection – features suggestion of left atrial enlargement.

Intrapartum Management

She was transferred to labour ward on 9.6.02 at 3 p.m. in established labour for 3 hours before reporting to the nurses. She was not draining and had no vaginal bleeding. She was in good general condition, the pulse was 82 per minute, it was regular and of good volume. The blood pressure was $120/80$ mmHg. The chest was clear with a respiratory rate of 22 per minute. The fundal height corresponded to a term gestation; the fetus was in longitudinal lie and was in cephalic presentation with only $3/5$ of the head above the pelvic brim. The fetal heart was heard at 140 per minute and was regular. She was having 3 strong contractions in 10 minutes lasting 30-40 seconds. The cervix was 5 cm dilated and was fully effaced. Artificial rupture of membranes was done obtaining clear liquor. The position was left occiput anterior. She was placed in the semi-fowler's position. She was given two-mega units of crystalline penicillin and 80 mg of gentamicin intramuscularly as prophylaxis against bacterial endocarditis. She was put on partogram. Oxygen was given by mask and she received a 100 mg of pethidine intramuscularly.

She progressed well and at 7 p.m. she had achieved full cervical dilation. She was placed on the delivery couch in the semi-recumbent position and advised not to bear down. A left medio-lateral incision was made after infiltrating the site with 8% lignocaine. A medium-sized cap was applied on the vertex and connected to the

vacuum apparatus. Vacuum was gently created and gentle traction applied with every contraction. In the second contraction after applying cap, an easy assisted vacuum delivery was achieved. She was given 8mg of frusemide intravenously. The placenta was delivered by controlled traction. The cervix and vagina were inspected and noted to be intact. The episiotomy was repaired; the estimated blood loss was 200 mls. There was no immediate post-partum complication. The pulse was 88 per minute, the respiratory rate was 24 per minute and she was not dysnoaic. She was transferred to the labour ward acute room for observation.

Post-partum Management

She remained stable for the next 24 hours where vital signs were observed half hourly after which she was transferred from acute room to the post natal ward. Vital signs were observed hourly, monitoring closely for any signs of infection. She was put on prophylactic ampiclox 500 mg orally given 6 hourly for 5 days. Post-partum haemoglobin was 11.6 gl/dl. On the 10th post-delivery day she was reviewed by the cardiologist and found to be stable. She remained in the ward for 14 days, where her post-partum observation chart remained normal including uterine involution and lochia loss.

Due to unavailability of theatre, the patient was discharged for tubal ligation as an outpatient.

Post Natal Follow-up

The patient was seen in the post-natal clinic 6 weeks post partum. She had no complaints. The uterus was well involuted. The breasts were active and not engorged. She had a booking for minilaparatomy for tubal ligation. She was referred back to the cardiac clinic for lifetime follow-up.

Comment

The patient presented had cardiac diseases grade IV according to the New York heart association (NYHA) classification. A varying incidence of cardiac disease in pregnancy has been reported from various parts of the world. It is said to complicate about 1% of pregnancies (1). A study done in K.N.H., showed an incidence of 0.66% (2). A similar incidence has been noted in other developing countries (3). This patient had rheumatic heart disease. Rheumatic heart disease is the commonest heart disease seen in pregnancy in many parts of the world. In Ngotho's series 1982 at K.N.H. 86% of the patients with cardiac disease in pregnancy had rheumatic heart disease, congenital heart disease comprised of 12.9% (2). This is in agreement with several other authors Browne, 1980, Donald 1979, Rush, 1982. Other types of include hypertensive heart disease, coronary, thyroid, syphilis and kyphoscoliosis cardiac disease as well as cor pulmonale, constrictive pericarditis, heart block and isolated myocarditis Cunningham et al, 1993. In developed countries, the incidence of rheumatic heart disease has declined. One of the principal reasons for the decline has been the availability of treatment modalities for incidence for the streptococcal pharyngitis; the other is the improvement in the overall living standards (4)

Clinical important rheumatic cardiac lesions are predominantly valvular in nature. The mitral valve is by far, the most commonly affected valve, followed by aortic valve. Mitral stenosis occurs in approximately 99% of the patients and is the most dangerous condition (4). The patient had mitral valve involvement in 73.5% in his series (2). Mitral regurgitation occurs in approximately 6.6% of the patients (4).

Rheumatic heart disease is the long-term sequelae of rheumatic fever. The causative organism of rheumatic fever is the lancified group A streptococcus. Group A streptococcus produce substances that contribute to their pathogenicity. The theory is that rheumatic fever is an autoimmune disorder in which tissue damage is mediated by the hosts' own hyper immune response to the antecedent streptococcal infection (1,4).

Mitral stenosis is the most common lesion as well as the most important hemodynamically (1). The primary physiological abnormality of blood flow from the left atrium to the left ventricle that is produced by the narrowed valve orifice. Elevated atrial pressure is accompanied by increases in pulmonary venous and capillary pressure thus reducing pulmonary compliance and causing exertional dyspnoea. The first episodes of dyspnoea usually are precipitated by clinical events that increase the rate of the blood flow a cross the mitral orifice (4).

During pregnancy widespread circulating changes occur and result in increase of the workload of the heart. Previously unrecognized cardiac lesions are diagnosed for the first time in pregnancy. In fact, 25% of women with mitral stenosis have cardiac failure for the first time during pregnancy (1). Ojiambo and Sequira found that 30 out of 36 cases of disease patients who were pregnant at Kenyatta National Hospital were first diagnosed during pregnancy (3). A criterion for diagnosing cardiac disease in pregnancy was suggested by Cunningham et al 1993. Presence of any of the criterion highly suggests diagnosis of heart disease in pregnancy. They include a diastolic, pansystolic or continuos murmur, unequivocal cardiac enlargement, a loud, harsh systolic murmur, serious arrhythmia. The diagnosis of heart disease is made more difficult due to the many physiological changes of normal pregnancy (1). This patient was already a recognized case of cardiac

disease having been on follow-up for heart disease and hence presented no diagnostic difficulty. There is no clinically applicable test for accurately measuring functional capacity of the heart. The New York Heart Association (NYHA) has provided a clinical classification, which is based on past and present disability. The NYHA classifies cardiac disease in pregnancy as follows (1,4).

- Class I: Uncompromised patients with cardiac disease and no limitation of physical activity.
- Class II: slightly comprised patients with cardiac disease and slight limitation of physical activity.
- Class III: Patients with cardiac comprised patients with cardiac disease and marked limitation of physical activity.
- Class IV: patients with cardiac disease and inability to perform any physical activity without discomfort.

The principle symptom of mitral stenosis as was the case with this patient is dyspnoea, which reflects reduced pulmonary compliance and vital capacity (4). In severe disease, orthopnoea and paroxysmal nocturnal dyspnoea may supervene (4). present (1). The patient had dyspnoea on less than ordinary physical activity and on examination she had a loud pansystolic murmur best heard at the apex. She was classified as cardiac disease grade IV due to history of cardiac failure and past heart surgery. Diagnostic aids to cardiac disease include a chest x-ray, electrocardiogram, echocardiogram and cardiac catheterisation (4). In this patient the electrocardiogram reveals signs of mitral stenosis while echocardiography showed both mitral stenosis and regurgitation and an enlargement left atrium.

Management of patients with cardiac disease in pregnancy should be started early in pregnancy. Early attendance of the antenatal clinic is vital for the early detection of the nature of the cardiac lesion, assessment of severity of the disease and introduction by appropriate measures to prevent complications. Attention by both obstetrician and cardiologist, a patient with heart disease should be classified according to the functional classification of the New York Heart Association (1,4). This system serves as an accurate guide to maternal prognosis. The maternal mortality associated with heart disease increase directly with the specific functional class (4). This patient was functionary grade II but history of cardiac failure and surgery as stated earlier was classified as class IV.

Most patients who present at their initial visit with a diagnosis of rheumatic heart disease are already receiving antibiotic prophylaxis against recurrent, rheumatic fever (4). This patient had been receiving Benzathine penicillin monthly. The recommended regimens for antibiotic prophylaxis are Benzathine penicillin 1.2 mega units I.M. every 4 weeks or penicillin G 200,000 units- twice daily. For patients allergic to penicillin, sulphadiazine 1gm daily or Erythromycin 250mg twice daily suffices (4).

One of the cornerstones of management during pregnancy is to restrict physical activity and thus reduce strain on the cardiovascular system (1, 4, 5, 6,). Other factors that predisposes to cardiac failure must be prevented, these include anaemia, infection, excess weight gain and sodium in take (1, 4, 6).

Those patients in grade I and II may be managed as outpatients. They are seen fortnightly until 36 weeks of gestation when they should be admitted. Patients with grade III and IV are admitted on initial visist for more vigilant surveillance (1). This patient was admitted on first contact and remained in hospital till delivery.

Patients with rheumatic heart disease should be allowed to enter spontaneous labour at term. Labour is only induced for obstetric indications. Delivery should be accomplished vaginally and caesarean section reserved for obstetric indications (1,4). Though patients with rheumatic heart disease should already be receiving continuous antibiotic prophylaxis against subacute bacterial endocarditis at the time of delivery (1,4). The American Heart Association recommends Ampicillin 2.0gm and gentamycin 1.5mg/kg IV given at least 30 minutes before delivery and repeated once 8 hours later. For patients allergic to penicillin vancomycin 1gm IV given 60 minutes before delivery and repeated 8-12 hours later (4). This patient received Amoxycillin 500mg and gentamycin and she was continued on amoxycillin post-natally for 5days. Adequate intra-partum analgesia is important to relieve pain and apprehension, which is known to elevate heart rate and predispose to failure. Intramuscular injection of 15mg of pethidine as morphine was not available. Lumbar epidural anaesthesia is seldom used. Its risks include hypotension and increase in venous capacitance (1,4). In labour the mother should be kept in semi-fowlers position. Measurements of the pulse and respiratory rates should be taken quarter hourly during the first stage of labour and every 10minutes in the 2nd stage. Oxygen given by mask has an advantage to both mother and fetus. The partogram should be diligently followed with vaginal examination every four hours to monitor progress of labour (1,4). Continuous electrocardiogram, central venous pressure and blood gas studies are in some centers a routine during labour for patient with cardiac disease (4). The periods of maximum risk for patient with cardiac disease are 2nd stage and the immediate puerperium. During these periods, women must be monitored for signs of heart failure, hypertension and arrhythmias. To expediate 2nd stage a prompt forceps delivery or assisted vacuum delivery are indicated. With the delivery of the baby, a strong diuretic is given to circumvent circulatory overload. This patient was given frusemide 80 mg intravenously. It is

essential to prevent excessive blood loss in the third stage of labour. The placenta should be delivered by controlled cord traction; vigorous manual massage of the uterus to achieve uterine contraction should be performed. If need be, oxytocin should be administered by continuous infusion rather than intravenous bolus in order to prevent abrupt in blood pressure. Ergot alkaloids should be shunned as they produce marked elevation of the central venous pressure and transient hypertension (1,4). This patient was not given oxytocin and had only uterine contraction of the uterus and hemostasis. Whereas it is well established that the women with cardiac disease who received appropriate care rarely obscure deleterious affects that ultimately shorten her life span. Nevertheless some studies indicates that if women survives pregnancy there are no deleterious remote effect on the course of rheumatic heart disease (1). In the consideration of prognosis, it is noteworthy to state that as pregnancy progresses, the demand on the heart increases. The elevated cardiac output is maintained predominantly by an increase in heart rate. This predisposes to cardiac arrhythmias and hence failure and thromboembolism (4). Although cerebral vascular accidents are rare in otherwise healthy young women, the incidence is reported to increase with pregnancy (1).

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OBS CASE 8

HUMAN IMMUNO DEFICIENCY VIRUS INFECTION – CAESERIAN SECTION – LIVE BABY

NAME: Z.W

PARITY: 0+0

ID NO.: 0786521

DOA: 20.12.2001

AGE: 29YRS

DOD: 2.1.2002

LMP: 18.3.2001

EDD: 21.12.2001

PRESENTING HISTORY

The patient was admitted at 10.30 p.m. into labour ward with history of lower abdominal pains. The pains were irregular and not increasing in intensity. She was not draining and there was no vaginal bleeding. She was observed in labour ward for four hours and noted not to have uterine contractions. She was transferred to the antenatal ward as a case of false labour.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had menarche at 14 years, her menses had been regular occurring every 28 days. This was her first pregnancy.

PRESENT PREGNANCY

The patient was recruited into the ongoing HIV study of mothers and babies where she was seen initially at 27 weeks of gestation. Her last menstrual period was on 18.3.2001. She was at 40 weeks on admission. The antenatal period had been uneventful with all other routine antenatal monitoring foetus remained within normal range. She was counselled all along and advised not to breast feed postpartum.

PAST MEDICAL AND SURGICAL HISTORY

The patient was diagnosed to have HIV infection at an ANC voluntary screen programme in Huruma. She did not have history of any illness.

FAMILY AND SOCIAL HISTORY

She was married and worked as a dressmaker. The husband worked as a factory manager in Nairobi. She did not drink or smoke. There was no history of any chronic illness in the family.

EXAMINATION

She was in good general condition, not pale, afebrile, no jaundice, no peripheral lymphadenopathy. The pulse was 80/min, blood pressure $110/80$ mmHg.

CENTRAL NERVOUS, RESPIRATORY AND CARDIOVASCULAR SYSTEMS

The abdomen was uniformly distended. There were no areas of tenderness. The fundal height was corresponding to a term gestation. Foetal lie was longitudinal with cephalic presentation. The head was 5 fifths above the pelvic brim. There were no uterine contractions. The foetal heart sounds were heard at 138 beats per minute and were regular. There was no liver or spleen enlargement.

PELVIC EXAMINATION

There was a normal external genitalia. The vagina was soft and moist. The cervix was anterior, soft and os was closed. She was not draining and there was no blood on examining finger.

IMPRESSION

An impression of Human Immunodeficiency Virus infection at term with false labour was made.

INVESTIGATIONS

1. Haemoglobin - Hb 11g/dl
WBC 3.8410
CD₄ - 171/al
CD₄/CD₈ - 0.3
2. VDRL - Negative
3. Chlamydia culture - Negative
4. Gonococcal culture - Negative
5. Blood group - B rhesus 'D' positive

MANAGEMENT

She was admitted to the antenatal ward for observation. Three hours later she started draining liquor and was transferred to labour ward. On review, she was found to be in good condition. She was not having any contractions. A speculum examination confirmed early rupture of membranes with draining liquor. The cervical os was still closed. A decision to augment with syntocinon was made. An intravenous line was established and blood taken for group and cross match. An infusion of 5 units of syntocinon in 500ml of 5% dextrose was commenced and partogram started. She was reviewed 4 hours later at 11.10 p.m. She was having two contractions in 10 minutes lasting 20-30 seconds. The foetal heart was heard and regular. The cervix was 2 cm dilated and was fully effaced. She was given a 100 mg of pethidine intramuscularly and was to be reviewed 4 hours later. At 2.30 a.m. she was reported to be draining meconium stained liquor. On review she was in good general condition. She was having two contractions in 10 minutes lasting

30 seconds. The head was 3 fifths up. The foetal heart was heard at 138 per minute and was regular. The cervix was 4 cm dilated, she was draining moderate meconium stained liquor. A decision was made to stop syntocinon. She was put on oxygen by mask and nursed on the left lateral position with an infusion of 10% dextrose. At 6 a.m. the cervix was at 4 cm, cervical dilation, there was a smell with 2nd degree moulding. An impression of cephalopelvic disproportion with foetal distress was made and a decision for emergency caesarean section made. This was explained to the patient and she gave an informed consent. She was premedicated with atropine sulphate 0.6 mg intramuscularly and wheeled to theatre.

In theatre, she was placed in semi lying position and vulvo-vaginal toilet done. Aseptic catheterization was done draining clear urine. She was re-positioned in supine position. The abdomen was cleaned and draped. She was then anaesthetised. Through a midline subumbilical incision, the abdomen was opened in layers. The lower uterine segment was identified. An elliptical transverse incision was made. A live male infant was delivered, scoring 10 at one minute and 10 at five minutes, on the Apgar score. The liquor was moderately meconium stained.

The placenta was delivered manually. No abnormality was noted in cord and placenta. The uterus was repaired in layers achieving haemostasis. Both ovaries and tubes were grossly normal. After swab and instrument count the abdomen was closed in layers vulvo-vaginal toilet was done to express clots. She was reversed from general anaesthesia and wheeled to the observation room in labour ward. The baby weighed 3400 gm while the placenta weighed 60gm; cord blood was taken from the baby for serological studies.

POST-OPERATIVE MANAGEMENT

The vital signs were observed half hourly until she was fully awake then 4 hourly. She was continued on intravenous fluids of normal saline alternating with 5% dextrose for 24 hours. Normal bowel sounds were established when she was started on oral sips the following day. She was put on intravenous crystapen 500mg 6 hourly while on intravenous fluids and changed to orals when she could take orally.

She was put on intramuscularly pethidine 100mg 8 hourly for 48 hours then paracetamol two tablets orally for five days. On the 3rd post-operative day the check haemoglobin was 11 g/dl. She had an eventful post-operative day; the wound was noted to be clean. The stitches were removed.

The baby had remained under care of the paediatrician attention while on formula milk feeds. The baby was later handed over to the mother on advice to continue with formula feed and avoid breast-feeding. She was discharged for follow-up in the HIV study clinic and to attend the post-natal clinic in 6 weeks.

POST-NATAL FOLLOW-UP

She was seen in the post-natal clinic and she had no complaints. She was in good general condition. The breasts were still active but were not engorged and had regressed considerably. The abdominal wound was well healed. The uterus was well involuted. She had complied on the non-breast feeding advice. She was advised on safe sex and contraceptive by use of the condom.

The baby was healthy and was weighing 5.8 kg. The results of cord blood indicated presence of HIV antibodies by Elisa test. She was to continue the HIV study follow-up where the virological status of the baby would continue to be evaluated.

COMMENT

The patient presented was a primigravida who was diagnosed to have Human Immunodeficiency virus infection (HIV) at antenatal screening.

Human Immunodeficiency virus infection was first identified in 1981, in United States when cases of a new disease characterised by pneumocystitis carinii pneumonia, other severe opportunistic infections, and Kaposi Sarcoma appeared in Immunocompromised homosexual men in Los-Angeles and New York. Since then, the global spread of the infection has been recognised and reported worldwide (1, 27). In Africa, the infection was first described in 1984 (3).

Human immunodeficiency virus is a retrovirus in the subgroup oncovirus. It is a lipid-enveloped, single strand RNA virus that is spherical with a diameter of 100nm. The envelope component includes the host derived gp120 outer enveloped component transmembrane proteins - by the virus. The gP 120 is responsible for budding to specific cellular receptors and confers the capacity for the virus to attach, the cell bearing the CD4 antigen, particularly the T4 lymphocytes which have a coordinating effect on all the elements of the immune system, also to monocytes, macrophages and neurological cells of the central nervous system. Both the core and envelope genes undergo rapid mutation and have thus confounded attempts to produce an effective vaccine (1,2,4).

Once the HIV has been internalised within the host cell by virtue of its reverse transcriptase, its RNA is transcribed backwards to viral DNA which is randomly incorporated into the host nuclear DNA. Thereafter, the viral genome divides with the host cell nucleus into daughter cells. These cells are permanently infected with the HIV and will eventually undergo mutation. Antigenic stimuli that trigger CD4-bearing cells to divide will lead to virus replication, more rapid depletion of T helper lymphocytes and increasing immune deficiency (1,4,5). Once viral DNA has been integrated into the host cell genome, there are complex mechanisms, which lead to viral replication. It has been suggested that progression to AIDS-related complex (ARC) of AIDS in HIV infected persons may be associated with exposure to a variety of infectious and non infectious co-factors. Potentially important co-factors include sexually transmitted pathogens, viruses such as adenovirus and protozoan parasites. Some non-specific cellular stress response can result in activation of virus production (5). Viral antigen becomes detectable in peripheral blood a few weeks after infection and achieves maximal levels at 6-8 weeks. Serum antibody usually appears 2-6 weeks after infection and is initially antibody to gp41. Over 90% of infected individuals sero convert by 6 months, although this is occasionally delayed for upto 1 year after infection (1). In the patient presented seropositivity was detected on a research based screening, it is not possible, hence to determine when she was infected.

The seroprevalence of HIV infection varies from country to country, and from region to region. Global distribution of HIV infected individuals is such that 50% of infected males are from Africa and over 80% of females being from the same region (6,7).

HIV/AIDS pandemic was initially centred in urban locations but in most countries is now thought to be present in rural as well. Initially in developed countries, men were more exposed to HIV than women, primarily as a result of homosexual intercourse or intravenous drug abuse, but the numbers of men and women infected with HIV has gradually narrowed as heterosexual transmission has become more common. World wide, there are 3 men already infected for every 2 women but by the year 2000, the number of new infections among women is expected to approach that among men. The rising infection rates in women are accompanied by a corresponding rise in the number of children born with HIV infection. Todate, it is estimated that about 1 million children have been infected with HIV through mother to child transmission (7). The estimated cumulative adult HIV infection is over 13 million worldwide with over 8 million from the sub-sarahan Africa. In Kenya, no wide spread studies of HIV seroprevalence has been carried out. Seroprevalence studies have mainly dwelt on selected population groups. A seroprevalence of 83% was found among lower socio-economic prostitutes in Nairobi (8). Among patients with pelvic inflammatory disease, 16% were found to be seropositive in Nairobi (9).

In Sub-Saharan Africa, the emergence of widespread heterosexually transmitted infection has resulted in HIV seropositivity amongs pregnant women being as high as 10% in some urban areas (1). 9.1% of gynaecologocial patients presenting at Nyanza provincial general hospital were seropositive (10). Seroprevalence in antenatal mothers is not yet well documented in our country.

HIV is transmitted exclusively through sexual intercourse, through blood or blood products, or perinatally from mother to child. The patient presented denied having had blood transfusion either through transfusion or intravenous drug abuse. She

certainly did not acquire the disease perinatally. The most likely mode of transmission for this patient was sexual intercourse.

Sexual intercourse accounts for about three-quarters of HIV infection worldwide. Heterosexual transmission is the most common method of acquiring HIV infection (1,7,8).

African studies have shown that certain cofactors increase the transmission risk. These include concomitant sexually transmitted disease, especially genital ulcer diseases. The use of oral contraceptive preparation perhaps by increasing the areas of cervical epithelium or by altering local immunity. Other factors such as individual geno type may also increase susceptibility to infection (1,8).

The transmission of HIV from infected mothers to infants either in utero or perinatally is well established. Neonates may also become infected by transfusion of HIV positive blood or blood products (1). Many studies have demonstrated that the frequency of maternal fetal transmission of HIV varies from 12.9% to 65%. Because of the rapid clinical appearance of HIV associated disease, intrauterine infection has been suspected. It is not yet clear what proportions of babies become infected in utero (1,10,11). It is evident that maternal health during pregnancy is important in predicting outcome for the infant. Those born to symptomatic women are more likely to be infected than those whose mothers are clinically well (1,11). The patient presented was asymptomatic and hence falls in this category of well mothers hence a reduced risk for vertical transmission. Parity and age of the mother have not been shown to be associated with higher rates of transmission (11).

Maternal T - helper lymphocytes (CD4) counts and the T- suppressor lymphocytes (CD8) counts have been found to be closely associated with risk of maternal fetal vertical transmission. Evidence of low immuno compromise as measured by low CD4 cell counts, a low CD4: CD8 ratios and evidence of disease progression in terms of P24 antigenaemia and falling P24 antibody levels are associated with increased rates of vertical transmission (1,11). Women who are seropositive with CD4 counts of less than 400/millilitre, P24 antigenaemia and CD4/CD8 ratios of 0.6 and below, have a much higher chance of transmitting the virus to their offspring. If such women are contemplating pregnancy, counselling in the need to avoid pregnancy is advised. Those who are pregnant, termination of pregnancy should be considered (11). The patient presented had CD4 counts of 171/ml with CD4/CD8 ration of 0.3. Though she was asymptomatic, she was at a great risk for transmitting the virus to the offspring, if only considering the laboratory parameters. Follow-up of the baby is important to determine whether the infection took place.

There is a correlation of the gestational age at delivery and risk of HIV transmission to the baby (1). There is evidence that maternal fetal transmission may occur during intrauterine period, presumably by transplacental passage either of free virus or HIV infected cells. The intrauterine infection of the fetus may occur by the second trimester of pregnancy and a case of a first trimester infection has been documented (10). There is high frequency of HIV infection in children born before 34 weeks. This could be explained in several ways. First, HIV infection in utero could affect fetal development and lead to premature delivery. Second, women who are more likely to be infectious, as indicated by antigenaemia or AIDS may be more likely to deliver before 34 weeks, Third, concurrent infections, especially those of the genital tract, can increase both the risk for

premature delivery and the risk of transmission of HIV infection. The later could arise through chorioamnionitis, or attracting HIV infected lymphocytes to the birth canal (11, 12, 13).

The mechanisms of the higher infection rate in children born before 34 weeks gestation remains unclear, but could reflect inadequate passive or active immunity at that age, combined with substantial transmission during labour and delivery.

Caesarean section has been cited as offering a protective effect; nevertheless there are no conclusive data for the recommendation of routine operative delivery (11). As stated earlier, this patient was asymptomatic, she did not have any concomitant genital disease, Gonorrhoea and chlamydial cultures were negative and she was delivered by caesarean section. These factors go to reduce the risks of vertical transmission, in addition to the fact that the baby was term. However, laboratory parameters militate against good chances. She was counselin on the need to abstain from breastfeeding. The balance of evidence suggests that mothers with established infection can transmit HIV infection through breast milk (7,11).

This mother was counselin against breastfeeding. She was on an ongoing research programme and hence closer follow-up and counseling was anticipated.

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MEDICAL AND SURGICAL HISTORY

This was not significant.

FAMILY AND SOCIAL HISTORY

The patient was married and lived with her family in Nairobi. She was a housewife. She didn't smoke nor drink alcohol. There was no history of chronic illness in the family.

EXAMINATION

She was in good general condition, not pale, no jaundice, afebrile, no oedema. The pulse was 70/minute and the blood pressure was 140/80 mmHg.

CENTRAL NERVOUS, CARDIOVASCULAR AND RESPIRATORY SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was symmetrically distended and moved with respiration. There were no areas of tenderness. The fundal height corresponded to 32 weeks of gestation. The foetal lie was cephalic and the foetal heart tones were heard at 142/minute and regular. The estimated foetal weight was 1900gm.

PELVIC EXAMINATION

She had normal external genitalia. A speculum examination revealed normal vaginal wall. There was slight bleeding from the cervical os as that was closed. There was no local lesion seen.

DIAGNOSIS

An impression of antepartum hemorrhage.

INVESTIGATIONS

1. Haemogram	-	haemoglobin	13.3 g/dl
	-	WBC	$6.14 \times 10^9/L$
	-	platelets	$2.44 \times 10^9/l$
2. Urea/electrolytes	-	sodium	143.8 mol/l
	-	potassium	3.6 mol/l
	-	calcium	9.6 mol/l
	-	BUN	2.7 mm/l
	-	uric acid	4.5 mm/l
	-	creatinine	0.2 mg/l
3. Blood group	-	O rhesus positive	
4. V.D.R.L.	-	negative	
5. Ultrasonography	-	single live fetus on cephalic presentation of 32 weeks	
	-	placenta low lying on the posterior uterine wall	

MANAGEMENT

She was admitted to the antenatal ward where she was put on strict bed rest. She was put on haematinics and provided with a pad to monitor bleeding. She remained stable in the ward with no vaginal bleeding until 3 weeks later on 12.4.02, when she developed profuse vaginal bleeding with no accompanying abdominal pain. She was then at gestation of 35 weeks.

She was explained about her condition and prepared for an emergency caesarian section. She gave an informed consent. Blood was taken for grouping and cross matching and two units of blood obtained urgently. She was premedicated with atropine sulphate 0.6mg intramuscularly and then wheeled to theatre with an intravenous line.

In theatre she was put in supine position. The abdomen was cleaned and draped. She was put under general anesthesia and then placed in lithotomy position. Vulvo-vaginal toilet was done and patient aseptically cleaned. Examination under anesthesia revealed normal external genitalia. The vaginal walls were normal. Speculum revealed clots in the vagina with active bleeding from the cervical os. The os was porous and there were no local lesions. Digital examination revealed some boggy tissue in the posterior fornix and the placenta partially covering the os. There was increased bleeding and examination was abandoned for caesarian section.

The abdomen was opened in layers. The lower uterine segment was identified and an elliptical transverse incision was made. The membranes were ruptured obtaining clear liquor and a live female baby who weighed 1920gms was delivered. The baby scored 8 at 1 minute and 10 at 5 minutes. It was taken to nursery. The placenta was found on the posterior wall in the lower segment. It was delivered by controlled cord traction. The uterus was repaired in layers achieving haemostasis. The abdomen was closed in layers after swabs and instruments count was determined correct. Vulvo-vaginal toilet was done. Estimated blood loss was 600 ml. The patient was reversed from general anesthesia and wheeled to labour ward for recovery.

POST OPERATIVE MANAGEMENT

Vital signs were observed half hourly until patient was fully awake. Intravenous fluids of normal saline and 5% dextrose 500ml 6mg were continued for 24 hours until bowel sounds were established and she was put on oral feeds. She had pethidine 100mg 8hrs for 48hrs and Crystapen 2mu 6 hourly intra-venously for 24hrs then changed to orals for 8 days.

The check haemoglobin on 3rd post-operative day was 11.6 g/dl on the 7th post-operative day the stitches were removed and she was discharged with her baby to attend the antenatal clinic and booked for a post-natal clinic in 6 weeks. She didn't turn up in the post-natal clinic on the appointment date.

COMMENT

This was a 25-year-old para 0 + 0 who presented with antepartum haemorrhage at 32 weeks of gestation. She was admitted for conservative management but at 35 of gestation, she developed severe antepartum haemorrhage. Placenta previa type III was diagnosed and emergency caesarean was performed and a live baby delivered.

Placenta previa is defined as a placenta, which is situated wholly, or partially in the lower uterine segment (1,2,3). The condition is usually divided into four degrees:

1. The placenta just encroaches on the lower uterine segment
2. The placenta reaches the margin of the cervical os
3. The placenta covers part of the os and
4. The placenta completely covers the cervical internal os

The overall incidence of placenta previa has been reported between 0.3 - 0.8% world wide (1,2,3). Varying incidences have been reported in different studies at Kenyatta National Hospital (4,5). Kirima (4) reported an incidence of 1: 116,

while Mbithi (5) reported an incidence of 1%. Low implantation has been observed in 5 - 28% of pregnancies during the second trimester, but as the gestation advances, the placental site appears to migrate upwards and by term only 3% are previa (2,8). The incidence of placenta previa is higher with higher parity and increasing maternal age (2).

The exact aetiology of placenta previa is unknown. Several predisposing and associated factors have been recognised. The position of the placenta is primarily determined by site of implantation (2). Nevertheless placental migration has been observed (2,8). The migration is thought to be due to differential development of the placenta and the arteries, and migration is possibly affected by scarring or changes in vascularization of the deciduas (2, 3).

Multiparity, advancing age and previous caesarean delivery increase the risks of placenta previa (2,3). In conditions where the area of the placenta is increased, such as twin pregnancy, fetal erythroblastosis, succenturiate lobe and placenta membranacea, there is an increased incidence (2,3,9).

There is a significant relationship to history of dilatation and curettage and placenta previa and the conclusion is that endometrial damage is a factor in the aetiology of placenta previa (2). Cigarette smoking has been shown to be related to placenta previa (2,11). Uncommonly, placenta previa is associated with placenta accreta or one of its more advanced forms, placenta increta or percreta. Not only does the risk of placenta previa increase with the number of previous sections, but also does the likelihood of placenta accreta (2,3,9,12). This patient was young and of low parity and did not have history of obstetrical or gynaecological surgery.

The most common presentation is painless vaginal bleeding in the absence of labour but it is well recognised that a small proportion of women with placenta previa do not bleed until the onset of labour (1,2,3). The initial bleeding may not be profuse and often ceases spontaneously, only to recur when least expected (2,3). This patient presented with unprovoked painless vaginal bleeding that was minor and ceased spontaneously only to recur in a more profuse and life threatening manner. Some form of fetal malpresentation is found in approximately one third of the cases. In cephalic presentation the part is invariably high and is often displaced slightly from the mid-line (1). History and physical examination with a high index of suspicion will lead the physician to appreciate the possibility of placenta previa. Digital vaginal examination is to be shunned and condemned at the first opportunity (1,2,3). On abdominal examination, the abdomen is soft with no tenderness; the presenting part should be easily felt and the fetal heart unaffected. Malpresentations are not unexpected (2). There is justification in passing a vaginal speculum to rule out bleeding from local causes (2,3). Speculum examination in this patient ruled out local causes and also revealed bleeding from a closed cervical os. Confirmatory diagnostic methods include soft tissue placentography, arteriography, amniography, ultrasonography, and more recently the more expensive magnetic resonance imaging (2, 3, 5, 6, 7, 8). The diagnosis in this patient was confirmed by ultrasonography. The method available at Kenyatta National Hospital is transabdominal ultrasonography. Transabdominal ultrasonography will locate the placenta with reasonable accuracy but false readings have been encountered in assess patients, bladder distension may give a false positive and a blood clot may resemble a placenta. Transvaginal ultrasonic examination has markedly improved diagnostic accuracy and has been reported to be fairly safe (6,7,8). Precise diagnosis may only be made by direct palpation of the placenta by digital examination. This should only be done in theatre in a

"double set up" when a decision has been reached for safe termination of the pregnancy (1,2,3).

For purposes of management, women with placenta previa are categorized into those in whom the fetus is pre-viable but there is no pressing need for delivery, those in whom the fetus is within 3 weeks of term, those in whom labour is in progress and those in who haemorrhage is severe as to necessitate evacuation of the uterus despite the gestation (1,3). Patients in whom the fetus is remote from term with mild to moderate haemorrhage are subject to expectant conservative management. The primary objective is to reduce the number of preterm births. This form of management requires that women must remain in hospitals where intervention may be prompt in case of a further major bleed (1,3) as was the case with this patient. Patients with severe haemorrhage, those near term and those in labour are delivered immediately.

Preterm birth continues to be a major problem even when expectant management is used (1). Perinatal mortality is greater with placenta previa than in the general population and fetal malformations are also somewhat more common (3). Kirima (4) estimated neonatal mortality at 26.2% in his series at Kenyatta National Hospital. A reduction in maternal mortality has been achieved with the advent of adequate transfusion facilities.

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OBS CASE 10

THIRD DEGREE PERINEAL TEAR - REPAIR

NAME:	B.M.	PARITY:	3 + 0
IP NO.	089785	D.O.A.:	4.4.2001
AGE:	27 Years	D.O.D.:	6.4.2001

PRESENTING COMPLAINTS

She was admitted in advanced first stage of labour and went on to deliver. Post-partum she was found to have a third degree perineal tear.

HISTORY OF PRESENTING ILLNESS AND PREGNANCY

She was referred from Kahawa Barracks where she had been in labour for over 24hours. She was para 3+0. All her previous deliveries were in hospital by vaginal route. Her last menstrual period was on 1/7/2000 and expected date of delivery was 8/4/2001. She was at a gestation of 39 weeks. She was attending antenatal clinic at Kahawa. She got labour pains and was admitted to Kahawa Barracks where she remained for over 24hours. She had been draining for 12 hours before referral. She was augmented with syntocinon and delivered 1hour later immediate post partum examination revealed a large bleeding perineal tear.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She had three living children; her last delivery was in 1998. All her deliveries were by vaginal route. She attained menarche at 16years of age. Her periods had been regular occurring every 28 days and lasting four to five days. She had not been on any contraceptive use.

PAST MEDICAL AND SURGINAL HISTORY

There was nothing significant.

FAMILY AND SOCIAL HISTORY

She was a married housewife and lived with her family in Nairobi. Her husband worked as a soldier. She did not smoke and did not drink alcohol. There was no history of any chronic illness in the family.

EXAMINATION

GENERAL

She was in good general condition, not pale, no jaundice, afebrile and no oedema. The pulse was 72/minute and blood pressure was 120/80 mm Hg.

CENTRAL NERVOUS, RESPIRATORY AND CARDIOVASCULAR SYSTEMS

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and moved with respiration. The liver, spleen and bladder were not palpable. The fundal height was corresponding to a term gestation, the fetal lie was longitudinal with cephalic presentation and head was 2/5 up. She was having three moderately strong contractions in 10 minutes. The fetal heart tones were heard at 138/minute and were regular. The estimated fetal weight was 3600 gm.

PELVIC EXAMINATION

The external genitalia was normal. The vagina was moist. The cervix was 8 cm dilated and was fully effaced. There was no caput and there was no moulding. The fetal position was left occiput anterior. The pelvis felt adequate. She was draining clear liquor.

IMPRESSION

An impression of prolonged labour was made.

MANAGEMENT

She was put on an intravenous line of 10% dextrose. Blood was taken for grouping and crossmatching and then 1.25 units of syntocinon were added to the 10% dextrose fluid. This was run at 10 drops per minute and to be increased every 20 minutes by 10 drops. Within one hour, she was fully dilated and she was wheeled to delivery room. At crowning a medial lateral episiotomy was given after a local anaesthetic infiltration. She went on to deliver a male baby who scored 10 in 1 minute and 10 in 5 minutes. The placenta was delivered by controlled cord contraction. The baby weighed 4050 gm and the placenta 600 gm. Immediate post partum examination revealed a big tear on the inferior aspect of the posterior vaginal wall involving the entire perineum to the anal mucosa. The anal sphincter was severed. There was a slight bleeding from the tear and the episiotomy. The cervix felt intact. The new development was explained to the patient and she gave an informed consent for examination under anaesthesia and repair. She was premedicated with atrophine sulphates 0.6 mg and pethidine 100mg intramuscularly then wheeled to theatre.

In theatre she was put under general anaesthesia then placed in lithotomy position. Examination under anaesthesia confirmed the earlier findings. The proximal vagina was packed with gauze and the apex of the tear was identified. The anal mucosa was repaired continuously from the apex with 3.0 chromic catgut and re-approximation of the mucosa, muscularis and serosa of the bowel made up to the anal orifice. The torn ends of the severed anal sphincter were identified. These were approximated and sutured with 2.0 chromic catgut. The musculofascial layer of the vagina was repaired from the apex to the hymenal ring. Then the vaginal mucosa was repaired beyond the hymenal ring to the perineum, both were done with 2.0 chromic catgut. The vaginal pack was removed and patient was reversed from general anaesthesia. She was wheeled to labour ward for observations.

POST-OPERATIVE CARE

She was observed half hourly until she was fully awake then four hourly. She was put on intramuscular pethidine 100 mg 8 hourly for 24 hours then paracetamol tablets 1gm 8 hourly for five days. She was advised to have warm saline sitz baths twice a day. On the third day, she was stable, she was not pale, and the uterus was well contracted. She had normal lochia loss and the repair site was clean. She was discharged to continue with twice-daily warm saline sitz baths at home to be seen in the postnatal clinic in 6 weeks. She was also advised to take the child for the child health clinic. She did not attend the postnatal clinic and she was hence lost to follow-up.

COMMENT

The patient presented was para 3 + 0, and presented in advanced labour. She went on to have a spontaneous vaginal delivery and sustained a third degree perineal tear.

Perineal tears are defined as spontaneous injuries causing lacerations to the perineum following childbirth. They are part of a bigger group of injuries to the birth canal referred to as obstetric trauma and include, ruptured uterus, cervical tears, vaginal wall lacerations and hematomas and vulva hematomas (1,2). Perineal tears are usually classified as first, second and third degree. Third degree tears are further divided into incomplete or complete (2). Elsewhere complete third degree tears are referred to as fourth degree perineal tears (1,3). First-degree perineal tears are those that involve the vaginal mucosa, invariably the fourchette and the skin of the perineum just below it. In second-degree lacerations, the rent is deeper and extends through the perineal body, severing the transverse perineal muscles and exposing the rectal sphincter without injury to it. Third degree perineal body, sever the fibres of the sphincter and muscles. When a third degree perineal tear extends for a certain distance up the anterior wall of the rectum, it is termed as complete or else a fourth degree tear (1, 2, 3). This patient had a laceration of the perineum extending completely through the perineal body, severing the sphincter but did not extend up to the wall of the rectum. She hence had an incomplete third degree perineal tear.

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The incidence of third degree lacerations have been determined by several studies that have classified them into those who had an episiotomy and those who received no episiotomy (3,4,5,6). The rate of third degree laceration with episiotomy ranges between 0-23.9%. The range of reported rates of third degree laceration among

groups of women not having an episiotomy is 0-6.4%. The rate of first and second-degree laceration was reported at about 27 - 50% (3,4,5,6). The incidence of perineal laceration is highest amongst nulliparous women, and those undergoing operative vaginal delivery (3).

In studies carried out at Kenyatta National Hospital the incidence of obstetric trauma to include cervical tears, vaginal and perineal lacerations was found to be 7.8% in women who had vacuum extraction while the incidence of perineal tear was found to be 0.6% among women who had episiotomy (7,8).

The risk factors in the causation of perineal tears have been classified into fetal, maternal and iatrogenic factors 92. The majority of lacerations are due to precipitate and unattended delivery (1). Factors that cause rapid and sudden expulsion of the fetal head and unpredicted shoulder dystocia.

The adjusted risk for third degree perineal tears was significantly increased for mid-line episiotomy, versus no episiotomy, nulliparity versus parous, delivery by physician versus midwife and fetal macrosomia versus normal weight (3). Increased risks were found amongst Chinese women compared with the risk for whites (3).

Perineal injury during childbirth is a complication with potentially debilitating long term consequences especially when a third degree perineal tear is sustained (3). The major complications include haemorrhage, infection rectovaginal fistula, residual dysfunction of the external anal sphincter, dyspareunia and perineal discomfort not to mention relaxation of the vaginal outlet (1,2,3).

The management of perineal tears is immediate repair (2). Hemostasis should be observed. The repair will depend on extent of the injury but the basic principle is approximation of all severed tissue layers (2). The mucosal, fascial and muscular layers must be approximated. In third degree perineal tears, a thorough inspection of the extent of the wound is carried out, preferably under anaesthesia, as was the case for this patient. In complete tears the rectal mucosa should be repaired, then the vaginal mucosa and perineal skin repaired to simulate normal anatomical features (3). Postoperative care includes perineal hygiene, saline sitz bath for a few days will suffice.

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OBS CASE 11

BREECH PRESENTATION IN A PRIMIGRAVIDA ELECTIVE CAESAREAN SECTION

NAME:	MWK	PARITY:	0 + 0
AGE:	22 YRS	D.O.D:	31.5.02
UNIT:	0811152	D.O.A:	26.5.02

PRESENTING ILLNESS

She was admitted through labour ward on 26.5.02 one being found to have a breech presentation. She was then 40 weeks plus gestation. She did not have vaginal bleeding nor was she draining.

PAST MEDICAL AND SURGICAL

It was non-contributory

FAMILY AND SOCIAL HISTORY

She was a single lady living with an elder sister in Kangemi. She did not smoke nor take alcohol. Her sister is hypertensive and the mother has twins.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She had her menarche at 15 years. Her periods were regular and lasted four to five days occurring every thirty days. No history of dysmenohrea. She had no history of contraceptive use.

HISTORY OF PRESENT PREGNANCY

Her last menstrual period was on 15.7.01 and her expected date of delivery (EDD) was 22.4.02. She was 42 weeks of gestation by dates at admission. She was attending antenatal clinic at a private clinic in Nairobi. The presentation during these visits was cephalic.

Investigations during the antenatal period included - VDRL - negative, blood group O rhesus positive, haemoglobin was 8.8 g/dl urinalysis - showed WBC++.

EXAMINATION

GENERAL

She was in good general condition there was no pallor, jaundice, oedema and there was no peripheral lymphadenopathy. Her pulse was 80/minute and blood pressure was 110/60 mmHg.

CENTRAL NERVOUS, RESPIRATORY AND CARDIOVASCULAR SYSTEMS

They were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended. There was stria gravidarum. The fundal height was term the foetus was in longitudinal lie and had breech presentation. The breech was not engaged. The foetus heart rate was 140/minute and regular. There were no uterine contractions. The abdominal girth circumference at the umbilicus was 108 cm and fundal height was measured to 40 cm. The estimated fetal height was hence 3880 gm.

VAGINAL EXAMINATION

The external genitalia was normal, the cervix was central in position and the os was firmly closed. The sacral promontory was not tipped, ischial spines were not prominent and the sacral curve was normal.

IMPRESSION

An impression of breech presentation in a primigravida with a large foetus with postdatism was made.

INVESTIGATIONS

1. Haemogram Hb - 9.6 g/dl
 WBC 5.4 x 10 a/L
 Platelets Adequate
2. Urea & Electrolytes - Sodium 145 mg/l
 Potassium 4.4 g/l
 Bun 1.8 m/l
3. Urinalysis - Protein Nil
 Sugar Nil
4. Ultrasound - Single life foetus in breech presentation placenta
 fundal anterior.
5. Group and cross matching - 2 units of whole blood.

PERINATAL MANAGEMENT

Supine - started half hourly until patient was fully awake then was on breast immediately. She had per oral nasogastric fluids throughout the 24 hours amounting to 200ml/24 hours until bowel sound was heard. Dry when she was per oral feeds. She was well on day

Management

The patient was prepared for elective caesarean section. An informed consent was obtained. She was starved from midnight. On the day of operation the abdomen was shaved together with the pelvic hair. An intravenous line was established by venapuncture. She was premedicated with atropine sulphate 0.5mg half an hr before theatre.

In theatre she was placed in semilithotomy position. A vulval vaginal toilet was done and aseptically catheterized. The catheter was left in situ. She was then placed in the supine position. The abdomen was cleaned with savlon lotion dried and then painted with iodine solution. She was draped with sterile towels under general anaesthetic. The abdomen was opened in layers through a midline subumbilical incision. The lower uterine segment was identified. A transverse lower uterine segment incision was made. A live male baby in frank breech was delivered by breech extraction. The baby scored 9/1 10/5 and weighed 3000 gm. The placenta was delivered normally and was complete with membranes weighing 130 gms. The uterus was repaired in three layers and haemostasis achieved. The estimated blood loss was 600ml, after ascertaining the instrument and swab count, the abdomen was closed in layers. A vulva vaginal toilet was done to express clots and the bladder catheter was removed noting clear urine on its tip. Anaesthesia was reversed and patient was wheeled back to labour ward for recovery.

POST OPERATIVE MANAGEMENT

The vital signs were observed half hourly until patient was fully awake then was put on four hourly observations. She was put on intravenous fluids, alternating 5% dextrose with normal saline amounting to 2500ml/24 hours until bowel sounds established the next day when she was put on oral feeds. She was also put on

intravenous crystapen and gentamycin. Until bowel sounds established when she was put on oral amoxycillin 500mg 8 hrly for five days. She was put on pethidine 100mg 8 hrly for 48 hours then changed to oral brufen 400mg 8 hrly for three days. On the third postoperation day the haemoglobin was 9.9g/dl. She did well post-operatively. She was lactating well. On the 7th postoperative day the wound was clean and healing well. All stitches were removed. The patient was discharged to attend the postnatal clinic in 6 weeks and to pursue the maternal child health clinic for the baby's immunization.

Post Natal Follow-up

The patient did not turn up on the appointed day.

COMMENT

Breech presentation is said to occur when the fetal pelvis or lower extremities present at the maternal pelvic outlet unlike cephalic presentation when the fetal head is the one in relation to the pelvic inlet. There are three types of breech as distinguished by the fetal altitude namely frank breech where the hip joint is flexed and both knees are flexed and footling breech where either or both legs are extended below the level of the fetal buttocks (1). This patient had a frank breech.

The incidence of breech presentation varies with fetal maturity (2). Breech presentation is common remote from term, but most often however, sometimes before the onset of labour the fetus turns spontaneously to a vertex presentation so that breech presentation persists in only 3 to 5% of Singleton deliveries (1,3). In Singleton breech presentations in which the infant weighs less than 2500g, 40% are frank breech, 10% complete breech, and 50% footling breech. With birth weights of more than 2500 g 65% are frank breech, 10% complete breech and 25% footling

breech (1). This patient delivered a baby weighing 3000 g in frank breech. In Kenyatta National Hospital overall incidence of breech presentation occurred in 3.5 - 5% (4,5). Mati (6) found that breech presentation occurred in 2.7% of all deliveries in Nairobi.

Breech presentation occurs when spontaneous version to cephalic presentation is prevented as term approaches or if labour and delivery occur prematurely before cephalic version has taken place. Conditions associated with breech presentation include prematurity, multiple pregnancy, oligohydramnious, fetal tumors and previous breech delivery (1,3,7). Implantation of the placenta in either cornual fundal region of the uterus has been suspected as predisposing to breech presentation (8). This patient did not have a clear aetiological factor.

The diagnosis of breech presentation may be made clinically by abdominal palpation. Pelvic examination is complimentary especially when done in labour (1, 3, 9). Sonography confirms a clinically suspected breech presentation and possibly identifies any fetal anomalies and other aetiological factors (1,9). If delivery by caesarian section is planned without exception, there are few justification for X-rays. If vaginal delivery is anticipated X-ray will provide information about the type of breech and accurate measurements of the pelvis (9). This patient was diagnosed clinically, an ultrasound confirmed the diagnosis and eliminated several aetiological factors.

The optimal mode of delivery for a breech pregnancy has remained a subject of controversy. It nevertheless has been found that it is reasonable to allow vaginal delivery in carefully selected cases (10). The choice of mode of delivery of a breech should be made in the antepartum period.

Following confirmation of breech presentation the mother must be closely followed to see if spontaneous version takes place (1). If by 37 weeks the malpresentation persists, external cephalic version could be attempted (3,7,9,11). Mohammed et al (12) in a randomized controlled study using tocolysis demonstrated that external cephalic version at term in appropriately selected pregnancies, reduces the occurrence of breech presentation in labour. Other investigators had demonstrated a reduction of breech in labour (13, 14). Maternal complication for external cephalic version must be considered relative to those from caesarean section, which carries a significant maternal mortality and morbidity. The safety of external cephalic version is also of vital importance to the fetus as well as the mother. Mohammed et al (12) reported that the relative risk of both mother and fetus were not significant. Other studies had similar findings (10,12,14).

Failure of version means that a decision must be made as to whether a breech presentation should be delivered by caesarean section or allowed to go into labour. Risks to the mother with caesarean section must be weighed against the risks to the fetus with vaginal delivery (1,3,9). Several factors are to be evaluated when vaginal delivery is contemplated, these include the size of the fetus, adequacy of the pelvis, a flexed head and whether the breech is frank or non-frank (1,9). Fortney et al (15) reported that morbidity and mortality rates for the fetus at term increased with birthweight. It is recommended that an estimated fetal weight of

3500 g or more will benefit from caesarian section (9). This patient had the fetal weight estimated clinically by multiplying the abdominal girth and the fundal height then subtracting 450g. The estimated fetal weight was 3880 gm and a decision to do elective caesarean section was made. In Kenyatta National Hospital it is recommended that the true conjugate be at least 11.5 cm. Other contraindications for vaginal breech delivery include any other obstetrical complications, prematurity, uterine dysfunction, intrauterine growth retardation, a bad obstetrical history and when the mother requires sterilization (1,3,9).

Most obstetricians argue that there is an increased risk of adverse perinatal outcome associated with vaginal breech delivery. In properly selected cases the route of delivery for term breech does not seem to affect neonatal mortality rates (1). The outcome of breech delivery depends on the fetal gestation and birth weight. Njuki (5) found the perinatal mortality for breech delivery to be 516/1,000 live births. He also found that babies with less than 2500g birth weights have a mortality rate of 439.1/1,000 live births while those of birth weight more than 2500g have 72.9/1,000 live births. Lekha (16) in a review of perinatal mortality of neonates less than 2000g found 13% to have been delivered by primary breech extraction and of these constituted 11.5% of the 502.1/1,000 mortality rate. Other complications of breech presentation include cord prolapse, birth injuries, and arrest of after coming head respiratory distress syndrome, all these contribute further hazards to the fetus presenting with breech.

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OBS CASE 12

PREGNANCY INDUCED HYPERTENSION (PET)

INDUCTION OF LABOUR: LIVE BABY

NAMES: M.M. PARA 2 + 0
AGE: 34 YEARS DOA: 12.8.2002
IP NO. 0826412 OD: 1.9.2002

PRESENTING COMPLAINTS

She was admitted via the antenatal clinic with an elevated blood pressure of 179/110.

History of presenting Illness

The patient had been booked in the clinic 4 weeks earlier with a bad obstetric history. On her second visit the blood pressure was noted to be 150/90, and one plus of protein in urine. She had no headaches, dysuria or frequency. She was put on diazepam 5mg three times a day and advised on bed rest at home. On her 3rd visit the blood pressure was found to be 170/110 and she had two pluses of protein in urine. This necessitated admission.

Past Obstetric and Gynaecological history

She was para 2+0. Her first delivery was in 1988 and resulted in a macerated stillbirth due to hypertension. The second delivery was in 1990 and was an intrauterine fetal death at 6 months associated with hypertensive disease in pregnancy. Her menarche was at age of 15 years. She did not get periods since her previous delivery. Her cycles had been regular with periods lasting 3 - 4 days, coming every 28 days. She had no history of contraceptive use.

Past medical history

There was no history of hypertension prior to any of the pregnancies.

Family and social history

She was a housewife living with her husband in Nairobi. She did not smoke nor take alcohol. There was no history of any chronic illness in the family.

Physical Examination

She was in good general condition. She was not pale, no jaundice, afebrile. She had mild pitting oedema. There was no lymphadenopathy.

Cardiovascular system

Pulse was 80 per minute, good volume, regular and not collapsing. The blood pressure was 170/110. The jugular venous pressure was not elevated. The apex beat was in the 5th intercostals space along the clavicular line. The 1st and 2nd heart sounds were heard and there were no murmurs.

Abdomen

The abdomen was uniformly distended and moved with respiration. There was no enlargement of the liver and spleen. The uterine size was 36 weeks. Fetal lie was longitudinal, with cephalic presentation. The head was all above the pelvic brim. There were no contractions noted. The fetal heart was 140 beats per minute and regular.

Pelvic Examination

She had normal external genitalia. The cervix was anterior, soft about 1 cm long and admitted one finger, hence a dilatation of about 1 cm. She was not draining. The pelvis felt adequate.

Impression

An impression of severe pregnancy induced hypertension (PET) was made.

Management

Patient was admitted in the labour ward's acute room for control of blood pressure. She was given a stat dose of 20mg hydralazine as an intravenous bolus and started on methyl-dopa 250mg three times a day. She was also put on diazepam 5mg three times a day. Her vital signs were observed half hourly. The blood pressure settled at systolic blood pressure of 110 - 130mmHg and diastolic pressure of 80 - 90 mmHg. She was observed for 8 hours. She was then transferred to the ward for continued treatment and investigations.

Investigations

1. Urea & Electrolytes	-	Na+ - 143 mmol/l
	K+	- 4.0 mmol/l
	Cl	- 109 mmol/l
	BUN	- 5.0 mg/dl
	Creatinine	- 0.8mg/dl
	Uric acid	- 6/6 mg/dl

2. Ultrasound - Single live fetus in cephalic presentation. Fetal cardiac activity was demonstrated. The B.P.D. was 9.1 cm. Corresponding to 36 weeks and 5 days gestation.
- 22.8 .2002 - Amniotic fluid was normal in volume. The placenta was fundus posterior and there were no foetal abnormalities noted.
4. VDRL - Negative
5. Blood Group - B positive
6. Urinalysis - Repeatedly was protein 2+
Sugar Nil.

Ward Management

In the ante-natal ward, the patient was put on bed rest and was continued on above treatment. She was put on a fetal kick chart and above investigation carried out. After 5 days in the ward, the blood pressure was noted to have risen with a systolic pressure of 140mmHg and diastolic of 100mmHg. The dose of Methyl-dopa was increased to 500mg 3 times a day. She was scheduled for delivery after 37 completed weeks. At 37 weeks a decision was made to deliver the patient considering her previous obstetric history. Fetal weight estimation was 3000gm and a Bishop's score was 8.

The patient was explained of the decision and she consented to induction. She was transferred to labour ward for immediate delivery having put an intravenous line and blood taken for grouping and cross matching.

Induction and progress of labour

In labour ward the patient was put in 1st stage room where artificial rupture of membranes was done. The liquor was clear and there was no cord prolapse. The patient was started on syntocinon. 5 units in 500ml of 5% dextrose. This was started at 10 drops per minute. She was to be monitored with a partogram and for pelvic review every 4 hours. The induction was started at 2 p.m.

She was reviewed at 6 p.m. when she was found to be having 3 contractions every 10 minutes. The head was 3 fifths above the pelvic brim. The fetal heart had remained regular. The cervix was 6 cm dilated and she was draining clear liquor. There was no caput and no moulding. She was given 100mg of pethidine for analgesia and the syntocinon drip was stopped.

At 9 p.m. she was fully dilated and was transferred to the delivery room. An episiotomy was made and the patient was delivered by assisted vacuum delivery. The baby was a male scoring 10 at 1 minute and 10 at 5 minutes on the Apgar score and weighed 2900gm. The patient was given 10mg of diazepam and 40mg of frusemide intravenously after delivery of the baby. The placenta was delivered by controlled cord traction. It was complete with membranes and weighed 550 gm. The uterus was massaged to encourage contraction and the syntocinon drip was re-started as ergometrine was contraindicated. The estimated blood loss was 200mls.

Post partum management

The patient was observed for 2 hours in labour ward. The blood pressure postpartum was 130/90mmHg. She was continued on methyldopa and diazepam with which she was transferred on to the postnatal ward. In the ward the blood pressure ranged between 120-140mmHg systolic and 80-90mmHg diastolic. The dose of methyldopa was withdrawn and patient remained on diazepam. She was discharged on the 5th post-operative day with a blood pressure of 130/90mmHg. She was lactating and the baby was breastfeeding. She was advised to attend the post-natal clinic after 6 weeks and to attend the well child clinic.

Post Natal follow-up

She attended the post-natal clinic on the appointment day. She had no complaints. She was still breastfeeding and the baby was well. The blood pressure was 120/80 mmHg. The uterus was well involuted. There was no protein in urine. She was advised on contraception and opted for an intrauterine contraceptive device. She was hence referred to the family planning clinic No. 66.

Comment

The patient presented had pregnancy induced hypertension. She was managed to a favourable outcome. Pregnancy induced hypertension is divided into three categories, namely: coincidental hypertension, pregnancy induced hypertension, Pre-eclampsia and Eclampsia (1).

Hypertension is defined as a diastolic blood pressure of at least 90mm/Hg or systolic blood pressure rise by 30mmHg. The diagnosis of pre-eclampsia is based on the development of hypertension plus proteinuria or of oedema that is generalized and overt or both. Eclampsia is characterized by the abnormalities first

cited with the addition of convulsions that are precipitated by the pregnancy induced hypertension (1,2,3). Pre-eclampsia is used to label a pregnancy specific syndrome which may terminate in eclampsia and is characterized by a group of signs of which hypertension is one (2). Pre-eclampsia may further be classified as mild, moderate and severe. The severity of pregnancy-induced hypertension is assessed by the frequency and intensity of the antecedent abnormalities (1,2). These abnormalities include blood pressure, proteinuria, raised serum creatinine and convulsions among others (1,2,3).

Chronic underlying hypertension often makes diagnosis of pre-eclampsia difficult. Chronic underlying hypertension is suggested by hypertension antecedent to pregnancy, hypertension detected before the 20th week of pregnancy unless there is trophoblastic disease or persistent hypertension long after delivery (1).

The patient presented in this case presented with hypertension and proteinuria for the first time at 34 weeks of gestation at her second visit to the antenatal clinic. The blood pressure was 150/90mmHg and protein in urine was 1+. This is classified as mild pre-eclampsia (1,2). She was admitted at approximately 36 weeks of gestation by ultrasound extrapolation with 2+ of protein in urine and blood pressure of 170/110 mmHg. By definition this was bordering on severe pre-eclampsia (1,2). Hypertension is graded as mild to moderate for blood pressure readings in the range 140 - 165 mmHg systolic and 90 - 95 mmHg diastolic. It is severe for readings of 170/110 mmHg and above (1,2). The onset of proteinuria is a bad prognostic sign where 2+ of protein in urine is termed as severe. The onset of symptoms like headaches, visual disturbances and upper abdominal pain precede eclampsia (1,2,3).

The incidence of pre-eclampsia is cited to be about 5 per cent although remarkable variations are reported (1). In Kenyatta National Hospital Kibaru (4) found a prevalence of 5.6 per 1000 deliveries. The incidence is influenced by parity racial and environmental factors. The incidence is also higher in women who are in both extremes of their reproductive period (1,2,3). There are many theories about the aetiology of pregnancy-induced hypertension (1,2,3). What is noteworthy is the observation that pregnancy induced hypertension is much more likely to develop in woman who is (i) exposed to chorionic villi for the first time (ii) is exposed to superabundance of chorionic villi as with twins or hydatidiform mole (iii) has existing vascular disease (iv) is genetically pre-disposed to hypertension developing during pregnancy (1).

Immunologic, endocrine and genetic factors are some of the possible mechanisms in the causation of pre-Eclampsia. The immunologic theory is supported by the fact that the risk of pregnancy induced hypertension is enhanced appreciably in circumstances where formation of blocking antibodies to antigenic sites on the placenta might be impaired as during immunosuppressive therapy; where effective immunization by a previous pregnancy is lacking as in first pregnancies or where the number of antigenic sites where effective immunization by a previous pregnancy is lacking as in the first pregnancies or where the number of antigenic sites provided by the placenta is usually great compared to the amount of antibody i.e. in multiple pregnancy (1,3).

The genetic theory is supported by the varying incidence in different racial groups (1). Chesley and Cooper further suggested that the condition is passed on via a single recessive gene with reduced penetrance (5).

The patient presented was para 2 + 0. She had developed pre-eclampsia in both her first and second pregnancies and went on to develop pre-eclampsia in the present pregnancy. This finding casts aspersions on the immunological theory. There was no evidence of eclampsia amongst her kin.

The pathophysiology of pre-eclampsia is basically vasospasm with vascular endothelial lining damage (1,2). These vascular changes together with the local hypoxia of the surrounding tissues lead to haemorrhage and necrosis. In the utero placental bed there is reduced utero placental blood flow with subsequent reduced placental perfusion (1,2). The renal lesion characteristic of pre-eclampsia is glomerular endotheliosis. There is increase in total raised extra vascular fluid hence oedema (2). The cardiovascular changes include increase in the systemic vascular resistance with subsequent decrease in cardiac output. Multiple vascular thrombi with small hemorrhages in various organs including the lungs, liver and the brain occur (1,2,3). The initial cause of endothelial damage and vasospasm is unknown. It is hypothesized that alterations in prostaglandin production and metabolism may account for this. There is increased thromboxane prostacycline ratio. This forms the basis for low dose aspirin therapy for PET (6,7).

The basic management objectives for any pregnancy complicated by pregnancy induced hypertension are (i) termination of the pregnancy with the least possible trauma to the mother and the fetus (ii) Birth of an infant who subsequently thrives and (ii) complete restoration of the health of the mother (2). Moderate pregnancy induced hypertension carries little risk to the mother or fetus unless severe hypertension, pre-eclampsia or eclampsia ensues. The aim of treating mild to moderate hypertension is hence to defer or prevent the development of severe hypertensive disease (4). Bed rest or at least reduced physical activity is advised.

Ample protein and calories should be included in the diet (1). Phenobarbitone or other sedatives have been used routinely (2,4). Patients whose disease remains sufficiently mild are managed conservatively till term (2,4). This patient was put on Aldomet widely used anti-hypertensive drug in women with mild to moderate pregnancy induced hypertension, but betablockers and calcium channel blockers are rapidly being introduced (4). In Kenyatta National Hospital methyldopa remains the drug of choice in moderate pregnancy induced hypertension and was preferred in this patient Diazepam was used in this patient but others use phenobarbitone in equal frequency in our unit.

Pre-eclampsia is a placental disorder. Monitoring of the fetal state is therefore an essential part of management (2). The various antepartum fetal surveillance techniques including symphysio-fundo height, fetal kick chart, non-stress or stress test and preferably biophysical profile should be carried out (1,2,3). The patient presented kept a fetal kick chart that remained normal. The fundus height monitor was observed and at last used for fetal weight estimation. She had an ultrasound that among other things gave an estimate of the gestational age.

The cure for pre-eclampsia is termination of pregnancy. However when the fetus is suspected to be pre-term, the tendency is to temporize in the hope that a few more weeks in utero will reduce the risk to the infant of death or serious morbidity associated with prematurity (1,2). With moderate or severe pre-eclampsia that does not improve after a few days of hospitalization, termination of pregnancy is advised both for the welfare of the mother and fetus (1). The patient presented was delivered at 36+ weeks. The blood pressure was not stabilized on conservative management and she had a bad obstetric history. Fetal weight estimation gave a good chance at survival hence a decision to deliver. Respiratory distress does not

develop in pregnancy and when it occurs is seldom fetal (1). The baby in this case scored quite well on the Apgar score and did not develop respiratory distress.

Hypertensive disorders in pregnancy.

Vaginal delivery remains the favoured mode of delivery for patients with pre-eclampsia or eclampsia. Labour may be induced by intravenous oxytocin.

Whenever it appears that labour induction almost certainly will not succeed or in failed induction, caesarean section is resorted to (1,3). This patient had successful labour induction with oxytocin.

In severe Obstetrics and Gynaecologic disorders and treatment.

After delivery there is usually rapid improvement. Nevertheless close monitoring and continued antihypertensive and anticonvulsant therapy is indicated as risk of eclampsia is highest during this period (1). In two weeks pregnancy induced hypertension will usually have displaced (1,2,3). The patient presented was seen two weeks postpartum with a normal blood pressure and no proteinuria.

Complications of pregnancy-induced hypertension include prematurity, intrauterine growth retardation, fetal death. In the mother abruptio pacentia, hepato cellular necrosis or rupture of the liver, convulsions or brain oedema not to mention coma and death may occur (1,2,3,7).

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Outcomes of pregnancy in patients with hypertensive disease M.Med Thesis 1992.

Presented as a thesis from Prisons Maternity Hospital with completion of the first trimester follow-up for the first time.

History of Presenting Complaint

The patient had a history of mild hypertension when she developed swelling of the lower limbs which was relieved by resting up. The swelling started on the 10th day of pregnancy and was relieved by the 15th day of pregnancy. The patient was in the 10th week of pregnancy. Initially the patient could feel the third day of pregnancy and later on. The patient was relieved by walking.

The patient was admitted to Prisons Maternity Hospital where she was admitted and stayed for 10 days with little improvement. She had a history of mild hypertension and was relieved by resting up. The patient was in the 10th week of pregnancy and later on. The patient was relieved by walking.

OBS CASE 13

DEEP VEIN THROMBOSIS IN PREGNANCY: LIVE BABY

NAME: AA ID NO.: 0827733
AGE: 26 YRS. DOA: 6.8.2002
PARITY: PRIMIGRAVIDA DOD: 16.8.2002

Presenting Complaint

She was admitted as a referral from Pumwani Maternity Hospital with complains of swelling of the left lower limb and pains for one week.

History of Presenting Complaint

She was well until one week prior to admission when she developed swelling of the left lower limb associated with pain on waking up. The swelling started on the thigh region and extended to the calf by evening of that day. The pain was only to the thigh region non-radiating. Initially the pain was mild but by the third day from onset the pain was unbearable. Pain was worsened by walking.

She sought help at Pumwani Maternity Hospital where she was admitted and started on heparin 500 I.V. 8 hourly for three days with little improvement. She was then referred here due to lack of laboratory back up for monitoring heparin therapy. There was no history of trauma prior to onset of symptoms. No history of chest pain or difficulty in breathing on admission.

Obstetric History of Present Pregnancy

She was a primigravida whose LMP was on 19.1.02 and EDD on 26.10.02. Maturity by date was 29 weeks. She was attending antenatal care at a private clinic in Umoja. The antenatal profile was not available.

Past Obstetric and Gynaecological History

She had her menarche at 15 years. Her periods were regular and her menses lasted for three days, occurring every 28 days. No history of dysmenorrhoea. She had no history of contraceptive use.

Past Medical and Surgical History

There was none of significance. She had no previous history of deep venous thrombosis.

Family and Social History

She was a married housewife who was staying with husband in Huruma. She does not drink alcohol or smoke cigarettes. Husband was a clerk in the university. There was no history of chronic illness in her family.

Examination

Physical examination

She was in good general condition, afebrile, not pale, no pitting pedal oedema and no lymphadenopathy. Blood pressure was 100/70mmHg, pulse 90/minute regular, respiratory rate 20/minute and temperature 36.7⁰C.

In the musculo-skeletal system the calf of the left leg was swollen. It was warmer than the calf of the right leg and was tender on palpation.

The cardiovascular, respiratory and central nervous systems were examined and found normal.

Abdominal examination

The abdomen was uniformly distended and moved with respiration. The fundal height corresponded to 26 weeks gestation. The presentation was cephalic and lie was longitudinal. The head was floating and fetal heart rate was 150/minute and regular. Vaginal examination was not done.

Diagnosis

A diagnosis of deep venous thrombosis (DVT) in pregnancy was made.

Management

She was transferred to the antenatal ward and started on an infusion of heparin 24000 IU in 500mls of normal saline to run 24 hourly until the symptoms subsided. She was also put on panadol 500mg 8 hourly for pain and Amoxil 500mg 8 hourly. Within two days of treatment the pain and swelling subsided. The heparin infusion was stopped and subcutaneous heparin 7500 IU started together with Warfarin 5mg daily orally. Heparin was stopped after three days of starting Warfarin. She stabilized and was discharged home on 16.8.2002 on Warfarin 5mg daily until 36 weeks gestation. She was followed up in the antenatal clinic at KNH.

Re-admission

The patient was re-admitted on 27.9.2002 at 36 weeks gestation for conversion to heparin. She was started on subcutaneous heparin 5000 IU 6 hourly and the Warfarin was stopped.

She went into spontaneous labour on 9.10. 2002 and was transferred to labour ward. On examination she was found to be in a fair general condition with no fever, pallor or oedema. Fundal height was term, presentation was cephalic and lie was longitudinal. The head was 3/5 above the pelvic brim and fetal heart rate was 144/minute and regular. She was getting moderate contractions about 2 in 10 minutes each lasting 20-40 seconds. On vaginal examination the cervix was fully effaced and the os was 6cm dilated. Membranes were bulging and when artificial rupture of the membranes (ARM) was done, clear liquor was drained. There was no cord felt and no caput or molding of the fetal head. The pelvis felt adequate.

A bedside clotting time was done and found to be five minutes. Blood was taken for grouping and cross-match. She was given 100mg of Pethidine and 40mg of Buscopan intramuscularly. Progress of labour was monitored by partogram. She was reviewed after four hours and found to be having strong contractions about 3 in 10 minutes each lasting more than 40 seconds. The head was 2/5 above the pelvic brim and fetal heart rate was 140 /minute and regular. The cervix was 8cm dilated and there was caput 2+ and moulding grade two. A diagnosis of cephalo-pelvic disproportion was made and she was planned for emergency Caesarean section.

The diagnosis and plan of management were explained to the patient and an informed consent obtained. She was premedicated with atropine 0.6 mg intramuscularly and taken to theatre. In theatre a lower uterine segment Caesarean section was done and she delivered a live male infant who weighed 3600g and had Apgar score of 9 at 1 minute and 10 at 5 minutes. The placenta was removed by controlled cord traction and was complete and healthy. Blood loss was 600mls.

Post delivery progress

Postoperatively her vital signs were checked half hourly until she was fully awake then 4 hourly. She was given intravenous fluids normal saline alternating with 5% dextrose each 500mls running 4 hourly until bowel sounds were present when oral sips were started. She was also started on crystalline penicillin 2 mega units 6 hourly and Gentamycin 80mg 8 hourly intravenously and pethidine 100mg 8 hourly intramuscularly for two days. Heparin 5000 IU 6 hourly and Warfarin 5mg daily were commenced after 24 hours. The patient remained stable in the ward with her baby. On the seventh postoperative day stitches were removed and she was discharged home on Warfarin 5mg daily. She was to be seen in the postnatal clinical in six weeks.

Investigations done

- | | | |
|----|-------------------------------|--------------------|
| 1. | Prothrombin time | KCCT |
| | Test 17 seconds | Test 47 seconds |
| | Control 12 seconds | Control 34 seconds |
| | Index 71% | |
| | INR 1.44 | |
| 2. | Blood group 0 Rhesus positive | |
| 3. | VDRL negative | |
| 4. | Haemogram | |
| | Hb 11g/dl | |
| | WBC $8 \times 10^9/l$ | |
| | RBC $5 \times 10^{12}/L$ | |
| | Platelets $400 \times 10^9/l$ | |

Prothrombin time		KCCT
Test	14 seconds	Test 35 seconds
Control	13 seconds	Control 34 seconds
INR	1.08	
KCCT		
Test	44 seconds	
Control	36 seconds	

Postnatal follow-up

She had no complaints. The baby was fine and breastfeeding. The wound had healed and the uterus was involuted. She was counselled on family planning and referred to the family Welfare clinic. She also booked the haematology clinic for further follow-up of her medical condition.

DISCUSSION

The patient presented was a 26- year-old primigravida who present with deep venous thrombosis in pregnancy. She delivered by Caesarean section, a live baby.

Thrombosis is the process by which liquid blood flowing though the vascular system turns in to a solid mass of platelets, cells and fibrin¹. The likelihood of venous thromboembolism in normal pregnancy and peuperium is increased by factor of five when compared to non-pregnant women of similar age^{2,3}. Venous thromboembolism can exist in three forms: superficial thrombophlebitis, deep venous thrombosis (DVT) and pulmonary embolism³. The patient presented had DVT.

Thromboembolism is a leading cause of maternal mortality complicating up to 1 in 1000 pregnancies⁵. The incidence of thromboembolism is 0.2% in antepartum period and 0.6% in the postpartum period^{4,5}. Caesarean section delivery increases the incidence to 1-2%⁴. Waweru-Mathu in his study at KNH found that of the 80 proved cases of DVT, 61% were associated with pregnancy⁶. Pulmonary embolism with a mortality rate of 15% occurs in about 50% of all patients with documented DVT, but only 5-10% are symptomatic⁴. The distribution of venous thromboembolism is believed to increase with each trimester, with the greatest risk occurring in the third trimester and puerperium^{4,8}. The patient presented had DVT in the second trimester.

Virchow postulated a triad of factors, which predispose to thrombosis: impaired blood flow resulting in stasis, changes in coagulability and alteration or damage to the intima of the vein^{1, 4,7,8}. In pregnancy, venous stasis results due to increased distensibility of the veins by mechanical obstructions of the gravid uterus and the relatively reduced mobility of the pregnant woman. All clotting factors, except factors XI and XIII, increase during pregnancy. There is a decrease in fibrinolytic activity especially in the third trimester⁷. Vascular damage may occur due to hypertensive disease, surgery in the pelvis and pelvic infection.

Most of the clinical risk factors for DVT are present in the non-pregnant state. They include obesity, nephrotic syndrome, maternal age > 35 years, bed rest, heavy smoking, anaemia, oral contraceptive use, heart disease and previous history of DVT or pulmonary embolism. Pregnancy specific risk factors include Caesarean section delivery, increased parity, prolonged labour and postpartum endometritis^{1, 4,5}. Other aetiological factors include hereditary thrombotic disorder like

deficiencies of antithrombin III, protein C, protein S and plasminogen, lupus anticoagulants, and neoplasm^{1,2}.

The patient presented was 26 years of age, was not obese, did not smoke and had not used oral contraceptives. However investigations were not carried out to rule out other aetiological factors.

DVT can be proximal or distal. Proximal DVT comprises 80% of cases and affects the popliteal, femoral or iliac veins. Distal DVT forms 20% of cases and affects the calf veins. Proximal DVT is associated with a higher incidence of pulmonary embolism. Calf vein thrombosis rarely causes pulmonary embolism unless it first extends in to proximal veins. Proximal extensions of calf DVT occur in about 30% of cases⁹. This patient had distal DVT.

The signs and symptoms of DVT vary greatly depending on the degree of occlusion, intensity of inflammatory response and the status of the collateral venous circulation^{2,4}. Classic features include oedema of the affected leg, tenderness, local cyanosis and fever^{1,4}. The left leg tends to be more involved than the right leg in pregnant women^{2,6}. The clinical diagnosis of DVT is, however, often inaccurate and unreliable as about 50% of the patients exhibiting classic signs of calf and thigh tenderness, erythema and oedema do not have DVT⁵.

Confirmatory investigations that can be done include Doppler studies, venography, Impedance plethysmography and radioactive fibrinogen test^{2,4,5}. Doppler ultrasound is more sensitive and specific for diagnosis of proximal DVT (>90%) but less reliable in calf vein DVT⁵. Venography is the most accurate method of diagnosing DVT but is rarely used in pregnancy because of risk of radiation to the

fetus^{3,5}. The other methods are used in non-pregnant patients. In this patient clinical diagnosis was used.

The management of DVT is divided into acute and chronic phases. During acute phase, treatment consists of Heparin, bed-rest and analgesia. Heparin is given as a continuous intravenous infusion at a dose of 24000-32000 IU per day^{4,7}.

Supportive therapy includes elevation of limbs and firm bandaging, until swelling subsides¹. After the acute phase, subcutaneous Heparin is given at a dose of 7500-10000 IU 8 hourly. Warfarin is for long-term use.

Heparin is used in the acute phase, throughout the first trimester and in the third trimester. Its anticoagulant action occurs within 10-15 minutes of injection but the effect disappears in about two hours. Heparin does not cross the placenta and does not enter breast milk. Side effects of Heparin include haemorrhage especially in case of recent surgery, thrombocytopaenia, liver disease and concomitant aspirin therapy. Others are osteomalacia in long term users and thrombocytopaenia^{5,7}. In case of Heparin overdose, the antidote is protamine sulphate at a dose of 1mg per 100 IU of Heparin⁴.

Warfarin can be used after acute phase and after the first trimester. However, it must be stopped at 36 weeks gestation and the patient re-started on Heparin. Action of Warfarin starts within three days. It crosses the placenta and is found in breast milk. When used in the first trimester it is teratogenic, causing Warfarin embryopathy which includes nasal hypoplasia, stippled epiphyses, optic atrophy and multiple central nervous system malformations^{4,5}. When used in the third trimester it crosses the placenta and may cause bleeding tendency in the fetus especially intracranial haemorrhage. The antidote for Warfarin overdose is vitamin

K, which works within 24 hours. If the effect has to be reversed immediately then fresh plasma is used¹. The patient presented was managed with Heparin in acute phase then converted to Warfarin until 36 weeks gestation, when Heparin was re-started. Various tests are used for monitoring anticoagulation. Activated partial thromboplastin time (APTT) or KCCT, Thrombin clotting time and Heparin assay monitor heparin therapy. APTT or KCCT should be 1.5-2 times the control⁷.

Warfarin therapy is monitored by use of prothrombin time, which should be 1.5-2.5 times the control⁴.

Intrapartum, the Heparin dose should be withheld until after delivery. If the uterus is well contracted and there have been fewer traumas to the lower genital tract, it can be re-started within several hours. Otherwise it can be delayed for 1-2 days². Prophylactic therapy is continued during the postpartum period for 6-12 weeks after DVT. Warfarin therapy can be initiated postpartum⁵.

Patients with a past history of DVT or pulmonary embolism in pregnancy have a recurrence risk of 5-12%⁵. In such patients, prophylactic anticoagulant therapy is given subsequent pregnancies and continued up to six weeks postpartum. Prophylactic anticoagulation should also be used in patients with antithrombin III deficiency, inherited thrombophilia, patients with prosthetic heart valves and patients to undergo major gynaecological surgery^{4,5}.

For contraception, oral contraceptives are avoided because of increased risk of thromboembolism. The other methods are safe.

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OBSTETRIC AND GYNAECOLOGIC HISTORY

She was 1 + 0 after this delivery. Her last menstrual period was on
10/1/2002 and hence her expected date of delivery was on 10/7/2002. The gestation
was 41 weeks. She was attending antenatal clinic at Dogross Corner. This was
successful. Her periods had been regular, having attained menarche at age 16.
There was no history of miscarriages or

OBS CASE 14

RETAINED PLACENTA-MANUAL REMOVAL

NAME: M.W. D.O.A.: 26.7.2002
I.P.: 0846808 D.O.D: 28.7.2002
AGE: 30 YEARS PARITY: 1 + 0

PRESENTING COMPLAINTS

The patient was admitted as a referral from a city council clinic with a diagnosis of retained placenta having delivered at home.

HISTORY OF PRESENTING ILLNESS

She started having labour pains at home one day prior to admission and went on to deliver at home. The delivery was conducted by the mother-in-law and after the delivery of the baby, she realized the placenta was difficult to deliver. She went to the local clinic but she was immediately referred to our hospital. She was seen to be in good general condition, she was not pale and the uterus was noted to be corresponding to a 20 week gestation and the cord was protruding from the introitus. Attempts at delivery by controlled cord traction was unsuccessful. The time that had elapsed from delivery to being seen in labour ward was about 4 hours.

OBSTETRIC AND GYNAECOLOGIC HISTORY

She was para 1 + 0 after this delivery. Her last menstrual period was on 2.10.2001 and hence her expected date of delivery was on 10.7.2002. The gestation was 41 weeks. She was attending antenatal clinic at Dagoretti Corner. This was uneventful. Her periods had been regular, having attained menarche at age 16 years. There was no history of contraceptive use.

FAMILY AND SOCIAL HISTORY

She was single and living with parents at Dagoretti. She did not take alcohol nor smoke cigarettes. There was no history of any major illness in the family.

PHYSICAL EXAMINATION

General Examination

She was in good general condition. She was not pale, no jaundice, she was afebrile and there was no peripheral lymphadenopathy. Her pulse was 80/min, Regular and of good volume, blood pressure was 120/80mmHg.

CENTRAL NERVOUS, RESPIRATORY AND CARDIOVASCULAR SYSTEMS

These were essentially normal.

ABDOMINAL EXAMINATION

The fundal height corresponded to 20-week gestation. The uterus was firm and there was no tenderness. The spleen and liver were not palpable.

VAGINAL EXAMINATION

The external genitalia was normal. The umbilical cord was seen dangling from the introitus with distal end tied with a string. She was having minimal bleeding. Digital examination revealed an open cervix with the placenta firmly applied on the uterine cavity.

DIAGNOSIS

An impression of retained placenta was made.

MANAGEMENT

She was explained about the condition. An intravenous line was established and blood taken for grouping and cross-match. She was started on 20 units of syntocinon in 500ml of 5% Dextrose. An informed consent was obtained for manual removal of the placenta under general anaesthesia. Intramuscular atropine 0.6mg was administered and patient wheeled to theatre.

In theatre she was put under general anaesthesia. She was placed in lithotomy position, vulvovaginal toilet was done and then draped - she was catheterized obtaining clear urine. Examination under anaesthesia revealed a fundal height of 20-week gestational size. The vagina and cervix were intact. The right hand was inserted into the uterus identifying the placenta site on the fundosposterior region. The left hand was used to support the uterus while the ulna aspect of the right hand was used to shear off placental attachment making complete placental separation. The hand was withdrawn and placenta was delivered by controlled cord contraction. The placenta was normal and weighed 600gm. The uterus cavity was explored and found empty. Uterine massage was done and ergometrine 0.5mg was given achieving good uterine construction reversed and patient wheeled out of theatre for observation.

POST OPERATIVE MANAGEMENT

Intravenous infusion of syntocinon 20 units in 500ml of 5% dextrose was continued running at 40 drops per minute. She had vital signs observed 1/2 hourly until she was fully awake, and they remained normal after which they were observed 4 hourly. Vaginal bleeding remained minimal as expected of lochia loss. In the postnatal ward, she remained stable and on the 3rd she was discharged home to attend the maternal child health clinic nearest to her home.

COMMENTS

The patient presented was a primipara prior to this delivery. She had delivered at home and brought in to hospital for retained placenta for which manual removal was done. If the placenta is not expelled within the first 10 minutes after completion of the 2nd stage of labour, the situation is regarded as distinctly abnormal (1). However there is general agreement regarding how much time authors regard a 3rd stage of labour longer than 10 minutes as abnormal and recommend manual removal after this interval, whereas others as long as 2 hours more so if labour had been induced before term (2,3). Failure of the placenta to deliver spontaneously is an important cause of post partum haemorrhage. However, it has been shown that there is no increased risk until 30 minutes have elapsed and suggest that conservative management is appropriate during this interval (4).

The cause of prolonged 3rd stage is often not identified. Likely mechanisms include uterine atony, abnormal placental implantation and inadequate efforts to express the placenta (4). Several correlates of prolonged third stage that are probably related to uterine atony included prolonged labour, augmented labour, induced labour and nulliparity. Abnormalities of placental, implantation such as placental accreta might be expected in patients with previous abortions or caesarean deliveries. There is increased incidence of retained placenta among patients who had preterm labour. This patient did not have a clear aetiological factor (1,4,5).

Physically, the uterus should contract soon after separation from the uterine wall and is spontaneously expelled. Spontaneous placenta separation is indicated when the umbilical cord lengthens and there is a gush of blood. (1,5,6). In our unit the policy is for active management of third stage of labour. There is routine use of oxytocins and in our unit ergometrine is used. The use of oxytocic drugs routinely reduce the risk of post partum haemorrhage of about 40%. A combination of oxytocin and ergometrine (syntometrine) is more effective in reducing the risk of post-partum haemorrhage than either used alone (7). In addition to use of oxytocics in active management of third stage, pressure is applied to the body of the uterus, the umbilical cord is kept slightly taut. The uterus is lifted cephalad with the abdominal hand. This is repeated until the placenta reaches the introitus after which it is lifted with the right hand. Mild traction on the cord is emphasized in fear of uterine inversion (6). This is referred to as controlled cord traction.

The patient who has a retained placenta is often shocked, having had post-partum haemorrhage. Adequate resuscitation is mandatory, before attempting manual removal. This should include transfusion if the patient is bleeding and re-administration of second dose of oxytocic (5). The patient presented did not have post-partum haemorrhage and only got a re-administration of oxytocin by infusion.

Manual removal is performed under general anaesthesia. It involves placement of patient in lithotomy position. One hand is placed on the abdomen to encourage the uterus to contract and a last attempt is made with the Brandt-Andrews method of controlled cord traction. If this fails, the abdominal hand should steady the uterus, pressing it down on the vaginal hand, the vaginal hand should be insinuated through the cervical os and the retraction ring, if one is present, to the upper uterine segment following the cord to its insertion. The lower end of the placenta is then

located and with a sawing motion, the operator proceeds to detach the placenta from the uterus. When there is a total separation of the placenta, it is removed. Meanwhile an intravenous oxytocic is administered to promote uterine contraction (1,5).

Other methods of managing retained placenta remain controversial. The effect of intraumbilical oxytocins on the retained placenta has not been agreed upon. Some authors have found the method to be advantageous whereas others have not. It has been proposed that injection of intraumbilical oxytocin leads to a high concentration of oxytocin at the uterine wall (2,8,9).

Risks of manual removal of placenta include post-partum haemorrhage following partial detachment of a morbidly adherent placenta, weakening of the uterine wall with subsequent rupture, uterine infection and uterine inversion (1,5,6). The patient presented did not develop any of the complications. She was put on antibiotics prophylaxis.

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OBS CASE 15

WOUND DEHISCENCE: SECONDARY CLOSURE

NAME: M.W. PARITY: 2 + 1
AGE: 23 YEARS D.O.A.: 12.4.2001
I.P. NO.: 0827060 D.O.D.: 2/5/2001

PRESENTING COMPLAINTS

The patient complained of gaping of the abdominal wound following caesarean section with protrusion of the gut and omentum through the wound.

HISTORY OF PRESENTING ILLNESS

The patient was done a repeat caesarean section 12.4.2001 for antepartum haemorrhage at 37 weeks gestation. Post-operatively, she had a persistent cough that was dry. On the 6th day post-operatively she noted some oozing of serous fluid from the wound that made the dressing wet. On the 7th postoperative day, the stitches were all removed with subsequent disruption of the wound.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 2 + 1. Her first delivery was by caesarean section for placenta previa and the last delivery was by repeat caesarean section for placenta previa type III with antepartum haemorrhage at 37 weeks of gestation. She had attained menarche at 14 years of age. Her periods had been regular occurring every 28 days and lasting four to five days. She gave no history of contraceptive use.

PAST MEDICAL AND SURGICAL HISTORY

These were not significant.

FAMILY AND SOCIAL HISTORY

She was a married housewife staying with her husband in Nairobi. She did not drink alcohol nor smoke. There was no history of chronic illness in the family.

EXAMINATION

GENERAL EXAMINATION

She was in fair general condition. She was afebrile, not pale and had no jaundice. The pulse was 70/minute, regular and of good volume. Blood pressure was 120/70 mmHg and her respiratory rate at 20 per minute.

CENTRAL NERVOUS, CARDIOVASCULAR AND RESPIRATORY SYSTEMS

These were essentially normal.

ABDOMINAL EXAMINATION

She had an open lower midline incision with intestines and omentum protruding through the incision. The edges were fresh with no signs of infection. There were thick catgut sutures identified in the midst of the tissues.

PELVIC EXAMINATION

She had normal external genitalia. Speculum examination revealed normal vaginal walls. The cervix was closed. The lochia was straw in colour and was not foul smelling.

IMPRESSION

Complete wound dehiscence.

MANAGEMENT

The condition of the wound was explained to the patient. She gave an informed consent and was prepared for an urgent closure of the wound. An intravenous line was established and blood taken for grouping and cross matching. The line was maintained on normal saline. She was premedicated with atropine sulphates 0.6 mg and pethidine 50 mg intramuscularly. The wound was covered with moist towels and patient wheeled to theatre.

OPERATION

In theatre, the patient was placed in supine position. General anaesthesia was induced with thiopentone and suxamethonium. The patient was intubated and anaesthesia maintained with nitrous oxide, halothane, oxygen and tubocurarine attaining adequate relaxation. The abdomen was cleaned and draped. Examination under anaesthesia confirmed complete disruption of the abdominal wound with protrusion of gut. There was no sign of hematoma or infection noted. The wound edges were cleaned and then freshened. The remnant catgut sutures were removed. The omentum and gut were gently replaced into the peritoneal cavity. A peritoneal wash out was then done using warm normal saline. The abdominal wall was then closed. Silk number 2 were inserted on the entire thickness of the abdominal wall on one side and then through and through the side taking care not to injure the abdominal viscera. These were placed 3 cm apart. These sutures were then threaded through rubber tubing and each was tightened and knotted re-approximating the entire abdominal wall. The skin was then stitched with interrupted matrix sutures. The wound was then dressed.

POST-OPERATIVE CARE

Vital signs were observed half hourly until she was fully awake. She was maintained on intravenous fluids of normal saline alternating with 5% dextrose until bowel sounds were adequate after 24 hours when oral feeding was started. She was put on ampicillin 500 mg 6 hourly for five days. She was given pethidine 100 mg intramuscularly 8 hourly for 48 hours, then paracetamol 1 gm orally 8 hourly for 5 days. On the third post-operative day, check haemoglobin was 10.3 g/dl. The skin stitches were removed on the fourteenth day. The wound remained intact and she was discharged to attend the postnatal clinic in four weeks.

POST-NATAL CLINIC

She had no complaints. The abdominal scar was well healed and there were no masses. The uterus was completely involuted. She was discharged from the clinic to attend maternal child health clinic.

COMMENT

The patient presented was young lady, who developed complete abdominal wound disruption after repeat caesarean section. Emergency wound repair was done.

Wound dehiscence or disruption generally refers to a separation of an abdominal wound involving the anterior fascial sheath or deeper layers (1). Evisceration refers to disruption of all layers of the abdominal wall with protrusion of the intestines through the incision (2). The patient presented had wound disruption with evisceration often referred to as burst abdomen.

The incidence of wound disruption ranges from 0.5 - 3% averaging 2.6% when all abdominal operation are considered collectively (1). The incidence is related to age and is reported to be 1.3% for patients under 45 years in contrast to 5.4% for those over 45 years (1). Abdominal wound disruption, usually owing to secondary infection, occurs after 4 - 6% of caesarean and gynecologic laparotomies (3). Nsofor (1984) found the incidence to be 4.3%.

Wound disruption is fundamentally dependant on faulty wound healing (2). Factors influencing wound healing may be classified into pre-operative risk factors, intra-operative and post-operative (5).

Pre-operative factors include:-

1. Nutritional factors like hypoproteinemia, anaemia and advanced age.
2. Metabolic factors like diabetes, uremia and steroid therapy.
3. Prior irradiation
4. Malignancy
5. Obesity

6. Pulmonary disease and
7. Chemotherapy (1,2,6).

Intra operative factors include incision choice, suture material and closure technique. Several studies have suggested that the incidence of wound dehiscence is increased with vertical incision; this has been refuted in a randomized prospective series (1,7). The best method of wound closure provides, strength, does not inhibit wound healing, does not promote wound infection and is well tolerated by patients. Polypropylene and polyglucic acid suture material are reported to be near ideal for closure of the fascial layers of anterior midline abdominal incision.

It is further reported that abdominal midline closure by continuous sutures is at least as good as closure by interrupted sutures. The use of synthetic absorbable interrupted sutures is as good as non-absorbable interrupted sutures, and nonabsorbable continuous sutures are as good as synthetic absorbable interrupted sutures (7,8). In addition to type and method of suture a secure surgical knot is essential to wound integrity (5). 60% of the disruption of abdominal wounds follows fascial closure with chromic catgut (9). Postoperative risk factors include increased intra-abdominal pressure from ascites, cough, bowel obstruction and vomiting. The patient presented had cough from the first day postoperative upto the day of removal of stitches. The inherent predisposing factors for, burst abdomen in this patient seems to have been the increased intra-abdominal pressure from cough and possibly the stated risk with the use of catgut sutures to close the fascial layers.

Most disruptions are concealed in the deeper layers of the wound and do not manifest until the fifth post-operative day (1). The disruption is thought to begin with separation of the peritoneum along the suture line (2). The presenting signs that precedes the diagnosis of dehiscence in about 85% of cases is serosanguinous drainage from the wound and is usually pathognomonic (1,2). In some instances wound disruptions remained concealed beneath an intact, cutaneous closure and go unrecognized initially, only to become manifest later in the form of post-operative ventral hernia (1). This patient had no tell tale signs prior to removal of stitches and only developed complete disruption after removal of all stitches.

Once disruption is recognized, preparation for repair should be carried out immediately. If evisceration has occurred, sterile moist towels should be applied to cover the extruded intestine or omentum (1). This was done in this patient. In theatre, the patient is put under general anaesthesia achieving adequate relaxation (1). The abdomen may be washed with warm saline as was done with this patient (2). Secondary closure is best achieved with a series of through and through sutures of non-absorbable nylon or silk material placed no more than 3 cm apart. Intra-abdominal viscera should be carefully avoided in placing the sutures (1,2,6). This was done for this patient. Other authors have recommended as an alternative re-suturing of the wound in three layers - peritoneum with interrupted figure of eight absorbable sutures, the anterior rectus sheath with continuous or interrupted monofilament nylon and the skin with interrupted silk or nylon (6,10).

Post evisceration management should include gastrointestinal suction where indicated, careful electrolyte and fluid regulation and adequate parental nutrition. Antibiotic therapy is continued throughout the post-operative healing period. The sutures should not be removed until the fourteenth post-operative day. Other supportive measures should include bed rest and proper nutrition (2).

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LABOUR OUTCOME OF PATIENTS PRESENTING IN LATENT PHASE OF LABOUR AT KENYATTA NATIONAL HOSPITAL

Abstract

Background

There is evidence in the literature that admission before the active phase of labour is associated with a higher caesarean section rate. In our labour ward unit, all women with term singleton, cephalic presentations in the latent phase of labour cervix (<3cm dilatation) are admitted for labour monitoring. No protocol exists in our unit on how to manage these patients. This study endeavours to look at the labour outcome of these patients. This will help to establish criteria of admission for such patients.

Objective

To assess the labour outcome, of labour in patients admitted in latent phase of labour in Kenyatta National Hospital General labour ward.

Study population

All women with term, singleton cephalic presentation with no obstetric complication admitted in Kenyatta National Hospital general labour ward at the time of the study.

Setting

Kenyatta National Hospital general labour ward.

Study design

Prospective cohort study.

Method

80 patients admitted in latent phase of labour, forming the exposed group and 80 patients in active phase of labour, forming the unexposed group, were recruited into the study. A short questionnaire was administered by the investigator. Patients were then seen after delivery to determine their mode of delivery, foetal and maternal outcome. Patients with risk factors for adverse outcome known before labour were excluded from the study. The patients studied were singleton vertex deliveries of at least 37 weeks gestation.

Study period

Study was conducted from mid July to mid August 2002 being conducted every day of the month.

Data Management

Data was entered using SPPSS/PC+ for windows version 10.05 data entry programme. Validation was done before analysis, which was carried out using the same software. Analysis involved descriptive statistics like means, standard deviations, medians, frequency distributions and cross-tabulations.

Main outcome measures

This included caesarean section rate, perinatal morbidity and mortality and rate of labour augmentation.

Results

Patients presenting in latent labour (exposed) were generally younger than the unexposed (86.3% v. 62%, $P < 0.005$). Education levels for both groups were similar (35% v. 38.8%). There were also no significant differences in antenatal

care attendance for the two groups (91.3% v. 92.5%). Analgesic usage was more frequent among exposed than unexposed (58.8% v. 27.5% $P < 0.005$). Labour augmentation with syntocinon was as also more common among exposed (43% v. 15% $P < 0.005$). Need for caesarian section was higher in the exposed compared to the unexposed (40% v. 17.5%). Signs of foetal distress Apgar score and need for admission to newborn unit were all similar in both groups.

Conclusions and Recommendations

Admitting patients in latent phase of labour is associated with an increased incidence of need for caesarean section and labour augmentation. Such low risk patients (women with term singleton cephalic presentation with no obstetric complication) can safely be admitted only when in active labour.

Introduction

Varying definitions have been used for the latent phase of labour but the majority accept the concept of the latent phase as that phase of uterine activity associated with progressive cervical dilatation. From a teleologic standpoint the latent phase may be -considered a time in which the cervix is preparing for the more rapid dilatation that will occur later.

It is usually defined as the time from the beginning of labour until the beginning of active labour. Measuring the length of latent phase is difficult because the beginning of labour is quite subjective.

Prolonged latent phase is widely considered benign with one authoritative source writing, "Latent phase prolongation, however is not predictive of other more ominous labour abnormalities, is not caused by cephalopelvic disproportion, should not result in a higher than expected number of caesarean births and is not associated with an increased risk of depression or asphyxia of the newborn⁽¹⁷⁾".

Another study found out that prolonged latent phase is independently associated with an increased incidence of subsequent labour abnormalities, need for caesarean delivery, depressed Apgar scores and need for newborn resuscitation.⁽¹⁸⁾ A study to first look at labour outcome of patients admitted in latent labour can act as a foundation for further research work on these patients. No study on patients admitted early in latent labour has been done in Kenya. In our labour ward there exists no clear protocol on management of these patients.

The implications of latent labour phase have received scant attention and most tests do not even comment on associated risks of adverse outcomes.

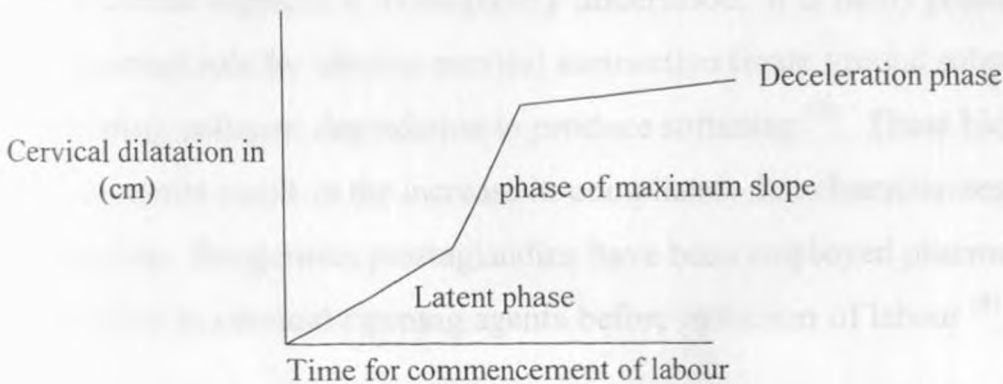
LITERATURE REVIEW

Labour may be defined as a coordinated effective sequence of involuntary uterine contractions, that results in effacement, dilatation of the cervix, descent of presenting part and voluntary bearing – down efforts leading to the expulsion per vagina of the products of conception.

Labour is divided into 3 stages namely the first stage of labour, which begins, with the onset of uterine contractions associated with progressive dilatation of the cervix uteri. Second stage of labour is a period of expulsive effort beginning with complete dilatation of the cervix and expulsion of the infant. The third stage of labour consists of the period beginning at the expulsion of the infant and ending with the completed expulsion of the placenta.

Friedman in 1954 following a study on a large number of women in the USA, described a normal cervicogram.

Pattern See (figure 1)



Friedman divided labour functionally into two parts from 0 cm to about 3cm dilatation. This was followed by an active phase characterised by acceleration

from about 3 – 10 cm at the end of which deceleration occurs. This work has been the foundation on which others have built.

Latent Phase

From an teleologic standpoint the latent phase may be considered a time in which the cervix is prepared for the more rapid dilatation that will occur later ⁽⁶⁾.

Clinically a number of physical changes in the cervix can be appreciated. These constitute what has been referred to as ‘ripening’ of the cervix and may in some patients (particularly multiparas) occur largely or completely before the onset of labour.

Palpable softening, effacement and anterior rotation of the cervix in the pelvic axis often occur during the latent phase and are pre-requisite for entering active phase dilatation.

The biochemical and biophysical basis for these clinical changes in the cervix and lower uterine segment is incompletely understood. It is likely prostaglandin play an important role by altering cervical connective tissue ground substance and by stimulating collagen degradation to produce softening ⁽⁷⁾. These biochemical developments result in the increase in compliance that characterizes cervical maturation. Exogenous prostaglandins have been employed pharmacologically for their effect as cervical ripening agents before induction of labour ⁽⁸⁾.

Precise measurement of the duration of the latent phase requires knowledge of the onset of labour. Obviously, this cannot always be determined with certainty. Generally, the time at which the patient says that labour began should be accepted.

If she is uncertain, the time at which she began to perceive regular uterine contractions is reasonable to use as an approximation.

The cervix may dilate slowly (maximally 0.5cm per hour) during the latent phase. The shift to active phase most often occurs by approximately 5 cm of cervical dilatation. However it can be misleading to rely on the absolute degree of dilatation to identify this transition⁽⁹⁾.

The latent phase indeed tends to be shorter in multiparas than in nulliparas, a consequence at least in part, of the fact that multiparas tends to begin labour with more cervical dilation, than do nulliparas⁽⁴⁾. For some reason, the latent phase is often short in multiple gestations, in hydramniotic or after removal of a cervical cerclage.

Dysfunction Latent Phase

One abnormality of the latent phase is identifiable, the prolonged latent phase. This disorder is diagnosed when the latent phase exceeds 20 hrs. in nulliparas and 14 hours in multiparas. It is particularly likely to occur when labour begins with the cervix minimally effaced and dilated. The latent phase appears particularly susceptible to the inhibition qualities of narcotics and anesthetics and under certain circumstances these agents may predispose to prolongation of this portion of labour⁽⁶⁾.

The diagnosis of prolonged latent phase sometimes lacks precision because of difficulty in ascertaining the exact time of onset of labour. This shortcoming notwithstanding the simple recognition of the fact that the latent phase may normally be quite long is of special significance in the management of labour.

Prolonged latent phase of labour does not appear in itself to be associated with an increased need for operative delivery and is not a predictor of more serious labour disorders that have a strong association with cephalopelvic disproportion ⁽¹⁰⁾. Regrettably, ignorance about the normal course of the latent phase sometimes leads to unnecessary caesarean section under the erroneous assumption that continuous progress should be expected in all phases of labour or that very long labours are always abnormal ⁽¹⁾.

Treatment of a prolonged latent phase may consist of active efforts to stimulate uterine contractility or heavy maternal sedation ⁽⁶⁾. Oxytocin stimulation is effective in 85% of cases in converting latent to active phase. This response generally occurs within 3 hours. A similar proportion of patients respond favourably to narcotic sedation (therapeutic rest). This also permits identification of the approximately 5% of women diagnosed with prolonged latent phase who in fact are in false labour. Their contractions disappear completely after the narcotic treatment. Oxytocin stimulation is still necessary for the approximately 60% of women who persist in latent phase after the effects of the narcotic have abated.

There is very scanty information in literature that has actually looked at this topic. One notable study 'The First Births Project' which began in January of 1996 which comprised of a multi-disciplinary group including representation from Nursing, family practice obstetrics, perinatology, and anaesthesia met at the British Columbia Women's Hospital and developed the following target objective: ⁽¹⁾

To lower the caesarean section rate by 25% while maintaining acceptable outcomes at British Columbia women hospital. Four areas of focus and potential opportunities for research were listed as below:

For nulliparous women with singleton cephalic, term pregnancy:

1. Forty-nine percent (49%) of women are admitted in the latent labour and this is associated with a two-fold increase in caesarean section (admission).
2. Electronic fetal monitoring is being used >80% of the time (fetal health assessment).
3. epidurals are being initiated at 3cm cervical dilatation in 16% of patients (pain management).
4. Unnecessary inductions are being done (Inductions).

The results of this study at the British Columbia Women's Hospital was that out of 1369 nulliparous women admitted and delivered, C/s rate reduced by 22%, number of epidurals initiated at 3 cm was lower by 64%.

Induction rate had dropped by 22% at 3cm cervical dilatation and C/s rate at 3 cm dilatation dropped by 20%. All changes were statistically significant. Newborn outcomes were unchanged post-implementation.

There is no available proper data in our labour ward on how many patients are admitted in latent phase of labour but random check on our records showed that there are about 5-6 patients/day admitted with that diagnosis. This means to say that this is an important group of patients that we will need to address.

Therefore it was with this in mind that this study was carried out to determine their outcome and establish recommendations on the management for this group of patients.

RATIONALE

Patients admitted in latent phase of labour form an interesting group and are a common occurrence in obstetrics. The fact that definite physiological mechanism of the onset of labour remains elusive makes it difficult to explain the occurrence of latent labour.

Most of the decisions made in labour, particularly those based on the risk/benefit ratio analysis are pegged on whether the patient is admitted in latent labour or active phase of labour.

Studies done elsewhere have shown adverse outcomes in patients admitted in latent labour. There is therefore need to determine the actual magnitude of latent labour and its impact on pregnancy outcome. Similarly this would enable us to know the usual interventions or protocol of management of mothers. This would then pave way to the development and recommendations on appropriate protocols for management of patients admitted in latent phase of labour.

HYPOTHESIS

1. There is a higher rate of operative intervention among those admitted in the latent phase of labour than in those admitted with active labour.
2. There is a high rate of adverse foetal outcome in patients presenting with latent phase of labour.

OBJECTIVES

Broad Objectives

To determine the labour outcome of mothers presenting with latent phase of labour.

Specific Objectives

1. To determine the obstetric characteristics of mothers presenting in latent and active labour.
2. To compare the rates of C/S between mothers admitted in latent phase and those in active labour.
3. To compare foetal outcomes (Apgar score, admission to NBU, still birth, neonatal death) between mothers with latent and those with active labour.

METHODOLOGY

Study design

This was a prospective cohort study.

Study Area

The study was conducted in the labour ward, antenatal and postnatal wards of Kenyatta National Hospital (KNH). Situated in the city of Nairobi, it is Kenya's largest hospital and serves as the National referral hospital and a teaching hospital for the University of Nairobi medical school. It is also the country's major training centre for nurses and paramedical staff. The obstetric unit consists of three antenatal/postnatal wards, a labour ward and a maternity operating theatre. The antenatal wards are shared among the three firms that run the unit.

Study Population

These were mothers admitted at KNH and met a set of inclusion criteria, as defined below:

Inclusion criteria

a) Exposed group

These included the first 80 patients admitted at (KNH) maternity unit during the study period with a diagnosis of latent labour as defined (patient with uterine contractions and a cervical dilatation of up to 3 cm in nulliparous and up to 4 cm in multiparous) all patients presented with term pregnancies.

b) **Unexposed group**

These were patients in normal active phase of labour defined as; patients with history of painful uterine contractions, palpable uterine contractions, cervical dilatation of more than 3 cm in nulliparous and 4cm in multiparous women.

Exclusion criteria

1. All patients who did not satisfy the above set of inclusion criteria.
2. Patients with drainage of liquor.
3. Patients with febrile illness e.g. malaria
4. Patients with high-risk antenatal history
 - a) Medical diseases in pregnancy.
 - Diabetes mellitus
 - Hypertensive disease in pregnancy
 - Cardiac disease.
 - Choriomnionitis and urinary tract infections
 - (b) - Patients with previous caesarean section scar.
 - (c) - Patients with antenatal factors known to affect the course of labour.
 - Abnormalities of presentation, position, or development of the fetus.
 - dystocia due to pelvic contraction
 - Dystocia due to soft tissue abnormalities
e.g. Uterine myomas

Patients who were not willing to participate in the study.

Procedure

a) Source of the exposed

The name and the inpatient number of the patient admitted the previous day in the antenatal ward with a diagnosis of latent labour were extracted from the admission/discharge register in the antenatal wards. The case files were then retrieved from the file cabin at the Nurses station by the investigator.

On identification of the patient, the investigator introduced himself to the patient and verbal consent for an interview was obtained.

After the patient satisfied the inclusion/exclusion criteria, she was recruited into the study and advised that from then until delivery the investigator would follow her. The patient was then allowed to continue management and seen after delivery. Labour outcome was then documented. For each exposed and unexposed was selected as described in part (b) below.

- (b) Sources of the unexposed group: using the inclusion/exclusion criteria, they were spotted at admission in labour ward of KNH and consent obtained after delivery. The unexposed group was selected by systemic sampling (i.e. every third patient at admission). If the third patient did not match the enrolled case then this was skipped and a fresh matching done. One was matched to each case on the basis of comparable variables as follows:

1. Parity
2. Gestational age (in weeks).

The information was extracted by direct interviews and from case records.

Sample Size:

$$\left\{ \frac{\sqrt{n} = z_{1-\alpha/2} \sqrt{2P(1-P) + z_{\beta}^2 [P_1(1-P_1) + P_2(1-P_2)]}}{(P_1 - P_2)^2} \right\}^2$$

$$\left\{ \frac{\sqrt{n} = 1.96 \sqrt{2 \times 0.3 \times 0.7 + 0.84^2 [(0.4 \times 0.6) + (0.2 \times 0.8)]}}{(0.4 - 0.2)^2} \right\}^2$$

$$= \left\{ (1.96 \times 0.65) + (0.842 \times 0.63) \right\}^2 = 3.26 = 80 \text{ per group}$$

$$\{ 1.274 + 0.53 \}^2$$

Sample size was calculated using EPI info version as follows:

- Confidence level of 95%
- Power 80%
- Ratio of unexposed (active) to the exposed (latent labour) of 1:1
- Risk of Caesarian section among those with latent labour assumed to be about 41.5%.
- Risk of Caesarian section among the unexposed to be 20%.
- Risk of Caesarian section due to foetal distress among the unexposed assumed to be 20%.
- Relative risk that was considered as significant of 2.08.
- Sample size of all exposed and all unexposed.

Study Instrument:

This consisted of a questionnaire, which was administered to the patient by the investigator at KNH, labour ward. It had four parts, first section covered demographic characteristics, second covering obstetrics characteristics, third section covering progress of labour and fourth section covering outcome. The questionnaire was pre-tested at KNH.

Data management and analysis

Data was entered into a microcomputer using SPSS/PC+ data entry programme. Data validation was done before analysis. Analysis was done using SPSS/PC+ programme and involved descriptive statistics like means and standard deviations and frequency distributions. To test for differences between the two groups (Latent & active labour groups), chi-square and Fishers exact test where applicable was used for categorical data.

Ethical Considerations

The questionnaire was administered with informed consent of the respondents. No inducement or coercion was used. Clearance to carry out the study was obtained from the KNH ethical and Research Committee. All the answers given were kept in confidence. The study did not interfere with management of the participants.

RESULTS

80 patients in latent phase of labour (exposed group) and 80 in active labour (unexposed group) were followed until delivery and outcome determined.

Table I: Sociodemographic characteristics

Variable	Exposed		Unexposed		Relative Risk	95%CI	Pvalue
	No.	%	No.	%			
Age <30	69	86.3	50	62.5	3.76	3.1 – 28.3	P<0.005
>30	11	13.7	30	37.5			
Marital status					0.5	1.0 – 3.9	0.063
Married	51	63.7	62	77.5			
Single	29	36.3	18	22.5			
Education					0.85	0.4 – 1.6	0.58
Primary	28	35	31	38.8			
Secondary & above	52	65	49	61.2			
Antenatal care	Yes	73	91.3	74	92.5	0.38-3.60	0.80
Attendance	No	7	8.7	6	7.5		

From table I above the exposed were found to be younger than the unexposed $P<0.005$. As for the marital status the exposed and the unexposed were comparable (63.7% v. 77.5%). The level of education was similar in both exposed (35.8% v. 38.8%). There was also no significant difference between the antenatal care for both groups (91.5% v. 92%). Most of the patients had attended antenatal care among the exposed and unexposed (91.3% vs. 92.5%). This agrees with the demographic and health survey of Kenya (1998).

Table II: Incidence of analgesic/sedative usage

	Exposed		Unexposed		Total
	No.	%	No.	%	
Yes	47	58.8	22	27.5	69
No.	33	41.2	58	72.5	91
Total	80	100	80	100	160

P value < 0.005

RR = 3.75

CI = 1.90 - 7.16

Table II shows the incidence of analgesic usage in the course of labour. In 58.8% of the exposed, injectible analgesics were used in labour compared to 27.5% of the unexposed.

Table III: Labour Augmentation with oxytocin

	Exposed		Unexposed		Total
	No	%	No	%	
Yes	37	46.3	12	15	49
No	43	53.7	68	85	111
Total	80	100	80	100	160

P value < 0.005

RR = 4.82

CI = 2.74 - 13.50

Table III shows the rate of labour augmentation with syntocinon. About 46.3% of the exposed group compared with 15% of the unexposed had their labour augmented with oxytocin.

Table IV: Signs of fetal distress during labour

	Exposed		Unexposed		Total
	No.	%	No.	%	
Yes	18	25	16	20	34
No	62	75	64	80	126
Total	80	100	80	100	160

P value = 0.50

RR = 1.35

CI = 0.62 - 2.95

Table IV shows rate of fetal distress. About 22.5% of the exposed group had signs of fetal distress during labour as compared to 20% of the unexposed.

Table V: Mode of delivery

	Exposed		Unexposed		Total
	No.	%	No.	%	
Caesarean section	32	40	14	17.5	46
Others	48	60	66	82.5	114
Total	80	100	80	100	160

P value

= 0.006

RR = 3.14

CI = 1.32 - 5.79

Table V shows rate of caesarean section. Of the exposed 40% underwent caesarean section as compared to 17.5% of the unexposed.

Table VI: Fate of foetus

Still birth	Exposed		Unexposed		Total
	No.	%	No.	%	
Yes	9	11.3	9	11.3	18
No	71	88.7	71	88.7	142
Total	80	100	80	100	160

P value = 0.96 RR = 1.12 CI = 0.30 - 3.89

Table VI shows fate of the foetus after delivery. About 11.3% of the exposed had stillbirth compared to 11.3% of the unexposed.

Table VII: Apgar score at 5 minutes

	Exposed		Unexposed		Total
	No.	%	No.	%	
Less than 7	16	20	18	22.5	34
More than 7	64	80	62	77.5	126
Total	80	100	80	100	160

P value = 0.61 RR = 0.80 CI = 0.34 - 1.88

Table VII shows Apgar score at 5 minutes. Of the exposed group 20% had an Apgar score of less than 7 compared to 22.5% of the unexposed.

Table VIII: Admission to newborn unit

	Exposed		Unexposed		Total
	No.	%	No.	%	
Yes	23	28.8	23	28.8	46
No	57	51.2	57	51.2	114
Total	80	100	80	100	160

P value = 0.77 RR = 1.12 CI = 0.52 - 2.38

Table VIII shows rate of admission to newborn unit. In 28.8% of the exposed, the newborn were admitted to newborn unit compared to 28.8% of the unexposed.

Discussion

Patients admitted with the diagnosis of latent phase of labour and the outcome have received little attention. Friedman defined latent labour as the time from the beginning of labour (strong, regular, painful contractions) until the beginning of active labour. The onset of this labour was associated with cervical dilation of up to 3 cm in nulliparous and 4 cm in multiparous. Measuring the length of the latent phase is difficult because beginning of labour is quite subjective.

The criteria for recruitment for this study were labour pains associated with cervical dilation of upto 3 cm in nulliparous and 4 cm in multiparous.

80 patients were admitted in latent labour, as outlined above, were recruited and compared with 80 patients presenting in active labour. One unexposed client was matched to an exposed on the basis of a comparable variables i.e. gestational age and parity. Several variables reflecting maternal and fetal outcomes were analysed. The sociodemographic factors e.g. marital status and level of formal education did not influence labour outcome. The exposed were found to be young compared to the unexposed. 86.3% to 62.5% ($p < 0.005$). This was probably because they have less experience with labour and therefore they tended to come early. Such patients assessed carefully can form a low risk category that does not need to be admitted. They can be counseled about onset of active labour and discharged home to await labour establishment. This will help reduce unnecessary admissions and costs. The antenatal care attendance for the current pregnancy was similar to both groups (91.3% v. 92.5%, P value = 0.80).

The incidence of analgesic use in the exposed was higher than in the unexposed. This was probably given to reduce possibility of false labour and to offer labour analgesia. This in itself forms a form of early intervention in the exposed. One would expect the rate of analgesic to be similar since the unexposed as well need analgesia. There exists no clear cut policy in our unit on labour analgesia. Looking at the exposed group alone, 82.5% of them went into spontaneous labour within 24 hrs of admission. This further emphasizes the fact that the exposed group are only in early labour and given ample time they would progress. The need to admit them and intervene would then not arise.

In our study we confined ourselves to latent labour. The duration was outside our scope. The admission of the exposed group early in our labour ward and hence their prolonged stay in labour predisposes them to augmentation and other interventions. This incurs more cost in terms of hospital bed charges and the cost of drugs, to the already financially constrained patients. Our samples of patients were low risk patients with singleton cephalic presentation who can safely be counselled about labour and discharged home to come in established labour.

Obstetric interventions such as labour argumentation were higher in the cases than controls (46.3% Vs. 15% $P < 0.001$). Latent labour is considered as a time in which the cervix is preparing for more rapid dilatation. It is possible that these patients were thought to be in prolonged latent phase. This diagnosis sometimes lacks precision because of difficulty in ascertaining the exact time of onset of labour. This shortcoming notwithstanding, the simple recognition of the fact that latent phase may normally be quite long is of special significance in the management of labour. Some studies⁽¹⁰⁾ have suggested that prolonged latent phase of labour does

not appear in itself to be associated with an increased need for labour intervention e.g. argumentation and cesarean section.

The rate of cesarean section was significantly higher in cases as compared to the controls (40% vs 17.5%). This compared well with another study done in British Columbia - First births - a continuous quality improvement project⁽²⁾ which showed that women admitted in the latent phase of labour were associated with a two fold increase in cesarean section rate. Ignorance about normal course of latent labour sometimes leads to cesarean section under the erroneous assumption that continuous progression should be expected in all phases of labour or that very long labours are always abnormal⁽¹⁾. From this study, 73% of the exposed group went to spontaneous labour without any interventions and this was statistically significant. This means that these patients can be advised against admissions and these interventions can be avoided to allow them go to spontaneous labour. This then would give them an equal chance in labour as those in established labour when they present in active phase.

Intrapartum assessment for signs of foetal distress of the exposed and unexposed groups did not show any statistical difference (22.5% v. 20% $P = 0.25$). The signs looked for were irregular foetal heart and meconium staining.

The Apgar scores at 5 minutes in both exposed and unexposed groups were similar. About 20% of the exposed and 22.5% of the unexposed had a score of less than seven in five minutes. All these babies were admitted in newborn unit. 80% of cases and 77.5% of controls had Apgar score of more than 7 at five minutes.

Overall, 28.8% babies of the exposed and unexposed needed admission to the newborn unit. There was no statistical difference ($P = 0.78$). These variables in fetal outcome demonstrate that there is no difference in both groups of patients. From this study it is possible to say that the cases need not be admitted until they present in active labour. This can be done without altering the outcomes.

Conclusions

1. There is no difference in fetal outcome, perinatal mortality and morbidity between patients admitted in latent labour and those in active labour.
2. There is a high rate of obstetric intervention such as labour augmentation and caesarean section in patients admitted with latent labour compared to those in active labour.

Recommendation

Patients in latent labour as shown in this study do not constitute a high-risk group and as such need not be admitted early. These patients can safely be admitted only when in active labour. This will help reduce the number admitted who are not in active labour and reduce labour interventions.

A further study is needed to focus more on these patients in order to establish criteria for admission without affecting the outcome.

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Clinical Aspects of Normal and Abnormal Labour.

GYNAE CASE 1

GYNAECOLOGY SHORT CASES

SYMPTOMATIC UTERINE FIBROIDS: TOTAL ABDOMINAL HISTERECTOMY

NAME: C.W. PARIITY: 4 + 0
AGE: 48 YRS DOA: 5.8.2002
IP NO.: 0879502 DOD: 14.8.2002

Presenting Complaint

She was referred to the gynaecology ward from the GOPC with a history of menorrhagia for 10 months, easy fatigubility for 7 months, dizziness for four months all associated with lower abdominal swelling for 10 months.

History of Presenting Complaint

She was well until one year ago when she noticed that her periods were heavy and painful. She sought treatment at nearest health centre where she was given medical treatment. This continued to a point where she started having easy fatiguability associated with dizziness. She also noticed that she had a swelling on the lower abdomen. She was then referred to Kenyatta National Hospital.

Past Medical History

Obstetric and Gynaecology History

She was para 4 + 0 all by spontaneous vertex delivery. Last delivery was 1982. Her last menstrual period was on 16.7.02. Menarche was at 13 years. Cycle 28 days, regular and menses lasted 3 days. Prior to onset of illness, the menses were not heavy and she had no dysmenorrhea.

Family and Social History

She was a housewife. Husband was a farmer in Kiambu. There was no family history of chronic illness and she did not smoke or take alcohol.

Physical Examination

She was in good general condition and had no fever, pallor, jaundice, oedema or lymphadenopathy. Her blood pressure was 120/70 mmHg, pulse rate 72/minute regular, respiratory rate 20/minute regular, and respiratory rate 20/minute regular and temperature 98°F. The cardiovascular, respiratory and central nervous systems were essentially normal.

Abdominal examination

She had lower abdominal distension and the abdomen moved with respiration. There were no surgical scars or therapeutic marks. There were no areas of tenderness. There was a mass arising from the pelvis that corresponded to a 20-week gestation. It was firm, nodular, non-tender and not mobile. She had no other masses palpable.

Pelvic examination

The external genitalia was normal. The cervix was about 1.5 cm long, firm, posterior and the os was closed. There was fullness in the right adnexa and pouch of Douglas. The pelvic mass was continuous with the uterus but was not freely mobile. Cervical excitation was negative. There was a whitish discharge on examining finger.

Diagnosis

The diagnosis was uterine fibroids with menorrhagia.

Investigations done

1. Pap smear CIN O
2. Pelvic scan showed a bulky uterus with multiple fibroids the largest measuring 7.5 cm diameter. Adnexae not identified due to the large fibroids.
3. Haemogram urea and electrolytes

Hb 13.5g/dl

Sodium 142 mmol/l

WBC $9.0 \times 10^9/l$

Potassium 4.2 mmol/l

RBC $4.63 \times 10^{12}/l$

BUN 4.8 mmol/l

Management

The patient was explained her condition in view of the physical finding and results of investigations. She was counseled for total abdominal hysterectomy and an informed consent obtained. Blood was taken for grouping and cross-match and three units of blood reserved for the operation. She was scheduled for operation.

The round ligaments were ligated with vicryl no 1 suture. The procedure was repeated on the opposite side. The cardinal ligaments were double-clamped cut and the distal portions ligated with stay sutures. The uterosacral ligaments were also double-clamped cut and the distal portions ligated with stay suture.

The cervico-vaginal junction was identified. Littlewoods forceps were used to grasp the anterior vaginal wall, which was then opened using a knife. A pair of scissors was used to circumcise off the whole cervix. The margins of the vagina were secured with long artery forceps. The vaginal vault was closed with interrupted mattress and tied with sutures from the cardinal and uterosacral ligaments. Peritonization was done with vicryl no 1 suture.

Haemostasis was achieved and the abdomen closed in layers after correct count of instruments and swabs. The patient was reversed successfully from general anaesthesia. The catheter was removed and clear urine was draining. Total blood loss was 300 mls. She was not transfused any blood intraoperatively. The specimen was taken for histology.

Postoperative care

She was observed in the recovery ward half hourly until she was fully awake then transferred to the cold gynaecology ward. She was continued on intravenous fluids normal saline alternating with 5% dextrose about 3 litres in 24 hours. She was started on intravenous crystalline Penicillin 2 mega units 6 hourly and Gentamycin 80mg 8 hourly for 48 hours. She was given Pethidine 100mg 8 hourly intramuscularly for 24 hours.

On the first postoperative day she started taking oral sips. On the second postoperative day she started taking light diet and was put on Amoxil 500mg 8 hourly and Brufen 400mg 8 hourly for 3 days. On the fourth postoperative day the wound was exposed and found to be clean. She was discharged home for removal of stitches on the seventh postoperative day at the nearest health facility and was to be reviewed in GOPC in six weeks.

Follow-up

She was seen after two months and had no complaints. The wound was healed. Histology report was back and showed simple leiomyoma of the uterus. The cervix had no abnormality. This report was explained to her. She was given a six-month appointment.

DISCUSSION

The patient was a 48 year-old para 4+0 with symptomatic uterine fibroids (abdominal mass and heavy menses). Total abdominal hysterectomy was done.

A leiomyoma or fibroid is a benign tumour composed of smooth muscle cells but also containing varying amounts of fibrous tissue. It is a well-circumscribed tumour but it is not encapsulated¹.

Uterine fibroids are the most common tumours of the uterus. They are present in 20-25% of women of reproductive age². The actual prevalence is difficult to define because majority of them are asymptomatic and the diagnosis may not be in many cases. In autopsy specimens, the incidence is approximately 50%¹. Wanjala, in a study at KNH, found that uterine fibroids accounted for 66.8% of the hysterectomies done³.

Fibroids are 3-9 times more common in black than in white women, symptoms develop at 35-45 years of age. They are rare before 20 years of age². Wanjala found that of the patients done hysterectomy for uterine fibroids, 2/3 were aged 26-40 years with the oldest patient being 54 years and the youngest being 21 years³. Fibroids are commoner in the nullipara and relatively infertile women^{1,2}. Wanjala found that 70% of these women had two or less children 85% had not delivered for more than six years³. She was 48 years old whose last delivery was 20 years ago.

The aetiology of uterine fibroids is unknown. Estrogen is thought to play a role in their growth since estrogen receptors have been found to play a role in their growth since increased estrogen receptors have been found in myomas compared to the surrounding myometrium. There has been speculation that human chorionic somatotropin works synergistically with estradiol in pregnancy to facilitate myoma growth². Fibroids also increased in size during estrogen therapy as in use of high estrogen containing contraceptives. Normally, fibroids stop growing at menopause. It is possible that where fibroids arise during the postmenopausal period, some form of estrogen production exists¹.

Fibroids are classified according to anatomical location into submucous, intramural or interstitial and subserosal or subperitoneal^{1,2}. Submucous and subserosal fibroids can be pedunculated. Intramural fibroids are the most common of the fibroids and are found in the uterine corpus with only a few being located in the cervix. Pedunculated subserous fibroids can become parasitic when the peduncle atrophies and the fibroid gets a new blood supply from its new attachment e.g. omentum.

The patient presented had intramural fibroids.

More than 50% of patients with uterine fibroids do not have symptoms^{1,2}. Symptoms include abnormal uterine bleeding, pain, pressure symptoms, infertility and abdominal mass.

Abnormal uterine bleeding occurs in about 30% of patients with symptomatic uterine fibroids². It may be due to increased surface area of the endometrial cavity, endometrial hyperplasia in areas adjacent to submucous fibroids, interference with endometrial contractility as well as contractility of the spiral arterioles in the basalis layer of the endometrium and anovulation. There is also compression of the veins by the tumours causing dilatation and engorgement of the venous plexus in the myometrium and endometrium resulting in thrombosis and sloughing. In submucous fibroids there may be intermenstrual bleeding from congestion, necrosis and ulceration of the endometrial surface over the tumour as well as ulceration of the contralateral surface¹.

The patient presented had heavy menses. Pressure symptoms include frequency, urgency, incontinence or acute urinary retention due to pressure on the bladder, hydronephrosis due to ureteric obstruction, and constipation or haemorrhoids due to pressure on the rectum^{1,2}. This patient did not have pressure symptoms.

Pain is present in 1/3 of patients with symptomatic uterine fibroids¹. It may result from degeneration within the tumour, infection, torsion of pedunculated tumour, or myometrial contraction to expel a submucous myoma from the uterine cavity². Large tumour may produce a sensation of heaviness in the pelvis or discomfort. This patient had dysmenorrhea.

Infertility in these patients may result from anovulatory cycles, interfered sperm transport due to distortion and increased surface area in the uterine cavity, impingement on the cervical canal, and interference with uterine contractility. There are also endometrial changes e.g. atrophy and ulceration and vascular

alterations e.g. venous congestion. In 2-10% of infertile couples, fibroids are responsible².

The incidence of spontaneous abortion is 2-3 times more than that in normal pregnant women. Before myomectomy it is about 40% and after myomectomy it decreases to about 20%^{1,2}. Spontaneous abortion is thought to be due to altered blood supply to the endometrium, uterine irritability, difficulty in enlargement of the uterus of the uterus to allow for growth of the fetus and placenta, and interference with proper implantation and placental growth by poorly developed endometrium or subadjacent fibroid¹. The patient presented had not had any abortion.

Polycythaemia may occur and it is due to erythropoietin production by the kidney due to hydronephrosis from ureteric obstruction, or from islands of extramedullary haemopoiesis that have been found in the fibroids⁴.

This patient did not have polycythaemia.

Degenerative changes may occur in the fibroids. These include hyaline, cystic red or carnous, calcific and septic degeneration. Hyaline degeneration is the most common while red degeneration tends to occur in pregnancy. Sarcomatous change is rare and the incidence is reported as 0.49%⁵. Malignancy should be suspected in rapidly growing fibroids especially in postmenopausal patient¹. This patient did not have any of the above degenerative changes.

Diagnosis of uterine fibroids can be made by abdominal and bimanual palpation. Confirmatory investigations include ultrasound, CT scan and MRI, hysteroscopy and hysterosalpingography (HSG). Abdominal X-ray can be done and may show

calcifications. IVU can be done to rule out obstructive uropathy. Peripheral blood film may show features of Iron deficiency anaemia or erythrocytosis and leucocytosis¹. In this patient, diagnosis was confirmed by Ultrasound.

Management of uterine fibroids depends on symptomatology, age of the patient, desire to maintain fertility and location and size of the fibroids. For asymptomatic fibroids, the patients require explanation and reassurance, and will need re-examination at periodic intervals. In patients less than 40 years of age who wish to retain their reproductive function, myomectomy is the operation of choice. Myomectomy decreases heavy menstruation, lowers the spontaneous abortion rate and improves fertility⁶. In patients who do not desire future fertility hysterectomy is done. Radiotherapy is effective in patients who cannot withstand major surgery and have symptoms e.g. excessive bleeding².

This patient was done hysterectomy because the fibroids were multiple and large and wished no future fertility. Medical treatment with gonadotropin releasing agonists has been used. They act by decreasing vascularity and cell size in the tumour and have been found to cause a 50% decrease in tumour size. They induce a hypoestrogenic state (medical oophrectomy) and thus cannot be used for long. They can, however, be used preoperatively to reduce tumour size and enable restoration of haemoglobin concentration in severely anaemic patients⁷. The disadvantages of this preoperative treatment include effect on the fibroid margins which become thinner so that enucleation becomes difficult, and very small myomas may virtually disappear so that they are not seen and therefore not removed at operation but re-grow subsequently⁸.

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GYNAE CASE 2

THIRD DEGREE UTERINE PROLAPSE – TRANSVAGINAL HYSTERECTOMY

NAME:	MMM	PARITY:	5 + 0
AGE:	69 YRS	DOA:	9.8.2002
ID NO.:	0808671	DOD:	12.9.2002

Presenting Complaint

She was admitted to the ward from the gynaecological outpatient clinic with complaint of vaginal heaviness, low abdominal pain and backache for two years.

History of Presenting Complaint

She had noticed a swelling down the birth canal two years prior to admission. The mass would spontaneously retract. Subsequently the mass would appear most of the time. It was sometimes associated with bleeding, foul smelling discharge and urgency in passing urine. There was frequency and feeling of incomplete emptying of the bladder.

Obstetric and Gynaecological History

She was para 5 + 0. All deliveries vaginal. She could not remember the year of her last delivery. She was postmenopausal for more than 10 years. She had never used contraceptives.

Family and Social History

Married housewife. Both are small-scale farmers. There was no family history of chronic illness. She neither smoked cigarettes nor drank alcohol.

Physical examination

She was an elderly lady in fair general condition. She had no fever, pallor, oedema or lymphadenopathy. Her blood pressure was $120/90$ mm/hg, pulse rate 70/minute regular, respiratory rate 20/minute and temperature 37°C .

The respiratory, cardiovascular and central nervous system were examined and found normal.

Abdominal examination

The abdominal was scaphoid and moved with respiration. There were no surgical scars or therapeutic marks. There were no areas of tenderness and no masses palpable.

Pelvic examination

The skin of the vulva was atrophic with scanty greyish pubic hair. The vaginal walls felt lax though the mucosa was normal. The cervix was visible at the introits and was ulcerated. On instructing the patient to cough, the cervix and part of the vaginal mucosa appeared outside the vulva. She did not have stress incontinence of urine. On bimanual palpation, the uterus felt small but mobile, and both adnexae and pouch of Douglas were not full. Cervical excitation was negative bilaterally. There was a clear discharge on examining finger.

Diagnosis

A diagnosis of third degree uterine prolapse was made and the patient scheduled for vaginal hysterectomy.

Investigations

1. Urea and electrolytes

Sodium 137 mmol/l

Potassium 4.2 mmol/l

Urea 3.3 mmol/l

Creatinine 87 mmol/l

2. Haemogram

Hb 12.3g/dl

RBC $4.19 \times 10^{12}/l$

WBC $8.0 \times 10^9/l$

PLT $298 \times 10^9/l$

3. Pap smear CIN O

Management

The diagnosis was explained to the patient through her daughter who did the translation, and she gave an informed consent for the operation. Blood was taken for grouping and cross-match and two units of blood reserved for the operation. Enema was done at 6.00pm the day before the operation and at 6.00am on the morning of the operation. She was starved from midnight. On the morning of the operation she was pre-medicated with atropine 0.6mg intramuscularly and wheeled to theatre.

Total vaginal hysterectomy

In theatre she was given general anaesthesia. In lithotomy position the vulva and vagina were cleaned with savlon solution and painted with iodine solution. She was draped with sterile towels.

The labia minora were stitched back on either side both anteriorly and at mid-position. An Auvard speculum was inserted in to the vaginal posteriorly thus exposing the cervix and prolapsed uterus. The anterior lip of the cervix was grasped at its midpoint by a volsellum forceps. A uterine sound was introduced and the uterine cavity found to be 5cm long. A weak solution of 1/240000 adrenaline in saline was injected beneath the vaginal mucosa around the cervix. This solution was to act as a vaso-constrictor to ensure a relatively non-vascular field of operation and to help define the fascial layers accurately.

Four Kocker forceps were applied as follows: - one immediately below the external urethral meatus, two others slightly postero-lateral to the cervix on either side, and the fourth one in the midline of the posterior fornix at the point where the vaginal skin was easily picked from the cervix. The 4 points were joined by an incision made with a scalpel through the thickness of the vaginal skin but not the fascia. The vaginal skin was then reflected by blunt dissection off the bladder and urethra towards the cervix. Similarly, vaginal skin was mobilized by blunt dissection from the lateral surfaces of both cardinal ligaments and also in the pouch of Douglas. The cervix was lifted forwards by traction on the volsellum attached to the posterior lip and the pouch of Douglas was defined and opened.

The posterior surface of the uterus and ovaries was explored with a finger to exclude any adhesions. The cervix was pulled to the right side the left utero-sacral and cardinal ligaments were grasped using angled Kocker forceps. The ligaments were cut and transfixed using vicryl no. 1 suture. The suture was held with a marker. A similar procedure was done on the right side.

The uterine vessels were identified on either side, clamped, cut and transfixed with vicryl suture no. 1. The utero-vesical pouch was the opened. The round ligaments, uterine tube and ovarian ligament and vessels were identified on either side, clamped, cut and transfixed. A marker was left on these 2 pedicles. The uterus was then removed.

The peritoneal cavity was closed with interrupted vicryl suture no 1 leaving all 6 pedicles extra-peritoneally. The utero-sacral and cardinal ligament pedicles from each side were sutured together in the midline to form an apex or center point of the vault. Similarly, the broad ligament pedicles were also approximated at the midline.

The vagina was packed with Vaseline gauze for about 6 hours. A catheter was left in the bladder. The patient was reversed from anaesthesia successfully. She was transfused 2 units of the blood intra-operatively. Total blood loss was 500mls.

Postoperative care

She was transferred to the recovery ward and observed half hourly until she was fully awake and she returned to the ward. She was continued on intravenous fluids normal saline alternating with 5% dextrose a bout 3 litres in 24 hours. She was started on intravenous crystalline penicillin 2 mega units 6 hourly, Gentamycin 80mg 8 hourly and Metronidazole 500mg 8 hourly for 48 hours. She was also given intramuscular pethidine 50mg 8 hourly for 24 hours. The vaginal pack was removed after six hours.

The patient did well postoperatively and was discharged home on the fourth postoperative day. She was to be reviewed in the gynaecology outpatient clinic in six weeks.

Follow-up

The patient was seen in GOPC on 16.10.2002. She had no complaints. The operation site was healed. Histology of the specimen showed thick-walled and hyalinised and calcified arteries with cystic endometrial glands in the uterus. The cervix had features of chronic cervicitis. She was discharged from the clinic.

Discussion

The patient presented was a 69-year-old para 5+0 who presented with third degree uterine prolapse and total vaginal hysterectomy was done.

Uterine prolapse is the abnormal protrusion of the uterus through the pelvic floor genital hiatus¹. Cystocele, rectocele or enterocele usually accompanies it. The degree of prolapse is usually defined by the relationship of the leading edge of the cervix to the vaginal introitus². These include: -

First-degree - prolapse where there is slight descent of the uterus but the cervix remains within the vagina.

Second degree - where there is descent to the extent that the cervix protrudes through the vulva when the woman is straining or standing.

Third degree - where the entire uterus is prolapse outside the vulva. The whole vagina or at least part of its anterior wall is inverted³. The patient presented had third degree uterine prolapse.

Utero-vaginal prolapse is common gynaecological problem and is responsible for about 20% of women on the waiting list for the major gynaecology surgery in Britain⁴. In a study in Oxford, utero-vaginal prolapse was the primary reason for 6.5% of all hysterectomies⁵. At KNH, Mwalali (1982) found the incidence of pelvic organ prolapse to be 0.1% of all gynaecologic admissions⁶.

Pelvic organ prolapse is generally a disease of the elderly. The etiology is considered in terms of weakening of the pelvic floor and increases downward pressure^{4,7}. Histochemical studies on biopsies of pelvic floor muscles have demonstrated evidence denervation in these women⁸. Predisposing factors include congenital or developmental weakness of the supports, injury sustained during childbirth, iatrogenic injury as during hysterectomy, atrophy of supporting tissues at climacteric, and causes of increased intra-abdominal pressure e.g. chronic cough, pelvic tumours, heavy lifting and chronic constipation^{1,3,4,9}.

The patient presented was 69 years old, postmenopausal and multipara. She was thus at greater risk of having prolapse. Iatrogenic factors that contribute to genital organ prolapse include failure to adequately correct all pelvic support defects at the time of surgery, ventrosuspension of the vagina that increases the exposure of the cul de sac to increase in intra-abdominal pressure, failure to detect and correct occult enterocele and, excessive shortening of the vaginal^{3,9}.

Symptoms and signs associated with utero-vaginal prolapse include sensation of swelling or fullness in the vagina, bearing down sensation, a dragging discomfort in the lower abdomen and pelvis, backache, voiding difficulties, difficulty in emptying the rectum and discomfort during coitus. The commonest symptom is a sensation of something coming down the vagina¹⁰. Mwalali at KNH found that majority of patients (97%) presented with a feeling of something coming down the

vagina while (12%) presented with urinary symptoms⁶. This patient presented with complaints of a mass coming down the vagina.

Complications of utero-vaginal prolapse include Keratinization of the vagina, decubital ulceration of the cervix and urinary tract infection resulting from incomplete emptying of the bladder^{1,3}. Downward movement of the uterus causes the lower ends of the ureters to be constricted and this may lead to obstruction with resultant hydroureter and hydronephrosis^{3,9}. The patient presented had none of the above complications.

Management of these patients can be conservative or surgical depending on the degree of prolapse and presence of symptoms. For mild degrees of prolapse with mild on no symptoms, expectant management can be done. This will include taking measures to prevent or correct problems associated with prolapse e.g. obesity, constipation, and chronic cough. Postmenopausal women can be advised on estrogen replacement therapy. Patients should be taught the technique of perineal muscle exercises and be encouraged to do them regularly⁹. Vaginal pessary may be used as a palliative therapy if surgical treatment is contraindicated or as a temporary measure in mild to moderate prolapse^{1,3,9}. Pessary can also be used to promote healing of decubital ulcer prior to surgery. Infrequent removal and cleaning of the vaginal pessary can result in vaginitis and if forgotten in situ, may lead erosion fistula formation in to the bladder⁹.

Surgical management is indicated in advanced and symptomatic pelvic organ prolapse^{3,9}. Selection of surgical approach for uterine prolapse depends on the patient's age, her desire for future fertility or preservations of coital function, degree of prolapse and presence of associated conditions e.g. cystocele, stress

incontinence or rectocele¹. The type of operation done include vaginal hysterectomy, anterior colporrhaphy, posterior colpoperineorrhaphy, transvaginal enterocele repair and vaginal vault suspension. A combination of the above procedures can be done depending on individual patients. Abdominal hysterectomy can be done^{1, 2, 3}. The patient presented was done total vaginal hysterectomy.

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In those patients who still desire to have children, the procedures that can be done include Manchester repair which involves anterior colporrhaphy, cervical amputation and posterior colpoperineorrhaphy. Other methods include sacral cervicopexy-hysteropexy or shrodkar sling cervicopex².

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Complications of surgery include haemorrhage, infection and injury to the contiguous organs, blood vessels and nerves. Possible long-term complications include postoperative urinary incontinence, dyspareunia and recurrent pelvic organ prolapse^{1, 3}. The Manchester procedure is associated with cervical incompetence due to shortened cervix, or infertility due to loss of cervical mucus³.

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History of Presenting Complaint

The patient had been well prior when she developed abdominal swelling that was progressive. This was associated with lower abdominal that was continuous in nature and backache. She also noticed that she was progressively losing weight as her appetite was poor. She was then referred from a private clinic to Kenyatta General Hospital.

Medical History

No significant.

Obstetric and Gynaecological History

Gravida para 4 / 0. All by spontaneous vaginal delivery at term. She could not remember her menstrual. She had never used any family planning method.

Family and Social History

She was a married housewife. She was staying with her family in Murang'a. She did not give history of drinking alcohol or smoking. There was no history of similar or other major illness in the family.

Examination

She was in a fair general condition. She was not febrile, cyanosed or jaundiced. She had no peripheral oedema lymphadenopathy. She had bilateral pitting pedal oedema. Blood pressure was 120/80 mm/hg, pulse rate 70/min regular, respiratory rate 20/min and temperature 36.8°C.

Systems

Cardiovascular, respiratory and central nervous system were essentially normal.

Abdominal Examination

The abdomen was uniformly distended. There were no surgical scars and no visible blood vessels. There were no areas of tenderness and no masses notable. There was strong dullness on percussion and a fluid thrill was elicited.

Pelvic Examination

The external genitalia was normal. The cervix was firm, posterior, and the os was closed. The uterus was normal size and fairly mobile. The adnexa and pouch of Douglas felt full.

Diagnosis

Impression of ovarian tumour was made.

Results of Investigations

1. Haemogram
Hb: 10.2 g/dl
MBC: $6.1 \times 10^9/l$
RBC: $5.37 \times 10^{12}/l$
PLT: $559 \times 10^9/l$
2. Urea and electrolytes Na⁺ 136 mol/l, K⁺ -4.45 mol/l.
3. Liver functions tests – normal.
4. Ultrasound – showed a right tubovarian complex mass measuring 13 cm x 12 cm x 15 cm with irregular outline.
5. CXR – Normal

Management

The diagnosis was explained to the patient and she was informed that a laparotomy was to be done. An informed consent for the operation was obtained from her. Blood was taken for grouping and cross-match and two units of blood reserved for operation.

She was given enema at 6.00 p.m. the day before operation and at 6.00 a.m. on the day of the operation. She was starved from overnight. On the morning of the operation she was premedicated with atropine 0.6 mg intramuscularly and wheeled to theatre.

In theatre general anaesthetic was administered. In semilithotomy position vulvovaginal toilet was done with savlon solution. The bladder was catheterised and clear urine was drained. Pelvic examination repeated under anaesthesia confirmed the earlier findings. The vagina and cervix were painted with methylene blue dye. In supine position, the abdomen was cleaned with savlon solution, painted with iodine and draped with sterile towels. The abdomen was opened by a midline subumbilical incision that was extended about 4 cm above the umbilicus. About 4 litres of haemorrhagic ascites found was aspirated. There was a very friable mass measuring about 15 cm by 14 cm by 13 cm in the right ovary. The mass was adherent to the colon, uterus, left ovary and pelvic wall on the left side. The pelvic organs were matted together. There were tumour seedlings on the parietal peritoneum and omentum. The liver and spleen had nodules on their surfaces. The tumour was stage IV.

As much of the tumour as was possible was removed on the right side. Omentectomy was also done. Due to the matting together of the organs hysterectomy could not be done. Haemostasis was achieved. The specimens were taken for histology. Peritoneal lavage was done with warm saline. After correct count of instruments and swabs the abdomen was closed in layers. Total blood loss was 1000 mls. The patient was reversed from anaesthesia.

Post Operative Care

The patient was transferred to the recovery ward and observed half hourly until fully awake then taken back to the ward. She was continued on intravenous fluids normal saline alternating with 5% dextrose about 3L in 24 hours.

She was started on crystalline penicillin 2 mg 6 hourly and gentamycin 80 mg 8 hourly I.V for 48 hours. She was also put on a pethidine 100 mg 8 hourly for 24 hours.

On the first postoperative day bowel sounds were present and she started taking oral sips. On the second postoperative day she was started on light diet and oral medication. Stitches were removed on the seventh postoperative day and the wound was clean and dry. Ascites recurred but the patient remained stable.

Chemotherapy Histology showed a well-differentiated adenocarcinoma of the ovary. The results were explained to the patient. She was informed about the treatment and its duration. Blood was taken for haemogram, urea and electrolytes, and liver function tests and these were found to be within normal.

On 22.9.2002 she was started on a course of intravenous Cisplatin 50mg stat, Adriamycin 50mg stat and Cyclophosphamide 250mg daily for 5 days. She completed the course and was discharged home for a 3-week rest period before the next course of chemotherapy after repeat baseline investigations.

The patient came for chemotherapy erratically complaining about the distance, since she had to travel from Murang'a. After getting five courses of chemotherapy she was lost to follow-up.

DISCUSSION

The patient presented a 47-year-old para 4+0 who was admitted with carcinoma of the ovary stage IV. She was done debulking and started on chemotherapy with Cisplatin, Adriamycin and Cyclophosphamide.

Cancer of the ovary accounts for about 25% of all malignant neoplasms of the female genital tract. Over 50% of deaths ascribable to gynaecologic cancer are due to cancer of the ovary. Cancer of the ovary is the fifth leading cause of cancer-related morbidity among American women accounting for 5% of all such deaths¹. At KNH, Njuki (1979) found that cancer of the ovary comprised 8% of all female genital malignancies and ranked third as a cause of gynaecologic malignant disease after cancer of the cervix and choriocarcinoma². The worldwide incidence of ovarian cancer is higher in developed countries compared to developing countries^{1,3}.

The incidence of ovarian cancer increases with age³. With the exception of teratomas and special sex cord tumours, which have their own age incidence, ovarian neoplasms are commonly found in women aged 40-60 years^{3,4}. Njuki in his study found an age range of 9-63 years while Ojwang and colleagues at the same hospital found an age range of 46-67 years^{2,5}. The patient presented was 47 years old.

Aetiology of ovarian cancer is unknown. Exposure to industrial agents like asbestos and talc, and high fat diet increase risk. Women of low parity, infertility and delayed childbearing are also at increased risk. Other risk factors include use of fertility drugs like Clomiphene, family history of ovarian cancer (seen in 5% of cases of ovarian cancer) and family history of breast cancer¹. There is a 40%

decrease in risk of ovarian cancer following a woman's first pregnancy and an estimated 14% decrease in risk for each subsequent pregnancy. Use of oral contraceptives and breastfeeding are also protective. Patients done tubal ligation are at decreased risk though the mechanism is unknown. The patient presented was para 4+0 and had not used contraceptives.

There are three major types of ovarian neoplasms. Epithelial tumours account for 70-80% of all ovarian neoplasms while 10% are stromal in origin and 5% are germ cell tumours⁴. In children, the most common tumours are malignant germ cell tumours while epithelial tumours account for more than 90% of all adult cases³. Serous and mucinous cystadenocarcinoma are the most common types of invasive epithelial ovarian tumours. They compose 60% of all primary tumours of the ovary and 90% of those that are malignant^{3,4}. The patient presented had well differentiated adenocarcinoma of the ovary.

Except for those tumours that have endocrine function, ovarian tumours are rarely symptomatic other than those symptoms induced mechanically by the size of tumour. Thus most are often inoperable by the time of diagnosis^{3,4,7,8}. The patients ignorance due to lack of education and non-availability of health care in remote areas of the country also contributes to late diagnosis⁵. Symptoms include abdominal swelling from large tumour associated ascites, dyspepsia cachexia, urinary retention, bowel obstruction and aching pain in the abdomen^{3,4}. On physical examination, a pelvic mass that is bilateral, irregular, solid or fixed is suggestive of malignancy.

The patient presented had progressive abdominal swelling, weight loss, night sweats and backache. On physical examination she had massive ascites but no mass ballotable.

Laboratory evaluation of these patients includes a complete blood count, liver function tests, urea and electrolytes, coagulation profile and cervical cytology. Intravenous urography may be indicated to define the ureters and exclude a pelvic kidney. Barium enema is done to rule out colonic involvement of colonic cancer. Chest X-ray is done to detect pleural effusion or metastatic diagnosis depends on surgical exploration^{3,4}.

The patient presented was done full blood count, urea and electrolytes and liver function tests, which were normal. Ultrasound showed an irregular complex tubovarian mass. Chest X-ray was normal.

Carcinoma of the ovary is staged according to the International Federation of Gynaecology and Obstetrics classification of ovarian neoplasms³.

- Stage I Growth limited to the ovaries
- IA Growth limited to one ovary, no ascites
 - 1) capsule intact
 - 2) capsule ruptured
 - 3)
 - IB Growth limited to both ovaries, no ascites
 - 1) capsule ruptured
 - 2) capsule intact
 - IC Growth limited to one or both ovaries. Ascites present with malignant cells
 - 1) capsule ruptured
 - 2) capsule intact

- Stage II Growth involving one or both ovaries with pelvic extension.
 - IIA Extension and/or metastases to the uterus and/or tubes and/or the ovary
 - IIB Extension to other pelvic tissues
- Stage III Growth involving one or both ovaries with widespread intraperitoneal metastases.
- Stage IV Growth involving one or both ovaries with distant metastases.

The patient presented had stage IV disease because she had peritoneal and omental implants .

Tumor markers are useful in diagnosis and management of several ovarian tumours. Lactic acid dehydrogenase has been found elevated in ovarian cancer although in most instances advanced disease is present³. CA-125 is an antigen produced by most primary ovarian malignancies though raised levels may also be found in other malignancies and benign conditions⁸. CA-125 assay has been used in identification of extent of intraperitoneal disease though the technique has not allowed diagnosis of early disease³. Other markers include alpha-fetoprotein, human chorionic gonadotropin and carcinoembryonic antigen (CEA).

Surgery is usually performed to establish the type, histologic grading and stage of tumour³. During surgery, the incision should provide maximum exposure of the pelvis allow thorough examination of the abdomen. If ascites is present, it should be aspirated and taken for cytology. If ascites is absent, peritoneal washings are obtained from the pelvis, right and left paracolic gutters and suprahepatic space by instillation of 100mls of normal saline into each area^{1,3}. The operation aims at resecting as much tumour as is safely possible. Total abdominal hysterectomy, bilateral salpingo-oophrectomy and omentectomy is the preferred basic treatment

for ovarian cancer³. In the patient presented tumour was adherent to the colon, uterus and tubes such that only debulking could be safely done. Omentectomy was done.

Postoperative chemotherapy is given. Generally a pulse therapy regime is used. This involves five days of chemotherapy per month upto 12 courses. Drugs used include Cyclophosphamide, Cisplatin, Melphalan and Chlorambusil. Multidrug chemotherapy has been reported to result in excellent response. In our setup Cisplatin, Cyclophosphamide and Adriamycin are commonly used and the patient presented was started on the regime.

Second look laparotomy is done to evaluate the antitumour effect of chemotherapeutic agents, to determine the timing of cessation of chemotherapy, or to debulk the residual tumour after incomplete surgery^{1,9}. It is usually performed after six to twelve courses of chemotherapy. Response to chemotherapy can also be monitored by serum levels of CA-125. Rising levels of CA-125 are associated with progression of disease. It can aid in early identification of non-responders to chemotherapy^{7,10}.

The patient presented could not afford to have CA-125 levels done. She was for second laparotomy after the sixth course of chemotherapy but was lost to follow-up.

Radiotherapy, when used alone is of no benefit in ovarian carcinoma. The dose required to irradiate the upper abdomen postoperatively would not be tolerated by the liver and kidneys^{1,3}. It is reserved for advanced cancer and residual tumour size should be 2cm or less.

Epithelial tumours of low malignant potential can be managed by a more conservative approach. Those who desire preservation of fertility may be managed by unilateral salpingo-oophorectomy³. However, the patient must understand the possibility of late recurrence and be willing to participate in long-term follow-up.

During therapy, the patients are seen monthly. A full haemogram, liver function tests, renal function tests and chest X-ray are done. A pelvic examination to assess disease status is done on monthly basis. Patients who have completed therapy and who are disease free are evaluated every 2-3 months for two years. Thereafter, they are evaluated every six months. The patient presented defaulted treatment and was lost to follow-up.

The overall five-year survival rate for ovarian cancer remains poor at about 30%. Survival is much better (75% at 5 years) for women who present when the disease is localised to the ovaries (FIGO stage I)⁸. However, most women present at later stages of the disease. Screening methods including ultrasound and CA-125 are being tried in the hope that cancer can be detected in asymptomatic women thus leading to early treatment. There has been no evidence on whether screening improves outcome for women in any risk group^{1,8}. Prophylactic oophorectomy is being proposed especially for patients with a family history of ovarian cancer, though it is still questionable whether a significant impact can be made on cancer related mortality^{1,3}.

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Medical History

reviewed attention for medical or surgical problems.

GYNAE CASE 4

VESICO-VAGINAL FISTULA: SUCCESSFUL REPAIR

NAME: M.A. PARITY: 1 + 0
AGE: 21 YRS. DOA: 30.7.02
ID NO.: 0805816 DOD: 5.8.02

Presenting Complaints

She was admitted through the gynaecological clinic with leakage of urine for nine months.

History of Presenting Complaint

She had delivered through caesarean section at Homabay District hospital due to cephalopelvic disproportion and prolonged labour for 4 days. The baby scored poorly and succumbed the same day. She developed leakage of urine on the fourth post-operative day. She had urinary catheter upto the fifteenth post-operative day. Her urine incontinence was not continuous. She was having an urge to empty her bladder on and off. She had dry episodes when the urine was not emptying. She was applying Vaseline on the thighs. No stool inconvenience.

Past Medical History

No previous admission for medical or surgical problems.

Obstetric and Gynaecological History

She was para 1 + 0 with no living child. Her menarche was at 13 years. Menses lasted 4 days and cycles were 28 days regular. However, she had not resumed menses since her last delivery. She had not used contraceptives.

Family & Social History

She was a married housewife. Her husband was a guard at Karen. There was no family history of chronic illness. She did not drink alcohol or smoke cigarettes.

Examination

She was in good general condition, no fever, pallor or jaundice, oedema or lymphadenopathy. Her blood pressure was 120/70 mmhg, pulse rate 80/minute, respiratory rate 20/minute and temperature 36.5⁰C.

Systems

Cardiovascular, respiratory and central nervous systems were examined and found normal.

Abdominal Examination

The abdomen had normal fuller and moved with respiration. There was no tenderness on palpation and no masses.

Pelvic Examination

She had normal external genitalia. The urine was coming out continuously. The perineum was excoriated, wet and had an offensive smell. On speculum examination the anterior wall of the vagina had a fistula about 1 cm. It was

approximately 3 cm from the urethral opening and 2 cm to the cervix. The anterior and posterior vagina wall was intact.

Diagnosis

A diagnosis of vesico-vaginal fistula was made and she was planned for repair by vaginal route.

Investigation

1. Haemogram
 - Hb – 11.6 g/dl
 - MBC – $9.0 \times 10^9/l$
 - UBC – $5 \times 10^9/l$
 - RLT – $351 \times 10^9/l$
2. Urea and electrolysis
 - Na⁺ - 133mol/l
 - K⁺ - 4.8 mol/l
 - Urea – 5.0mol/l

Management

The diagnosis and management were explained to the patient. An informed consent for repair of VVF in theatre was obtained from her. She was advised on liquid diet for the next two days before operation. She had enema at 6 pm the day before the operation and 6 am the morning of the operation. The morning of the operation, she was premedicated with atropine 0.6 mg intramuscularly and pethidine 50 mg and wheeled to theatre.

Vesico-vaginal Fistula Repair

She was brought to theatre and given general anaesthesia and placed in lithotomy position vulvo-vaginal toilet was done and drapes were put. A gauze was put over

her anus. The drapes were clipped to the buttocks. Jungle juice (adrenaline and lignocaine in normal saline) was infiltrated to the left aspect of the vulva for episiotomy. Jungle juice was also instilled around the fistula. An incision was made all around the fistula and bladder freed all extended to the fistula site. Then with 2/0 vicryl the bladder was hanged onto the perimoteum of the pubic symptosis. Then the fistula was repaired in 2 layers with vicryl 4/0. After this a catheter size 16 was inserted and inflated with 5 ml of normal saline. Dye test was done by instilling into the bladder methylene blue and checking whether there was a leak at the suture line. Dye test was negative. The catheter balloon was then depleted and the following measurements were done using the uterine sound. The length from external urethral opening to the bladder 14 cm. The urethral length was measured as the distance from the edge of the balloon to the mark on the external urethral opening. This was 3 cm. Therefore the bladder was 11 cm. Then the vaginal wall and episiotomy was sutured. A gauze pack soaked in iodine solution was left in the vagina. The Foleys catheter was field to urine bag. The patient was reversed from general anaesthesia.

Post-Operative Care

The patient was taken to the recovery ward and observed half hourly until fully awake, then transferred back to the ward. She was on intravenous fluids normal saline alternating with 3% dextrose 500mls 3 hourly. The following day she was advised to take at least 4 litres of fluids per day orally. Vaginal gauze was to be removed in 24 hours. She was put on pethidine 50mg 6 hourly for days and thereafter paracetamol for 3 days. If the catheter got blocked it was to be flushed with only 5 mls. If still blocked then change catheter and put only 4 mls in the balloon. She was to be examined at the day after surgery to do dye test. If the dye test is negative the catheter will be removed. If the dye test is positive, the catheter

was to be left in place till 6 months. The catheter would be changed after every 4-5 weeks. She was strongly advised not to have sex for 4 months. She was advised about C/s delivery if she became pregnant. Post operatively she did well and on discharge she was not leaking. She was scheduled for spectrum examination on the 14th DOD. Dye test at 14 days DOD showed the suture line to be intact. She was leaking urine from the sides of the catheter. Catheter was removed and she was sent for physiotherapy. She did well on physiotherapy and became continent of urine.

DISCUSSION

The patient presented was a 21-year-old para 1 + 0 who had VVF secondary to obstructed labour. The VVF was successfully repaired.

Vesico-vaginal fistula (VVF) is an abnormal communication between the bladder and vagina that allows urine to continuously escape through the vagina¹. The true incidence of VVF is not known. Orwenyo (1984) in his study on acquired VVF and rectovaginal fistula (RVF) at KNH found that 166 cases were treated between 1979 and 1982. Of these 90% were VVF².

VVF fall into four groups according to aetiological factors.

- Those resulting from obstetric injury e.g. pressure necrosis and direct trauma during operative vaginal delivery.
- Injury to the urinary tract during operations such as caesarean section, bladder hysterectomy and anterior colporrhaphy.
- Radiotherapy in treatment of cancer of cervix.

- Miscellaneous causes, which include infections like lymphogranuloma venereum and tuberculosis, trauma with fracture of the pelvic bones, symphysiotomy, and prolonged pessary use¹.

The patient presented developed VVF following obstructed labour.

In the United States 85% of VVF follow surgery, 10% occur after radiotherapy and only 5% result from obstetric causes³. In developing countries, the leading cause of fistula formation is obstetric injury. Tahzib (1983), in his study in Nigeria found that 83% of VVF resulted from prolonged obstructed labour and only 1% were from surgical injury⁴. In KNH Orwenyo found that 92% of patients had obstetric related fistula². Gunaratne and Mati (1982) found that 40-80% of VVF were primigravida of whom 70% had obstructed labour due to cephalo-pelvic disproportion⁵.

This patient was a multipara and developed fistula following prolonged obstructed labour.

During normal labour, the bladder is displaced upwards into the abdomen. The anterior vaginal wall, bladder base and urethra are compressed between the fetal head and the posterior surface of the pubis. In prolonged labour the intervening soft tissues are devitalized by ischaemia, become necrotic and slough off. The sloughing tissues cause VVF, which usually occur between the second and tenth post-delivery¹. Obstetric fistulas are thus most commonly located in the bladder neck and upper urethra. The patient presented developed VVF on the third day after Caesarean section.

Fistula may be located at any point along the anterior vaginal wall and may include a part or all of the bladder base and urethra. They may be single or multiple¹. They are anatomically classified into:

- Juxta - urethral fistulas. These include the bladder neck and proximal urethra. The internal sphincter is damaged. They are caused by obstructed labour.
 - Mid vaginal fistulas. The middle part of the urethra is involved. The sphincter and trigone are intact. They can be caused by surgical trauma, radiation and obstructed labour.
 - Juxta-cervical (high) fistulas. These open into the anterior fornix or cervical canal. They are usually due to obstructed labour, surgical trauma and radiation.
 - Large or massive fistulas. They can be a combination of the above three. Most of the anterior vaginal wall is absent. In most of them the bladder neck and trigone are absent.
 - Vault fistulas. These follow hysterectomy.
- Gunaratne in his study found that 34% of the VVF were juxta-cervical, 28% were juxta-urethral 16.8% were mid-vaginal and 15.3% were circumferential⁵. The patient presented had a mid-vaginal fistula.

The diagnosis of VVF is made from history and physical examination. The hallmark of urinary vaginal fistula as opposed to other forms of incontinence is

continuous leakage of urine. With small fistulas urinary leakage is slight and the woman may void a good quantity of urine. However, with large fistulas sufficient urine do not collect in the bladder to permit voiding. On speculum examination, the fistula is often visualized. When the fistula is small and not visualized, various diagnostic tests can be done including introduction of methylene blue dye with vaginally placed tampon, which stains the tampon if there is a VVF. The tampon will not be stained if there is a uretero-vaginal fistula. Intravenous urogram (IVU) diagnoses ureteric fistula as well as demonstrating dilatation of the calyces or ureter that often occurs in presence of a ureteric fistula. Cystoscopy is used to ascertain the size and position of the fistula especially its relation to the urethral orifices and vesical sphincter^{1,3}. In this patient diagnosis was easily made on speculum examination. In management of VVF arising due to pressure necrosis, at least three months waiting period should elapse before repair is attempted. This will give time for inflammation to subside, necrotic tissue to slough off, residual sepsis to subside and tissue planes to be re-established. For fistulas arising from surgical trauma e.g. hysterectomy it is still better to also wait until the tissues around the fistula are no longer indurated or infected¹. Sepsis or anaemia should be treated before repair is attempted. The nutritional status of the patient, if poor, should be improved. To protect the perineum and thighs from excoriation, antiseptic barrier creams such as zinc oxide and castor oil or Vaseline can be used. Perineal pads, which absorb urine and increase skin damage, should be avoided⁴.

A large size indwelling Foleys catheter can be inserted for continuous bladder drainage to facilitate spontaneous healing or eventual complete epithelialization of fistula tract. Spontaneous healing has been reported in 15-20% of patients⁶. However, spontaneous healing is less likely to occur when the fistula tract is mature and epithelialized.

The route of repair of VVF depends on position and size of the fistula, structures involved, and the degree of fixation of the tissues. It can be transvaginal, transvesical or transperitoneal Examination under anaesthesia, done preoperatively or at a different sitting before the operation, assesses the site and size of the fistula, fibrosis of tissues around the fistula and the best route and position for repair.

During repair of VVF, adequate exposure must be ensured. Adequate closure of the bladder defect in two layers without tension is essential. Trauma to the tissues is minimized by use of delicate non-tissue-crushing instruments and the fine suture injury, obliteration of dead space, complete haemostasis, and complete bladder drainage postoperatively³.

After repair of VVF, the urinary bladder must be kept at rest for 14 days. Urinary output must be 2-3 litres every 24 hours. Antibiotics are given to prevent infection. Dye test is done on the fourteenth postoperative day. The patient should be warned to avoid coitus for at least three months after discharge from the hospital, until the repaired site is firmly healed. If she becomes pregnant then elective caesarean section should be done since vaginal delivery would endanger the repair.

The patient presented the catheter on the fourteenth postoperative day and dye test done did not show any leakage of urine. She was seen after one month and reported no leakage of urine.

The overall success rate of VVF repair has been found to be 74.6%. Of these 70% were done vaginally and 21% abdominally⁷. From studies done at KNH mid/vaginal fistulas had the highest successful repair rate (85.7%) while

circumferential and juxta-urethral varieties had the lowest successful repair rate ⁵. This patient had a mid-vaginal fistula and repair was successful. In those fistulas where all attempts at repair have failed, urinary diversion may be considered. Methods of urinary diversion include transplantation of the ureters into the isolated ileal loop or pelvic colon ¹.

Complications of VVF repair include hemorrhage, ureteral obstruction, breakdown of repair, vaginal stenosis and urinary incontinence. Recurrence of fistula after repair is rare¹. Complications associated with VVF formation include rectovaginal fistula, ammenorrhoea or oligomenorrhoea which can be associated with psychological trauma after a difficult delivery or endocrine upsets, vaginal stenosis perineal excoriation and perinatal mortality. Orwenyo in his study found that RVF complicated 7.4% of VVF. He found a stillbirth rate of 70% and a perinatal mortality rate of 80% ². Gunaratine and Mati reported a stillbirth rate of 63.7% and a neonatal mortality rate of 60% ⁵.

Formation of VVF can be prevented by efficient obstetric care system such that mothers who are likely to have obstructed labour are identified in the antenatal period. Emergency obstetric services should also be made available so that mothers who present with prolonged obstructed labour get ready access to facilities where caesarean section can be done. In the immediate postpartum period following obstructed labour, the bladder should be continuously drained by a urethral catheter for 10-14 days and upto six weeks if VVF has already occurred. A long-term measure would be to improve the socio-economic status of the population so that nutritional status is improved in childhood to prevent stunting of growth. Teenage girls should be discouraged from engaging in sexual activity and early marriage before the pelvis is completely grown.

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Examination

She was an elderly lady in fair general condition with no fever, pallor jaundice or oedema. She had bilateral inguinal lymphadenopathy. The nodes were firm free to the underlying structure and measured about 1 x 1 cm in diameter.

Systems

Cardiovascular, respiratory and central nervous system were normal.

Abdominal Examination

The abdomen was scaphoid and moved with respiration. There were no surgical scars.

Vaginal Examination

There was a large fungating mass on the lower half of the left labia majora that was obliterating the introitus. Its size was about 5 cm diameter. The mass was friable and bleed easily on touch.

Diagnosis

A diagnosis of cancer of the vulva stage IV was made.

Management

She was counselled about this. She was first to have examination under anaesthesia and biopsy taken for histology.

Investigations Done

1. Haemogram

Hb – 12.9 g/dl

WBC – $6.9 \times 10^9/l$

RBC – $4.27 \times 10^{12}/l$

PLT – 2 adequate

2. Urea and electrolytes

Na⁺ - 143mmol/l

K⁺ - 4.1 mmol/l

BUN – 6.1 mmol/l

Examination Under Anaesthesia (EUA)

She was taken for EUA. At EUA she was found to have fungating mass arising from the left labia majus. It was friable and bleeding easily on touch. The lower $\frac{1}{3}$ of the vagina was involved circumferentially. On rectal examination the rectal mucosa was freely mobile. A specimen from the mass was taken for histology. Histology results showed features in keeping with those of squamous papilloma of the vulva.

The patient was then planned for radical vulvectomy and partial vaginectomy. The nature of operation was explained and informed consent obtained. Haemoglobin level and urea and electrolytes were repeated. The results were 12 g/dl Na 140 mmo/L, K⁺ 4.2 mmol/L and BUN 5.6 mmol/L.

She was scheduled for operation on 27.6.02. Blood was taken for grouping and cross-match and three units referred for operation. She had enema at 6.00 pm the previous day and at 6.00 am on the day of the operation. She was starved from

midnight. On the morning of the operation she was premedicated with atropine 0.6 mg intramuscularly and wheeled to theatre.

Radical Vulvectomy

In theatre, she was put under anaesthesia. She was placed in lithotomy position. The abdomen, vulva and perineum were cleared with savlon solution and draped with sterile towels. The urinary bladder was catheterized with a foleys catheter and clear urine drained.

A transverse incision was made above the inguinal ligaments and extended to the anterior superior iliac spines. The incision was deepened to reach the aponeurosis of the external oblique muscle. Two incisions were then made running from the ends of the transverse incisions along the candio-crural folds. The vulva was dissected and both superficial and deep inguinal lymph nodes were removed bilaterally. Half of the vagina and the area above the anal orifice were removed as well. Haemostasis was achieved by electro coagulation of the vessel stamps. The resulting raw area was approximated starting from the inguinal area towards the urethra and vagina.

A urethral catheter was left in-situ. A firm 7-bandage was applied. The patient was successfully reversed from anaesthesia. Total blood loss was 600mls. She was transfused two units of blood intraoperatively. The specimen was taken for histology.

Post Operative Care

She was transferred to the recovery ward and observed half hourly until fully awake and then transferred back to the ward. She was put on intravenous fluids normal saline alternating with 5% dextrose 3 litres in 24 hours. She was started on intravenous crystalline penicillin 2 mu 6 hourly, Gentamycin 80 mg and metronidazole 500mg 8 hourly. She was given pethidine 50 mg for 48 hours. She recovered well post operatively. Sutures were removed on the fourteenth postoperatively day and the wound had healed well except for a raw area in the perianal area. She continued on warm saline sit baths and antibiotics. The wound healed well and she was discharged on 27.7.02. She was to book radiotherapy clinic in two weeks.

Follow-up

She was lost to follow-up.

Discussion

This was a 71-year-old postmenopausal patient who presented with carcinoma of the vulva stage IV. Radical vulvectomy was done and she was referred for radiotherapy.

Carcinoma of the vulva is an uncommon malignancy accounting for 0.3% of all female cancers in the United States of America and 3 - 5% of all genital malignancies. In Kenya 3.3% of all genital malignancies are due to vulval carcinoma. It is the fourth commonest malignancy after cervical carcinoma, ovarian cancer and choriocarcinoma. An average of four cases are seen annually at KNH. Carcinoma of the vulva accounted for 3-5% of all female cancer deaths².

Vulvar carcinoma may arise from the skin, subcutaneous tissues, urethra, glandular elements of the vulva or the mucosa of the lower 1/3 of the vagina³. Histologically, 90% are squamous cell type, 3.5% are melanoma, 1% are basal cell type and 1% originate in the Bartholins gland. Sarcomas and adenocarcinomas contribute less than 1%. The patient presented had squamous cell carcinoma and it originated in the labia majora.

Etiology of vulvar carcinoma is unknown. It is predominantly a disease of older women with a median age of 65 years at diagnosis^{1,5,10}. Of the women with vulvar carcinoma 3/4 are aged over 60 years. At KNH 51-70% of the patients were 60 years and above and 90% were postmenopausal⁶. This patient was 71 years and postmenopausal.

Etiological factors include long-standing irritative agents (Chemical or infective) especially when combined with poor hygiene, chronic inflammatory diseases like venereal granulomas, long-standing vulval warts and chronic vulval dystrophies especially when associated with epithelial overactivity⁷. Associated disorders found most frequently with vulvar carcinoma are obesity, hypertension and chronic vulvar irritation³. The patient presented did not have any of the above risk factors.

Vulvar carcinoma in-situ, like carcinoma in-situ of the cervix, is considered a precursor to invasive disease though the risk of progression is lower, occurring in about 3% of patients⁸. Vulvar carcinoma in-situ tends to be multifocal with a lower risk of invasive disease in younger women but tends to be unifocal with higher risk of invasive disease in older women⁹. For this reason all patients with Vulvar carcinoma in-situ should be treated and long-term follow-up is mandatory.

Patients with carcinoma of the cervix are at increased risk of developing vulvar carcinoma and vice versa. This patient had no previous history of a vulvar lesion.

Majority of squamous cell carcinomas (70%) develop in the labia most commonly the labia majora. 11-12% of cases develop on the clitoris. In about 10% of cases the tumour is so large that the precise site of origin is uncertain⁵. Vulvar carcinomas are frequently ulcerated with raised margins and sloughing base but they can also be fungating papillomatous form or flat plaques^{4,5,7}. The patient presented had a large fungating mass that was covering the whole vulva.

The commonest presenting complaints include vulvar lump or ulcer, pruritis, discharge, bleeding and pain^{1,3,5,7}. The patient may be aware of a lesion on the vulva but delay in seeking medical help is common. There can also be delay by the physician by treating for other conditions without taking biopsy for histology¹⁰.

This patient had had a five-month history of a painful vulval swelling with associated vaginal discharge that was occasionally blood stained.

Spread of vulvar carcinoma can be by local extension to the vaginal, urethra, groin and anus. Lymphatic spread, which is the commonest route of spread, occurs to the inguinal, femoral and pelvic lymph nodes. Haematogenous spread is rare and occurs late to the lungs, liver and bones^{1,4,5,7}. About 30% of patients have inguinal nodal metastases at the time of initial diagnosis and 10-20% have pelvic node metastases⁵. In this patient the inguinal lymph nodes were involved at admission.

Staging is done using the modified International Federation of Gynaecologists and Obstetricians (FIGO) staging, which is based on prognostic variables and also takes into account the depth of invasion in early stage disease ¹¹.

- Stage I: Lesions 2 cm or less confined to the vulva or perineum or both. No lymph node metastases.
- 1A : Stromal invasion less than 1mm
- 1B : Stromal invasion greater than 1 mm.
- Stage II: Tumour confined to the vulva or perineum or both - more than 2 cm dimension. No lymph node metastases.
- Stage III: Tumour of any size with one or both of the following:
- a) Adjacent spread to the lower urethra and/or vagina and/or anus.
 - b) And/or bilateral lymph node metastases.
- Stage IVA Tumour invades any of the following:
Upper urethra, bladder mucosa, rectal mucosa, or pelvic bone and/or bilateral lymph node metastases.
- Stage IV B Any distant metastases

This patient had stage IVA disease.

Diagnosis of vulvar carcinoma depends on biopsy and histologic examination of the tumour. Small tumours or naevi are done excisional biopsy. Colposcopy may be used to identify abnormal areas (after application of 3% acetic acid or 1% toluidine blue) and biopsy of these areas done ⁴.

In our patient biopsy was done and histology confirmed squamous cell carcinoma.

The primary treatment for cancer of the vulva is surgical excision. Radical vulvectomy and bilateral inguinal lymphadenectomy involves a wide excision of the entire vulva and mons pubis as well as block dissection and removal of the inguinal and femoral nodes on both sides. This is essential even though the lesion is unilateral because the lymphatics of the vulva communicate freely from one side to the other⁷. Limited surgery such as simple vulvectomy leads to poor results⁴. The patient presented was done radical vulvectomy with bilateral lymphadenectomy.

Radical vulvectomy leaves a large surgical defect that is associated with marked disfigurement of the genital area. Other complications include increased risk of venous thromboembolism, chronic leg oedema (lymphedema), high rate of wound complications, psychosexual effects, urinary and stool incontinence, and pelvic relaxation, which can lead to rectocele and cystocele¹. In this patient the wound took long to heal but she did not get any of the above complications.

Use of radiotherapy for carcinoma of the vulva remains controversial but may be the only option when the patient presents with unresectable disease. Morbidity is high and is related to radionecrosis of the tissues^{1,4}. Studies have been done, which confirm that radiotherapy can be used to cause tumour regression to a point where a more limited resection can be undertaken with sparing of organ function and improved quality of life¹².

The status of groin lymph nodes is clearly the most important prognostic factor for patients with invasive squamous cell carcinoma of the vulva¹. Homesley and colleagues in a study found that 65.5% of the patients had negative groin lymph node involvement and of these the five-year survival was 90.9%. They found that

34.5% had positive lymph node involvement and of these five/year survival was 57.7%¹³.

Other prognostic factors include tumour diameter, tumour thickness, tumour differentiation, and presence of vascular invasion and pattern of tumour growth. Low risk cases are stage I patients and stage II patients with tumour thickness upto 5mm. High/risk patients are stage II patients with tumour thickness greater than 5mm and stages III and IV⁵. Our patient was in the high-risk group because she had stage IV disease.

Of the patients with squamous cell carcinoma of the vulva, 15-40% develop recurrence after treatment^{1,3}. The incidence of recurrence depends on original stage of the disease, depth of invasion and regional lymph node status. It is managed by resection and radiotherapy¹.

Careful followup of patients should extend over the remaining years of the patients life in order to detect recurrence early and treating it aggressively. All patients should be examined every three months for two years and every six months thereafter¹.

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GYNAE CASE 6

CHORIOCARCINOMA: FOLLOWING ECTOPIC PREGNANCY:

NAME:	M.W.	PARITY:	1 + 1
AGE:	25 YRS.	LMP:	24.4.01
DOA:	1.8.01	AMENORRHEA:	20wks
IPNO:	0876180	DOD:	20.9.2001

Presenting Complaints

She was admitted to the acute gynaecological ward from casualty with a one-week history of low abdominal pains, foul smelling per vaginal discharge, per vaginal bleeding on and off, headaches and dizziness.

History and Presenting Complaint

She had been well till 3 months prior to admission when she presented with low abdominal pains, per vagina bleeding, headaches, and dizziness. She was also noted to have amenorrhoea for 20 weeks. Was found to be very sick and very pale. Paracentesis was positive and was taken for laboratory. Intra-operatively was found to have ruptured ectopic pregnancy bilateral ovarian cysts was also found. Salpingectomy and bilateral ovarian cystectomy was done. Histology showed internal ovarian cysts. She recovered and was discharged home. After a month the patient was then readmitted this time with lower abdominal pains, headaches, dizziness and per-vaginal bleeding for one day.

Past Medical History

Not contributory.

Obstetric and Gynaecological History

She was para 1 + 1. Her first delivery was spontaneous vertex at term in 1996 in Tanzania. There were no more details on this delivery available. Her last menses was on 24.4.01 and therefore period of amenorrhoea was 20 weeks. Menarche was at 15 years. Menses lasted 3 to 4 days and cycles were 28 days and regular. No history of any family planning.

Family and Social History

Married housewife. Lives in Eastleigh with husband. No family history of chronic illness. She did not drink alcohol or smoke cigarettes.

Examination

Generally, was found to be a young lady. Very pale. Blood pressure $100/60$ mmhg, pulse rate was 96/minute regular, respiratory rate 22/minute and temperature was 37.0°C .

Respiratory system – bilateral crepitations.

Cardiovascular and central nervous systems were essentially normal.

Abdominal Examination

The abdomen was distended on the lower half. There was a healed sub umbilical mid line scar. There was moderate suprapubic tenderness with uterus enlarged to 20 weeks gestation. No foetal movements were perceived.

Pelvic Examination

The external genitalia was normal. The cervix was soft, long posterior and the os was closed. Cervical excitation was negative. Both adnexa and pouch of Douglas were free. There was foul smelling blood on examining finger.

Diagnosis

A diagnosis of threatened abortion was made. Gestational trophoblastic disease was to be ruled out.

Management

She was started on phenobarbitone 30 g tds Amoxil 500mg tds. She was advised bed-rest. She was booked for ultrasound, blood and urine was taken for investigations. Pregnancy diagnostic test was positive.

Results of Investigations

BhCG levels – 1,500iv/l

Pelvic U/S – uterus markedly enlarged with poorly defined mass. There was fluid collection in endometrial cavity. There was a large complex mass around the uterus 10.9 x 19.2 cm.

CXR – Cannon-ball metastasis.

Haemogram – Hb 6.3 g/dl

RBC – $6.9 \times 10^9/l$

WB – $9 \times 10^9/l$

PLT – $214 \times 10^9/l$

Urea and electrolytes: Na⁺ - 141 mmol/l
K⁺ - 3 mol/l
Urea - 3.8mmol/l
BUN - 90 mmol/l

Liver function tests were within normal. WHO prognostic staging was done and scored 4 corresponding to low risk.

Treatment

Decision to transfuse her was reached in order to start her on monotherapy. She was given three units of blood but she bled profusely.

Management

She was started on actinomycin D 0.5 g on for 5 days; meanwhile she was transfused 3 units of blood. She was started on first course of methotrexate and discharged.

On readmission the results of blood investigations were acceptable and β hCG level was 654.8 IU/l. She was given the second course, which she also tolerated well. When she was given the third course, she reacted to the Methotrexate. She had bloody diarrhea and jaundice. She was managed with intravenous fluids, antacids and antibiotics and improved. Later Methotrexate was substituted with Actinomycin D 0.5mg daily for five days, which she continued with until the sixth course when a third negative β hCG level was obtained (31U/l).

βHCG levels during treatment (normal range 0-10)

Date	βhCG (IU/L)	Course given
17.10.2001	4260.0	Pre-treatment
8.11.2001	654.8	1 st Course
1.12.2001	35.7	2 nd Course
5.1.2002	8.6	3 rd Course
24.2.2002	6.0	4 th Course
7.3.2. 2002		5 th Course

The patient was discharged home after the sixth course of chemotherapy. She was to be seen in GOPC in two weeks time with results of βhCG and chest X-ray. She was advised on family planning with oral contraceptives during follow-up.

Follow-up

At the time of writing this report she was still being followed up in the clinic and was doing well.

DISCUSSION

The patient presented was 22-year-old para 1+0 who developed choriocarcinoma following a molar pregnancy. She was started on single agent chemotherapy with Methotrexate and later Actinomycin D and went into remission after six courses.

Gestational trophoblastic neoplasms include the tumour spectrum of hydatidiform mole, invasive mole and choriocarcinoma. They arise from fetal tissue within the maternal host and are composed of both syncytiotrophoblastic and cytotrophoblastic cells. They have properties of the placenta including invasion

and liberation of human chorionic gonadotrophin (hCG)¹. H. mole represents the benign end of the spectrum while choriocarcinoma is at the other extreme end².

Choriocarcinoma is rare and is reported in 2-5% of all cases of gestational trophoblastic neoplasm¹. The incidence in the United States is 1 in 40000 pregnancies but is higher in the Orient¹. The incidence in the Far East and Central Africa is reported as 1 in 5000-6000 pregnancies³. At KNH Fongoh reported an incidence of 1118 pregnancies⁴. In about 50% cases, Choriocarcinoma follows a molar pregnancy. 25% follow a term pregnancy while the rest follow other forms of pregnancy (ectopic pregnancy or abortion)^{1,3,5}. The patient presented had choriocarcinoma following an ectopic pregnancy.

The primary growth is usually in the uterine wall but may be in the cervix or vagina, or in the tube or broad ligament following ectopic pregnancy. The tumour is soft, necrotic, haemorrhagic, dark red or purple in colour and rugged or friable³. Histologically, choriocarcinoma is characterised by sheets of anaplastic syncytiotrophoblast and cytotrophoblast without chorionic villi^{1,5}. The tumour is unusual in that it does not stimulate any stromal reaction and is therefore essentially a mixture of haemorrhage and necrosis with tumour cells scattered within the mass¹. In choriocarcinoma the predisposition of normal trophoblast to invasive growth and erosion of blood vessels is greatly exaggerated⁵.

The leading symptom is irregular uterine bleeding coming sooner or later after expulsion of a mole or a normal pregnancy^{3,5,6}. As the condition advances an offensive vaginal discharge develops and cachexia with pyrexia supervene³. In many cases the first indication may be a metastatic lesion. Gestational trophoblastic disease has a non-gynaecological presentation in more than 1/3 of

cases⁷. There can be vaginal or vulval tumors, cough and blood sputum from pulmonary metastases, or headache and visual disturbance from brain metastases^{3,5}. This patient presented with vaginal bleeding¹ month after ectopic pregnancy.

Metastases often develop early and are generally blood borne because of the affinity of trophoblast for blood vessels. The most common sites of metastases are lungs (75%) and vagina (50%). The vulva, kidneys, liver, ovaries, brain and bowel are also common sites of metastases^{5,6}. Cerebral metastases are usually a poor prognostic sign for the patient.

The patient presented did not have evidence of metastases outside the uterus.

Diagnosis relies on history. Any case of unusual bleeding after a term pregnancy or abortion should be investigated by curettage and measurement of chorionic gonadotrophin level (hCG). Persistent or rising gonadotrophin level in the absence of pregnancy is indicative of trophoblastic tumour. Ultrasound is done to evaluate the degree of uterine involvement. Chest X-ray detects lung metastases (Common ball appearance). CT scan should be done to evaluate the brain, lung, liver and pelvis⁵. Several other investigations are done after diagnosis is made and before starting treatment. These include blood group and rhesus, full haemogram, liver function tests, blood urea and electrolytes, and baseline β hCG.

In this patient ultrasound showed echogenic and cystic changes in the uterus, β hCG level was 4260IU/L, chest X-ray was normal, blood group was B positive and haemogram, Urea and electrolytes and liver function tests were normal.

Staging of choriocarcinoma is according to site and risk factors⁹. The risk factors affecting staging are:

- hCG level > 1000000 miu/ml

- Duration of disease > 6 months from termination of pregnancy

Stage I		SCORE			
		0	1	2	3
1A	Disease confined to the uterus no risk factors	0	1	2	3
1B	1 risk factor	1	2	3	4
1C	2 risk factors	2	3	4	5
Stage II		Tumour extends outside the uterus but limited to the genital structure (andnexia, vagina, broad ligament).			
IIA	No risk factors	<10 ⁷	10 ⁷ -10 ⁸	10 ⁸ -10 ⁹	>10 ⁹
IIB	1 risk factor	<10 ⁷	10 ⁷ -10 ⁸	10 ⁸ -10 ⁹	>10 ⁹
IIC	2 risk factors	<10 ⁷	10 ⁷ -10 ⁸	10 ⁸ -10 ⁹	>10 ⁹
Stage III		Tumour extends to the lungs with or without genital involvement			
IIIA	No risk factors	<3	3-5	>5	>5
IIIB	1 risk factor	<3	3-5	>5	>5
IIIC	2 risk factors	<3	3-5	>5	>5
Stage IV		All other metastatic sites			
IVA	No risk factors	1-3	4-8	>8	>8
IVB	1 risk factor	1-3	4-8	>8	>8
IVC	2 risk factors	1-3	4-8	>8	>8

The patient presented had stage 1A disease because hCG level was 4260 IU/L, she presented with vaginal bleeding 1 month after molar abortion, ultrasound showed disease confined to the uterus and chest X-ray was normal.

In addition to anatomic staging, it is important to consider other variables to predict the likelihood of drug resistance and to assist in selecting appropriate chemotherapy. The scoring system is based on prognostic factors. It has been proposed by the World Health Organization (WHO)¹⁰.

SCORING SYSTEM

FACTOR	SCORE			
	0	1	2	4
1. Age (years)	≤ 39	>39		
2. Antecedent pregnancy	HM	Abortion	Term	-
3. Interval from antecedent pregnancy to start of chemotherapy (months)	< 4	4 - 6	7 - 12	> 12
4. β hCG level (IU/L)	< 10 ³	10 ³ - 10 ⁴	10 ⁴ - 10 ⁵	> 10 ⁵
5. ABO blood group		0 or A	B or AB	
6. Largest tumour including uterine (cm).	< 3	3-5	> 5	
7. Sites of metastases		Spleen, Kidney	GIT, Liver	Brain
8. Number of metastases.	1 - 3	4 - 8	> 8	
9. Prior chemotherapy (drugs)			1	≥ 2

A total score ≤ 4 = low risk

5 - 7 = middle risk

≥ 8 = high risk

The patient presented had uterine size 8.6 cm and was blood group B positive. She therefore had a score of 4, which fell in the low risk group.

Treatment depends on stage, level of βhCG, duration of the disease, the specific sites of metastases and the extent of prior treatment 11. Of utmost importance in treating these patients is institution of therapy as quickly as possible and

continuing therapy at very close intervals until normal β hCG titres are obtained. The interval between courses should rarely exceed 7-10 days depending on the treatment regime and toxicity. Patients should receive 1 - 3 courses of chemotherapy after the first normal β hCG depending on extent of disease 3,10.

In the patient presented β hCG level was normal after the 3rd course of treatment and she continued upto the 6th course.

Low risk gestational trophoblastic disease is treated using single agent chemotherapy with Methotrexate or Actinomycin D and results are good ^{1,3,5,12}. Addition of Folinic acid limits the toxicity of Methotrexate. High-risk patients are treated with combination chemotherapy consisting of Methotrexate, Actinomycin D and cyclophosphamide. Combination chemotherapy is also used if there is resistance to single agent therapy ^{1,3}. This patient was treated with single agent therapy with good results.

The EMA - CO regime consisting of Etoposide, Methotrexate, Actinomycin D, cyclophosphamide and Vincristine is the preferred primary treatment of patients with metastases and a high prognostic score (>8) as well as MAC treatment failure 12. If the patient does not desire fertility, hysterectomy with adjuvant chemotherapy may be performed as primary treatment. The patient presented desired future fertility so hysterectomy was not performed.

Cerebral metastases usually spell a grave prognosis for the patient ^{13,14}. When chemotherapy for primary disease is started these tumours undergo haemorrhage and necrosis, and this probably contributes significantly to mortality during treatment ¹³. Better results are got with total brain irradiation with 3000-4000 rads at a rate of 200 rads/day for 5 days over a period of 2 weeks combined with chemotherapy ^{1,13}. The patient presented had no metastases.

After completion of chemotherapy, patients are followed up by serial β hCG estimations. The patient must use an effective contraceptive (combined pill is preferred) to avoid pregnancy for at least 12 months¹. This period allows for full metabolism and excretion of the chemotherapeutic agents, mature ova affected by chemotherapy to be eliminated as well as monitoring for relapse. Pregnancy is achieved once contraception is stopped in most patients. There is no increase in risk of abortion or congenital malformations^{1,5,15}. Recurrent H. Mole develops in 1:50 - 1: 1150 pregnancies and women with previous gestational trophoblastic disease (GTD) are at 10-20x increased risk of GTD than women who have never had GTD¹⁵. Occasionally GTD can occur or recur after a subsequent normal pregnancy².

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GYNAE CASE 7

PELVIC ABSCESS COMPLICATING TERM DELIVERY, LAPAROTOMY AND DRAINAGE

NAME: MW IP NO.: 0830761

AGE: 20 YRS D.O.A. 27.8.02

PARITY: 1 + 0 D.O.D. 8.9.02

Presenting complaints

She was admitted to the acute gynaecological ward with 10 days history of lower abdominal pains and abdominal distension.

History of presenting complaint

The patient went in spontaneous delivery at home at term. LMP 15.11.01 gestation outcome was macerated stillbirth. She stayed at home and never sought medical help. Ten days prior to admission, she developed insidious onset of lower abdominal pain, which was progressive. It was accompanied by foul vaginal discharge and abdominal distension. She had hotness of the body. She then sought medical help at Kenyatta National Hospital.

Obstetric and Gynaecology History

She was para 1 + 0 she had a spontaneous vertex delivery 10 days prior to admission. She had her menarche at age 15 years. Her menstrual periods were regular occurring every 28 days costing 3 to 4 days of bleeding. She had used oral contraceptives prior to conception.

Past Medical History

There was none of significance.

Family and Social History

She was a single woman living at Huruma estate. She was a saleslady at a shop. She did not drink alcohol or smoke cigarettes. She was the second born in a family of three siblings. There was no family history of chronic illness.

Physical examination

She was sick looking with moderate pallor and fever.

Her vital signs were BP - 90/60 mmHg, pulse rate was 100/minute, respiratory rate was 22/minute, temperature was 39°C. The respiratory system, cardiovascular system, central nervous system = all essentially normal.

Abdominal Examination

The lower abdomen was generally distended and very tender. There was rebound tenderness.

Pelvic examination

She had normal external genitalia. The cervix was soft and OS was closed. Cervical excitation was very positive. It was not possible to palpate the uterus due to tenderness. Both Adnexae and pouch of Douglas were distended and were very tender. She had very foul smelling and purulent vaginal discharge.

Diagnosis

A working diagnosis of pelvic abscess following septic retained product often at term delivery was made.

Treatment plan

The patient was scheduled for emergency laparotomy and blood transfusion. Meanwhile she was started on intravenous metronidazole 500mg 8 hourly, 6mg gentamycin 80mg 8 hourly and crystapen 4 million units 6 hourly.

She had been sent for pelvic ultrasound at casualty before admission. Blood samples were taken for full haemogram, urea, electrolytes and adrenaline, grouping and cross matching and three units of blood were requested.

Investigations

Ultrasound - uterus is well-involuted measuring 11 cm. The uterine cavity was normal. There was echogenic fluid is seen in the pelvis and pouch of Douglas. No evidence of retained products.

Conclusion: Features of Pelvic abscess.

Haemogram: Hb 5.5 g/dl UBC $24410^9/L$

Neutrophils 80% lymphocytes = 20%

Platelets count was adequate.

Malaria parasite was adequate

Urea and electrolyte

BUN = 2.4 mol/L Na⁺ 145 mmol/L

K⁺ 3.8 mmol/L Creatinine 85 mmol/L

Blood Group = B +ve

Laparotomy and Drainage of Abscess

The patient was explained about her condition and she gave an informed consent for both laparotomy and general anesthesia. She was pre-medicated with 0.6mg atropine half hour before theatre.

In theatre, she was put under general anaesthesia and in semi-lithotomy position, vulva-vaginal toilet was done. Her bladder was catheterised and the urethra catheter left in situ. She was repositioned supine and abdomen was cleaned with salvon solution and painted with iodine. The abdomen was then opened through a sub-umbilical midlines incision. The peritoneum was found thickened and there was a large pelvic abscess, which was well encapsulated. It occupied the pelvis including the pouch of Douglas. The omentum and intestines were matted over the abscess and capsule. The pelvic viscera could not be delineated.

Through blunt dissection with fingers, a hole was created through the abscess capsule. About 800ml of foul smelling pus was sucked out. The hole was then extended and all the loculations broken down. A pus swab was taken for culture and sensitivity. The peritoneal cavity was then lavaged with warm saline solution in to which rifocin had been added. A corrugated drain was left in situ and the abdomen closed after instruments and swabs were counted and reported correct. The patient was successfully reversed from general anesthesia.

Post Operative Care

In recovery ward her vital signs were observed every half an hour until she fully awake. She was then transferred to acute gynecology ward. In the ward, 4 hourly observations were continued. She received intravenous fluid 5/10% dextrose

alternated with saline 500mg 4 hours. The antibiotics were continued and her analgesia. She got pethidine 50mg 4hourly for 24 hours.

On the second post-operative day, the drain was noted to be inactive and was removed. She was also started on oral sip and by the fourth day she started taking light diet. A check hemoglobin concentration done on the fourth day was 10.5g/dl. The pus swab result was also back and showed heavy growth of E. coli and Klebsiella, which were both, sensitive to chloramphenicol. Her drugs were changed to intravenous chloramphenicol 500mg 6hourly and metronidazole 500mg 8 hourly. She also put on hematinics as well.

On the seventh post-operative day, stitches were removed. The wound had healed well except slight oozing of serous fluids from the drain site. This was cleaned and dressed daily for three days after which the patient was discharged home on hematinics. She was to be seen in gynecology clinic in six weeks.

Follow-up

She was seen in the clinic as per appointment. She did not have any complaint and had menstruated two weeks prior the day of the appointment. She was not pale and there was no fever. The wound had healed well and abdomen did not have tenderness or any other masses. On pelvic examination, the cervix was firm and the Os was closed and cervical excitation was negative. The uterus was normal in size and was not tender. Both adnaxae were empty. She did not have any vaginal discharge.

Contraception was discussed. She agreed to use combined oral contraceptive pills. She was then referred to clinic 66 to collect the pill and for further follow up.

DISCUSSION

Presented was 30 years old para 1+1 who had pelvic abscess following a term delivery and laparotomy and drainage was done with good results.

Pelvic abscess is said to exist when pus collects in the pelvic cavity. It can complicate chronic or recurrent pelvic inflammation. It also may occur as sequel to puerperal or post-abortal infection (Ramin et al, 1994). In the patient presented, she developed pelvic infection leading to pelvic abscess after term delivery. At KNH pelvic abscess complicated 2% of all induced abortions in 1982 (Aggarwal and Mati, 1982).

Although chlamydia and N. gonorrhoea are present in the cervix about 40% of the time, they are rarely recovered from pelvic abscess. Abscess formation is frequently associated with enteric and anaerobic bacteria especially the bacteriodes (Ramin et al 1994). In the patient presented E. coli and Klebsiella were isolated. They were sensitive to chloramphenicol.

Any of the symptoms of acute or chronic inflammation may best be present together with a fluctuant mass filling the pouch of Douglas and/or both adnexae. The severity of the symptoms is often directly proportionate to the size of the abscess. However, sometimes even a large pelvic abscess may be totally asymptomatic. A pelvic abscess should be suspected in patients who continue to run a fever after abortion or delivery of the baby or following treatment for acute pelvic inflammatory. These patients when treated for acute pelvic which does not resolve and they continue to have tenderness ultrasound will often reveal collection of pus in the pouch of Douglas. In the patient presented, paracentesis was also

positive for foul smelling pus. Culdocentesis could give better results when the abscess is small and limited to the pouch of Douglas.

The management of choice in our set up is laparotomy and incision and drainage of the abscess. A lower midline incision is used that allow exploration of all abdominal/pelvic structures for the presence of small abscess pockets. Copious irrigation of the peritoneal cavity with saline should be done and a drain left.

(Ramin et al, 1994). This is the treatment given to our patient. Another treatment option is colpotomy and drainage (McGrahanna and Camara, 1996, Walker and Landers, 1991). This is hardly done at KNH. Broad-spectrum antibiotics to include both anaerobic organisms should be given. Appropriate antibiotics are used once the microorganism has been identified. The long-term sequel of pelvic abscess and pelvic inflammation in general include chronic pelvic pain, tubal infertility and ectopic pregnancy. Our patient was not followed long enough to ascertain whether she developed any these complications.

Abortion is the most frequent outcome of human conceptions, thus management of abortion and its complications is an important responsibility for clinicians. Legally induced abortion has become one of the most frequently performed and one of the safest operations in USA. Fewer than 1 per 100 of those having an abortion suffer a major complication and fewer than 1 per 100,000 die from causes associated with the procedure (Grimes, 1997). As opposed to this scenario, in Africa, an estimated 34,000 deaths occur due to unsafe abortions with a case fatality of 0.7 per 100 unsafe abortions (WHO, 1998). There is need to address the question of the place of legal abortion and therefore safe abortion in Kenya.

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GYNAE CASE 8

BARTHOLINS ABSCESS MASUPIALIZATION

NAME:	S.N.	IP NO.	0830776
AGE:	24 YRS	D.O.A.	2.9.2002
PARITY:	0 + 0	D.O.D.	4.9.2002

PRESENTING COMPLAINT

She was admitted through casualty with history of swelling on vagina for three days.

HISTORY OF PRESENTING COMPLAINT

She was well till two days before admission when she noticed a swelling on the right side of the vaginal opening. The swelling rapidly increased inside and was quite painful which made walking difficult. There was no discharge from the swelling. She had several sexual partners. She had taken antibiotics without improvement.

OBSTETRICS AND GYNAECOLOGY

She was a para 0 + 0. Her menarche was at the age of 16 years. Her menses was regular with bleeding for few days and interval of 28 days. She was not on a family planning method.

PAST MEDICAL HISTORY

Not contributory

FAMILY AND SOCIAL HISTORY

She was a housewife married to a businessman. She was taking alcohol and narcotic drugs. She lived in the Town Centre.

EXAMINATION

She was a young lady in good general condition. She was not pale and was afebrile. BP was 120/90 mmHg, pulse 85/minute, and respiratory 18/minute and temperature was 36.6°C.

Systems

Respiratory system, central nervous system, cardiovascular system and musculoskeletal was essentially normal.

Abdominal Examination

Abdomen was not distended. There were no palpable masses or areas of tenderness.

Pelvic Examination

There was a swelling on the right labia majora. It was reddish (erythema), warm and tender. It was fluctuant. There was pus from the opening of the left Bartholins gland duct. The vaginal walls and cervix were healthy.

Diagnosis

A working diagnosis of acute right Bartholins abscess was made.

Treatment Plan

She was planned for marsupialization. She was counselled about the operation and she gave an informed consent. Half an hour before being taken to theatre, she was pre-medicated with atropine sulphate 0.6mg pethidine 50mg both intramuscularly.

Marsupialization.

In theatre, general anaesthesia was induced and maintained. She was placed in lithotomy position. Vulva vaginal toilet was done and the bladder catheterised aseptically. Examination under anaesthesia confirmed the earlier findings. The Bartholins abscess was drained by making a wedge-shaped vertical incision on the vaginal mucosa over the center of the cyst outside the hymenal ring. The edges of the incision were sutured inside out using catgut number 2-0. The cavity was flushed with hydrogen peroxide and pecked with gauze soaked in iodine. Pus was taken for culture and sensitivity. GA was reversed and was uneventful.

Postoperative Care

The blood pressure, pulse, temperature and respiratory rates were observed half hourly till she was fully awake and then 4 hourly. She was put on oral Augmentin and indocid. The pack in the operation site was removed in 24 hours. She was discharged home on the third day post operation with antibiotics and sitz baths. She was given an appointment for review in the gynaecology clinic in two weeks. The pus swab did not grow any organisms.

Follow up

She never came back for follow up.

DISCUSSION

A 24 years old para 0+ 0 with acute on chronic Bartholin abscess is presented.

Marsupialization was done with good results.

Bartholin's glands are a pair of small compound structures that are about 0.5-1 cm in diameter with a duct 1.5 to 2 cm long. These glands are situated beneath the vestibule on each side of the vaginal opening. Their ducts open on the sides of the vestibule just outside the lateral margin of the vaginal orifice. These glands are important for sexual function. They produce some mucoid material at time of sexual arousal. These glands may harbour Neisseria gonorrhoea or other bacteria, which may cause suppuration and Bartholin's gland abscess (Hook and Handsfield, 1990).

Bartholin's abscess other than just causing pain and discomfort, if it occurs in pregnancy, it could be the starting point of puerperal infection. Bartholin's abscess should therefore be drained in pregnancy. Our patient was not pregnant. She however had significant pain and walking was a problem. Use of antibiotics without surgery at times solves the problem. The abscess can subside resulting in a Bartholin cyst. Our patient had recurrent swelling in the genital region. She was always getting relieve after antibiotic treatment suggesting that this episode was acute Bartholins abscess on a pre-existing Bartholins cyst.

Definitive treatment of Bartholins cyst is surgical excision. It is rarely necessary to excise Bartholin's gland (Horowitz et al, 1997). This removes the sac and avoids future recurrences. Alternative to excision is Marsupialization, which is easier to perform and preserves the secretory functions of the gland for lubrication. Our patient underwent marsupialization with good results. According to Horowitz et al. 1997, packs as was done in our patient and drains are not necessary. Sitzs baths from the third or fourth postoperative day are recommended. After Marsupialization, 10 to 15% of the cysts recur (Horowitz et al, 1997). Another conservative method is insertion of a catheter. The procedure involves making a small incision (2cm) in the area of the normal duct orifice. The catheter is inserted and the bulb is inflated with 2 to 3 ml of saline solution. Catheter is retained for 3 to 4 weeks to allow epitheliazation of the tract after which it can be removed (Horowitz et al, 1997). According to Horowitz et. al. 1997, the catheter treatment accomplishes the same result as surgery with minimal or no trauma. The nipple of the catheter can be inserted into the vagina. There is essentially no discomfort with the procedure and coitus can be resumed normally. The treatment mode is not popular in our hospital. Because this procedure can be performed under local anaesthesia in the office setting and yield results comparable to those of marsupialization, its use should be encouraged.

Rarely are labial swellings of sufficient size to cause difficult delivery (Cunningham et al, 1993). Therefore, asymptomatic Bartholin cyst treatment can be postponed in pregnancy until after delivery. Aspiration of the cyst can be done as a temporary measure.

Other complications of Bartholin gland include Bartholin gland carcinoma. Primary carcinoma of the Bartholin gland accounts for about 5% of vulva malignancies. It is important to recognize the fact that Bartholin gland can be the origin of a tumour. In 10% of the patients with Bartholin gland carcinoma have a history of preceding inflammation. Malignancies may be mistaken for benign cysts or abscesses (Hacker, 1998).

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GYNAE CASE 9

MULLERIAN DYSGENESIS

NAME: I.N. IP NO. 0804339
AGE: 23 YRS D.O.A. 6.9.2002
PARITY: 0 + 0 D.O.D. 6.9.2002

PRESENTING COMPLAINT

She was referred from Meru District Hospital with inability to conceive for 6 years.

HISTORY OF PRESENTING COMPLAINT

She had never had menses from adolescence. She sought medical treatment and she was reassured that menses would come. She got married at an early age of 23 years. She was deeply concerned when after 6 years of marriage she could not conceive. She then came to Kenyatta National Hospital where she sought medical treatment. Her breast development started at 13 years and they were normal according to her. Her menarche started when she was 12 years. There was no history of sexually transmitted diseases.

PAST MEDICAL HISTORY

No previous history of mumps infection, surgery or long-term use of drugs.

FAMILY AND SOCIAL HISTORY

She was a married housewife. She does not drink alcohol or smoke. No chronic illness in the family.

EXAMINATION

She was in good general condition. She was not pale and was afebrile. Her height was 5.4". The anal orifice was normal. The rectum was empty and a small uterus was felt. Vaginal examination was normal.

DIAGNOSIS

A working diagnosis of mullerian dysgenesis was made.

TREATMENT PLAN

She was planned for hormonal profile, pelvic ultrasound and laparoscopy planned

Patient was put under sedation; she was placed in Trendleburg's position. VVT was done. On digital examination, no cervix felt. Uterus was not palpable. An intra-umbilical elliptical incision was made. Gas was instilled via the trocher. Laparoscopic examination revealed a clean pelvis fallopian tube and ovary were visualized. There was a small right ovary. Phenotypically she was a normal woman.

HAIR

She had relatively well developed secondary sexual characteristic hair at the pubis and axilla.

BREASTS

Both were developed to lower stage 4. Both were normal. There was no nipple discharge.

Other systems - essentially normal.

DISCUSSION

Mayer first described pure mullerian agenesis now known as Mayer-Rokitansky-Kauster-Hauser Syndrome in 1829. Rokitansky did further work in 1838 and Kauster also published about it in 1910. The original description was uterus bipartus – solidus rudimentus cum vaginal solida (Beecham et al, 1997). Incidence has been reported as 1 in 4000 of female admissions to Mayo clinic (Rock, 1997).

The etiology of this abnormality is not known but several theories have been advanced. In 1977 the theory of deficient or unresponsiveness of target tissues, through hormones receptors was entertained to try and explain the genesis. In 1985 another worker gave the possibility of late mesoderm defects to be a cause as found in genetic composition of 45X 0, 46XX and mosaicism of 45 X0/45X, 47XXX. However most cases have a normal female karyotype (46XX).

Karyotyping was not done in our patient. A case of mullerian dysgenesis with maternal relatives affected by the condition has been reported (Padder et al, 1982). In this case, there were three sisters of the grandmother with mullerian agenesis. This suggested an X-linked dominant inheritance with incomplete penetrance. No such history was obtained from our patient. The occurrence of complete vaginal agenesis in sisters with a 46, XX Karyotype suggests autosomal mode of inheritance (Rock, 1997)

Mullerian structures (vagina, cervix, uterus and fallopian tubes) develop from the mullerian ducts and the sinovaginal bulbs from the urogenital part of the cloaca. Three types of embryological defects can develop. These include defective canalisation of the vagina resulting in a transverse septum or in the most extensive form, absence of the vagina, unilateral maturation of the mullerian ducts with incomplete or absent development of the opposite duct resulting in defects

associated upper urinary tract abnormalities and absent or faulty midline fusion of mullerian ducts. This is the most common abnormality. Complete lack of fusion results in two entirely separate uteri, cervixes and vaginas. Incomplete resorption of the tubes between the two-fused mullerian ducts results in a uterine septum.

Various classifications have been suggested. The classification suggested by Bbuttram and Gibbons (1979) and American Fertility Society (1988) based upon the failure of normal development, separates a diversity of anomalies in to groups with similar clinical characteristics, prognosis for pregnancy and treatment. The following is the classification as suggested by American Fertility Society 1988.

American fertility classification of mullerian anomalies 1988

- Class I. Segmental mullerian agenesis or hypoplasia
 - a. Vaginal
 - b. Cervical
 - c. Fundal
 - d. Tubal
 - e. combined anomalies
- Class II. Unicornuate uterus
 - A: Communicating
 - b. Noncommunicating
 - C: No cavity
 - d. No horn
- Class III. Uterine didelphys
- Class IV. Bicornuate uterus
 - A: Complete (division down to internal OS)
 - B: Partial
- Class V. Septate uterus
 - A: complete (septum to internal OS)
 - B: Partial
- Class VI. Arcuate
- Class VII. Diethylstilbestrol related

Women with mullerian agenesis characteristically have congenital absence of the uterus and vagina, normal ovarian function including ovulation, phenotypic female sex with normal development of breasts, body proportions and external genitalia, genetic female sex (46xx karyotype) and frequent association with other congenital anomalies (Rock, 1997). Diagnosis of mullerian dysgenesis is by clinical evaluation as well as diagnostic aids: laparoscopy, hysteroscopy, sonography and magnetic resonance imaging. These patients need urological evaluation because of the frequent association with urinary tract anomalies. Other associated abnormalities include skeletal defects like wedge vertebrae, fusion, rudimentary vertebral bodies, congenital heart disease, syndactyly, inguinal hernias etc. Our patient had class I c (segmental mullerian agenesis of the fundus of the uterus).

Mullerian agenesis: A proposed classification (an analysis of 144 cases)

Primary amenorrhea is the hallmark in the presentation of the complete syndrome. Some patients come due to failure of sexual intercourse while some present with symptoms due to associated abnormalities for example renal abnormalities. 40% have renal abnormality ranging from unilateral, ectopic horsehoe or pelvic kidney. 10% have skeletal anomalies (Paddler et al, 1982, Rock, 1997).

Management of mullerian agenesis is two fold. First is to tackle the psychological problem and secondly to create a functional vagina. Several operations can be done. These include MacIndoe operation (MacIndoe, 1950) of creating a cavity in the peritoneal cavity with the bladder and the urethra anteriorly. The William vulvo-plasty involves using the labia majora to create a coital pouch. The more successfully procedures are those of dilatation developed by Frank 1938. Our patient had a normal vagina. She did not need any of these operations. Counseling was initiated and was to be continued. Counseling on child adoption was given.

Case Report (01/2017)

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D.G.A. 19.2002

D.O.D. 19.2002

PRESENTATION

... history of ...

DETAILS OF THE PRESENTING COMPLAINT

... started ... Pain ... with ...

REVIEW OF SYSTEMS

... by spontaneous vertex delivery

... with bleeding of ...

RIGHT ECTOPIC PREGNANCY

NAME: M.H. IP NO. 0830784
AGE: 20 YRS D.O.A. 1.9.2002
PARITY: 1 + O D.O.D. 5.9.2002

PRESENTING COMPLAINT

She was admitted through casualty with a four days history of severe lower abdominal pain, dizziness, vomiting and vaginal bleeding.

HISTORY OF PRESENTING COMPLAINT

She was well till 4 days before admission when she started having lower abdominal pains. She went to Alice N. Home from where she was referred. Pain was initially colicky in nature and not associated with painful micturation or frequency. Pain progressively worsened and became continuous making walking straight difficult. She later developed scanty vaginal bleeding.

Obstetrics and Gynaecology History

She was para 1 + 0. Her last delivery was in 1997, by spontaneous vertex delivery. Child was alive and well.

Her LMP was 27.7.2002. Her menses were regular with bleeding of 3 days and coming after 28 days. No history of contraceptive use.

Past medical history

Not contributory

Family and Social History

She was a married housewife staying in Embakasi with her husband. She did not smoke nor take alcohol. There was no history of chronic illness in the family.

Examination

She was in fair general condition, pale and afebrile. She did not have jaundice, oral thrush or pedal oedema. Her BP was 90/60mmHg; pulse was 110/min and respiratory rate of 20/minute.

Systems

Respiratory system, central nervous system and cardiovascular system were essentially normal.

Abdominal examination

Abdomen was distended suprapubically. She had adopted a posture of flexed hip and knees. There was generalized suprapubic tenders and guarding. There was also rebound tenderness. Abdominal paracentesis was done. The right iliac fossa was swabbed with spirit and the patient turned to lie on her side. Using 10cc syringe, the 21 gauge needle was gently inserted into the cavity through the right iliac fossa. 10ml of non-clotting blood was aspirated.

Pelvic examination

External genitalia was normal and soiled with blood. On speculum examination, the vaginal walls were normal. Cervix was long with the os closed. There was

scanty brownish blood from the os. On digital examination, cervix was firm. Adnexae was quite tender. It was difficult to assess uterine size because of the tenderness.

Diagnosis

A working diagnosis of ruptured ectopic pregnancy was made.

Treatment plan

The patient was prepared for an emergency laparotomy. An intravenous drip of 5% dextrose was set up. Blood for grouping and cross matching was taken and 2 units ordered. Informed consent was obtained. The region was shaved and the patient was pre-medicated with intramuscular atropine sulphate 0.6mg 30 minutes before theatre.

Laparotomy and right partial salpingectomy

In theatre, general anaesthesia was induced and maintained. The patient was placed in semi-lithotomy position, vulva-vagina toilet was done, and aseptic catheterisation of the bladder was done. 50ml of clear urine was drained. Vaginal examination revealed that both adnexae and cul-de-sac were full and there was ill-defined mass in the right adnexae. The uterus was 14 week's gestation size. The patient was repositioned to supine position. The findings were: thickened bloodstained peritoneum, matted loops of bowel and omentum adherent and degenerating blood clots in the cul-de-sac and part of gestational sac was adherent to the uterine fundus, right tube and loops of bowel. The left tube and both ovaries were normal and the uterus was soft and bulky. There was a corpus luteum on the right ovary.

The gut and omentum adherent to the uterine fundus were separated out by blunt dissection. The same was done to the gestational sac. The right tube was then clamped on both sides of the rupture to achieve hemostasis and the blood clots evacuated. The partial resection of right tube was done. The peritoneum was then washed out with warm normal saline with rifocin. The abdomen was closed in layers and wound was dressed. Total blood loss together with hemoperitoneum (1000ml) was 1500ml. Anaesthesia was reversed and was uneventful. Patient was taken to the recovery room and later to the ward.

Post operative Care

Her vital signs were monitored half hourly till she was fully awake then 4hourly. She was given intra-muscular pethidine 50mg 4hourly for 24hours, then tablets of panadol 1gm thrice for 5days. She received intravenous fluids, 5% Dextrose 500ml alternating with normal saline 500ml 4hourly till bowel activity resumed and then oral sips of fluids were started.

She was given amoxil 500mg 6 hourly for 5 days. Gentamycin was given 80mg 8 hourly intravenously for 5 days. On the third post-operative day, check hemoglobin was done and it was 10.2g/dl. She made a good recovery and on the seventh post-operative day, all stitches were removed and she was discharged on tablets of ferrous sulphate 200mg three times daily and folic acid 5mg once daily for one month. She was given appointment to the gynaecology clinic in 6 weeks.

Follow Up

She never came back to the gynaecology clinic for follow up.

DISCUSSION

This was a patient who had a right ruptured ampullary ectopic pregnancy for which an emergency laparotomy and right partial salpingectomy was done.

An ectopic pregnancy is one in which the fertilized ovum becomes implanted in a site other than the normal uterine cavity. Tubal pregnancy is the commonest type of ectopic pregnancy.

The incidence of ectopic pregnancy varies from place to place, even in the same country. It seems to be related to the incidence of pelvic infections in any community (Tindall 1987, Weckstein, 1985, Cartwright, 1988). In US, the incidence per live birth varies from 1:64 – 1:222 (Weckstein, 1985), in Europe, it is 1:300 (Howie, 1987), in Vietnam it is 1:40 and in Jamaica it is 1:28 (Howie, 1987). In KNH, various workers have found the incidence at various times to be as follows: Gebbie (1974) found that 4 – 5 patients were admitted weekly, Mwathe, (1984) noted 2 – 5 cases every week and Sinei and Okumu, (1987) reported several cases every week. These same authors found the age peak incidence of ectopic pregnancy in KNH to be between 20 – 29 years. Our patient was 20 years old. Webala (1979) found about 40% of the subjects in this age group.

The factors causing these abnormal conditions may be divided into maternal and fetal conditions. Maternal factors may be mechanical or hormonal. The most common mechanical condition is previous salpingitis with scarring of the tube and thus impeding progress of the fertilized ovum. In order of frequency, salpingitis can result from infection with bacterial organisms (especially those sexually transmitted), following postabortal sepsis or tuberculosis, which is an important determinant (Atrash et al 1984, Dimarchi et al, 1987, Gabbie 1974, Howie 1987,

Kim et al, 1987, Mwathe, 1984). The infection damages the tubal endothelium and in some cases leads to partial occlusion of the lumen leading to poor migration of the fertilized ovum resulting in ectopic implantation. In KNH, Mwathe 1984 and Sinei and Okumu 1987 found that 46.6% and 42.1% respectively of the subjects had pelvic adhesions suggestive of previous pelvic infection. Use of antibiotics to treat pelvic inflammatory disease has also led to increase the incidence tubal pregnancy by leaving patent but damage tubes. Webala (1979) working in KNH noted histologic evidence of salpingitis in 69% of ectopic pregnancy patients. Other tubal factors include developmental errors such as hypoplasia, undue tortuosity, diverticula and accessory lumina. Tubal ligation especially laparoscopic ones and tuboplasty may also lead to ectopic pregnancy. Transmigration of the ovum has been implicated as one of the etiological factors of ectopic pregnancy. It had been reported in 11-16% of ectopic pregnancies (Paurstein, 1986, Weckstein, 1985). In about one-third of tubal pregnancies, the corpus luteum is contralateral to the gestation, implying transabdominal migration of either ovum or conceptus. In our patient, the corpus luteum was on the ipsilateral side.

Intrauterine contraceptive devices (IUCD) are also attributed to causing ectopic pregnancy. Mishell 1984 found that if conception occurs with an IUCD in-situ, the chances of having an ectopic range between 3 - 9% which is 10 times greater than the reported incidence of 0.3 - 0.7% of total births in the general population. The incidence of ectopic pregnancy is 6-8 times higher in those women using IUCDs impregnated with progesterone as compared to those using non-progesterone containing IUCDs. Our patient did not give a history of IUCD use.

Cigarette smoking has also been associated with tubal pregnancy. Chow et al, 1988 noted that current cigarette smokers had a more than 2-fold increase in the risk of tubal pregnancy as compared to non-smokers. Nicotine suppresses ciliary action tubal motility or smoking reduces humoral and cellular immunity leading to pelvic inflammatory disease, which predisposes to ectopic pregnancy. Our patient had never smoked.

The commonest site of implantation is the ampulla, followed by the isthmus, fimbria and interstitium. Webala 1979 noted that 9.7% of cases were in the cornu and 28.7% were isthmal. Our patient had a right ampullary ectopic pregnancy.

The most common symptoms of ectopic pregnancy are abdominal pain, amenorrhea and vaginal bleeding. The commonest signs are abdominal tenderness and guarding, cervical excitation tenderness, pallor, shock and positive paracentesis. Mwathe, 1984 and Sinei and Okumu, 1987 noted in their series that all 100% and 97.8% respectively had abdominal pain, 49.8% and 52% respectively had vaginal bleeding and 70.2% and 67.3% respectively had amenorrhea. Other symptoms are dizziness, fainting, urge to defecate, and pregnancy symptoms and passage of tissues. The commonest signs noted by Mwathe, 1984 and Sinei and Okumu, 1987 included abdominal tenderness, pallor, positive paracentesis, cervical tenderness and shock. Our patient had lower abdominal pain, vaginal bleeding, suprapubic tenderness, mild pallor, cervical tenderness and positive paracentesis. Ectopic pregnancy is common in married women of low parity (Mwathe, 1984, Sinei and Okumu, 1987). Our patient had low parity.

The diagnosis of ectopic gestation depends on whether the ectopic has ruptured or not. In ruptured ectopic, paracentesis and culdocentesis are useful diagnostic procedures, and hemoperitoneum can be demonstrated in 50 - 85% of cases (Gebbie, 1974, Howie, 1987, Wenstron, 1975). The patient presented had a positive abdominal paracentesis. In the unruptured cases, laparoscopy may diagnose about 75% of cases (Kim et al, 1987). Ultrasound combined with hCG titres and laparoscopy can diagnose 95-98% of cases (Kim et al, 1987).

A tubal pregnancy may regress spontaneously or can be detected in the un-ruptured state and treatment effected, or it may rupture. Spontaneous regression occurs when the embryo dies very early with early mild symptoms. It goes undiagnosed and never requires surgery. Fernando et al 1988 reported spontaneous regression in 64% of 14 cases with ampullary pregnancy and tubal patency was demonstrated in 6 of the 9 patients who agreed to undergo hysterosalpingography. When detected in the unruptured state, laparoscopic linear salpingostomy may be performed. It reduces the length of hospital stay, patient morbidity, decreases and post-operative recovery period and the cost of the operative procedure (Decherney and Diamond, 1987, Vermesh, 1989). Digital or manual expression of the ectopic out of the fimbrial end is the easiest conservative surgical treatment for an ectopic pregnancy. Bleeding may however continue because a tubal implantation may be intra-luminal, extra-luminal or occasionally mixed (Kadar 1988, Pauerstein et al, 1986). This method is not currently recommended. Unruptured ectopic pregnancy can also be managed with methotrexate if the patient meets the medical treatment criteria. The criteria includes: pregnancy must be unruptured, pregnancy not more than 2 cm in size, normal liver and renal function and no contraindication to methotrexate treatment. The management of ruptured ectopic pregnancy depends on the clinical presentation. Patients in hypovolemic shock and anemia require

fluid replacement and blood transfusion. Autotransfusion should not be carried out more than 12 hours after rupture for fear of disseminated intravascular coagulation. At laparotomy, several procedures have been advocated, but currently conservation of much of the tube is advocated especially for those patients where preservation of fertility is a must. Salpingectomy is the oldest successful operation for ectopic pregnancy. It is rapid and technically simple to perform. When future fertility is not a concern or tubal rupture causes excessive intraperitoneal hemorrhage or extensive tubal damage, it is the procedure of choice (Weckstein, 1985). In cases where future fertility is a concern, linear salpingostomy or segmental resection (partial salpingectomy), are the procedures of choice (Kadar, 1988, Vermesh 1989, Stovall and McCord, 1998). Our patient was one in whom future fertility was a concern but due to extensive tubal damage, only partial salpingectomy could be done.

The greatest complication of ectopic pregnancy is death. Webala 1979 noted 0.42% mortality in KNH while Rakwach 1987 reported that ectopic pregnancy accounted for 4.7% of all maternal deaths in the acute gynaecology ward in KNH. In Europe and America, it accounts for 14.7% of all maternal deaths (Atrash et al, 1984). Hence, control and elimination of pelvic infection together with prompt diagnosis and treatment of ectopic gestation will reduce mortality due to this condition.

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GYNAE CASE 11

INCOMPLETE ABORTION: UTERUS EVACUATION

NAME: A.K. I.P. NO. 0830935
AGE: 28 YRS D.O.A. 5.9.2002
PARITY: 3 + 1 D.O.D 6.9.2002

PRESENTING COMPLAINT

She was admitted through casualty complaining of vaginal bleeding for 2 days.

HISTORY OF PRESENTING COMPLAINT

She was well until 2 days prior to admission when she started experiencing lower abdominal pain. This was accompanied by vaginal bleeding which was initially scanty but progressively increasing and was in clots. There was no history of trauma or history of violent sex. She was not on drugs.

OBSTETRIC AND GYNAECOLOGY

She was a para 3 + 1. All by spontaneous vertex delivery in hospital and were alive and well. Her LMP 1.7.2002 and EDD 7.4.2003. Had an amenorrhoea of 10 weeks. She had not started antenatal care. Her menarche was at the age of 15 years. Menses were regular and bleeding of 3 to 4 days occurring every 28 days. There was no history of dysmenorrhoea. No history of contraceptive.

PAST MEDICAL HISTORY

Not contributory.

FAMILY AND SOCIAL HISTORY

She was a married housewife living with her husband. She does not drink alcohol or smoke cigarettes. There was no history of chronic illness in the family.

EXAMINATION

She was in good general condition. She was not pale and she did not have fever. Vital signs were normal: BP 108/60 mmHg, Pulse 85/min, Respiratory rate 14/min. Central nervous system, Respiratory system, cardiovascular system and musculoskeletal systems were normal.

ABDOMINAL EXAMINATION

Fundal height was 12 weeks. There were no masses or areas of tenderness.

PELVIC EXAMINATION

She had a normal external genitalia which was blood stained. The cervix was soft and the os was about 3 cm dilated with products of conception protruding through it. The uterus was 12 weeks. There were no adnexae masses or fullness.

DIAGNOSIS

A working diagnosis of incomplete abortion was made.

TREATMENT PLAN

The patient was scheduled for evacuation of the uterus by Manual vacuum Aspiration (MVA). The procedure was explained to the patient and consent was obtained. She was taken to the procedure room of the acute gynecology ward.

UTERINE EVACUATION BY MANUAL VACUUM ASPIRATION

In the procedure room, the equipment for MVA including a bivalve speculum, a tenaculum, sponge-holding forceps, swabs, a 60 cc Vacuum syringe with double valves and 12 mm flexible Karman canular were laid out on a trolley and inspected. They were all in working condition.

The patient was placed in a lithotomy position and a vulvo-vaginal toilet was done and draped with sterile towels. The speculum was inserted and the cervix exposed. The anterior lip of the cervix was held at 10 o'clock with a tenaculum. The cervix was cleaned with a swab soaked in hibitane in water solution. The uterus was sounded with a uterine sound to estimate its length. By a none touch technique, the 12 mm Karman Canular was inserted into the uterine cavity up to the length estimated with the uterine sound and the vacuum syringe was attached to the canular. The canular was slowly pushed into uterine cavity until the funds was reached, then it was slightly withdrawn. The pinch valve on the syringe was attached to the canular. The canular was slowly pushed into uterine cavity until the fundus was reached, then it was slightly withdrawn. The pinch valves on the syringe were released transferring the vacuum through the canular to the uterus. The contents of the uterus were evacuated by moving the canular gently and slowly back and forth within the uterine cavity, rotating the syringe through 360 until a red foam with no tissue was seen in the canular and a gritty sensation was felt as the canular was passed over the endometrial surface of the uterus. A total of 50mls of products of conception were evacuated. The products of contraception were not foul smelling. All the instruments were then removed. The uterus had contracted well and there was minimal vaginal bleeding.

POST-OPERATIVE CARE

The patient was escorted back to the bed and her vital signs were monitored every 2 hours. She was started on metronidazole 400 mg 8 hourly and Doxycycline capsules 100 mg 12 hourly for one week. She was observed for 4 hours and when found stable, she was discharged home on the above medication. Before discharge, contraception counselling was done and she agreed to use the combined pill. On discharge she was advised to come to gynaecology clinic after 48 hours with post abortion VDRL, blood group and Rhesus factor.

DISCUSSION

This was a 28-year-old primigravida who presented with spontaneous incomplete abortion for which she underwent evacuation of the uterus using manual vacuum aspiration.

Abortion is termination of pregnancy by any means before the fetus is sufficiently developed to survive. The term miscarriage is used when abortion occurs spontaneously. In the United States of America, the definition is confined to termination of pregnancy before 20 weeks of gestation based upon the date of the first day of LMP or delivery of a fetus that weighs less than 500 mg (Cunningham et al, pregnancy before 28 weeks gestation with no evidence of life or birth of a fetus weighing less than 1000 gm (Aggarwal and Mati, 1982). Kenya being a former colony of Britain has similar laws and hence abortion is generally considered as termination of pregnancy before 28 weeks of gestation or delivery of a fetus weighing less than 1000 gm.

More than 80% of abortions occur in the first 12 weeks of pregnancy and the rate decreases rapidly thereafter (Harlap and Shiono, 1980). The incidence of spontaneous abortion is considered to be 10-15% (Cunningham et al, 1997, Aggarwal and Mati, 1982, Donald, 1989). However, this is difficult to define exactly since it is possible to abort without knowing that one is pregnant. Some of the abortions reported as spontaneous may be induced. In 1982, 60% of all admissions in acute gynaecology ward at KNH were due to abortion of which 16% were induced. Induced abortions most commonly occur in young single women. Most of the induced abortions are first pregnancies. The history of interference with the pregnancy is often not given (Howie, 1987, Aggarwal and Mati, 1980). The patient presented did not give history of interference with the pregnancy, rather she wanted the pregnancy to be preserved because she was married and wanted to have a baby. From her history, this patient most likely had spontaneous abortion.

Spontaneous abortion is attributed to a large number of etiological factors. These include chromosomal abnormalities which cause 50% of all first trimester abortions, maternal infections like brucellosis, listeriosis, toxoplasmosis, rubella, ureaplasma, urealyticus, tuberculosis, HIV and malaria, increasing parity, maternal and paternal age (Cunningham et al, 1997, Harlap and Shiono, 1980). Others include immunological factors: autoimmune-SLE and antiphospholipid antibodies and alloimmune. Endocrinopathies like hypothyroidism, uncontrolled diabetes mellitus and corpus luteum insufficiency and uterine defects, which could be acquired or congenital. Among the acquired defects of the uterus are cervical incompetence, uterine fibroids and uterine synechiae. The congenital defects are abnormal mullerian duct formation or fusion which could be spontaneous or induced in-utero by administration of diethylstilboestrol to pregnant mothers

(Howie, 1987). Other etiological factors are ingestion of alcohol and tobacco, exposure to radiation, anaesthetic gases and severe malnutrition (Cunningham et al, 1997).

Intrauterine contraceptive devices are associated with increased incidence of abortion after contraceptive failure. The abortion rate is 54% with the device in situ compared to 25% if the device is removed promptly when pregnancy is diagnosed (Tartum et al, 1986).

A patient with incomplete abortion presents with lower abdominal pain, backache, vaginal bleeding and passage of fetus or placental tissues. On physical examination, she may be pale and in shock depending on the amount of blood lost. The uterine size may be smaller than the expected gestation and on vaginal examination; the cervical OS is open (Cunningham et al, 1997, Aggarwal and Mati 1980, Donald, 1989). In case of septic and illegally induced abortion, the patient may admit to interfering with the pregnancy and there could be signs of local manipulation like cervical tears or uterine perforations. She may also have fever, tachycardia and the products of conception are foul-smelling (Durfee, 1987). In the case presented, the patient had lower abdominal pains and vaginal bleeding and on examination, the uterus was about 12 weeks gestation and cervical os was open with products of conceptions. There were no signs of sepsis or interference.

When the diagnosis of incomplete abortion is established, it is important to assess the blood loss and the general condition of the patient. If she has lost a lot of blood and is in shock, blood transfusion should be commenced before anything else. If vaginal bleeding still persists, ergometrine 0.5 mg should be given intravenously.

In some cases, bleeding can further be reduced by digitally removing products of conception, which are in cervical canal, and gently rubbing the uterine fundus (Aggarwal and Mati, 1982). Once the patient's general condition is satisfactory, her uterus should be evacuated. Uterine evacuation can be done either by sharp curettage or by suction curettage. In our unit we use manual vacuum aspiration. This is a procedure that does not necessarily require anaesthesia and the hospital stay is short. However, good counseling of the patient is required before the procedure is done. A sepsis rate of 5.4% after manual vacuum aspiration procedure was noted at KNH in 1989 (Kizza, 1989) and therefore prophylactic antibiotics is mandatory. In the case presented doxycycline and metronidazole were given.

After abortion, ovulation may occur as early as two weeks (Cunningham et al, 1997). It is therefore important that effective contraception is initiated soon after abortion. The patient present was offered contraceptive advice. Post abortion testing is also important to rule out obstetrical complications such as rhesus sensitization and syphilis infection for which something can be done. These tests were requested for and the patient was advised to be reviewed with these results in 48 hours.

Complications associated with incomplete abortion include severe hemorrhage leading to shock and anaemia, infections and even death (Donald, 1989, Kizza, 1989). Uterine perforation can occur during the manual vacuum aspiration. In the case presented none of these complications occurred and the patient was discharged home after 24 hours.

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NORPLANT IMPLANTS: INSERTION

NAME: M.N.

AGE: 35 YEARS UNIT NO. 1657/02

PARITY: 2 + 0 DATE OF OPERATION: 5.9.2002

PRESENTING COMPLAINT

She came to clinic 66 because she wanted Norplant insertion.

HISTORY OF PRETEST COMPLAINT

She had come for insertion of Norplant because she had used depo provera injections and they were giving her amenorrhoea and intermenstrual bleeding. She also wanted a longer 'lasting' method.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 2+0. Her last delivery was in March this year. Both deliveries were spontaneous vaginal delivery and both children were alive and well. Her menarche was at 16 years. Since then her menstrual cycle had been regular with the period lasting 5 days and recurring every 28 days. Cannot tell her menstrual period since she was on depo before.

PAST MEDICAL AND SURGICAL HISTORY

There was nothing significant.

FAMILY AND SOCIAL HISTORY

She was married and worked as a secretary in a small company in town. Her husband was a businessman. There was no family history of chronic illness

PHYSICAL EXAMINATION

She was in good general condition. She had no pallor, no jaundice no pedal oedema, no varicose veins. Her body weight was 60 Kg. Cardiovascular system; musculoskeletal system, respiratory system - all normal.

ABDOMINAL EXAMINATION

The abdomen was not distended and was soft with no area of tenderness. The liver and spleen were not enlarged and there were no surgical scars.

PELVIC EXAMINATION

The external genitalia were normal. Speculum examination revealed normal vagina walls, healthy cervix with a closed external os. On digital examination, the cervix was firm long and regular. The uterus was normal size. The adnexae and cul-de-sac were free and non-tender. There was no discharge.

Diagnosis

Para 2 + 0 clients for Norplant insertion.

Treatment Plan

Counselling was also done. The mechanism of action, the effectiveness, the indication, the contraindication and the side effects were discussed.

Procedure Insertion

An additional 5ml of procaine hydrochloride was re-injected through the incision in a semi-circular pattern with a radius 4 to 4.5 cm long. The trochar was introduced through the incision on its lower end just under the skin and gently advanced up to the mark near the plunger until a resistance was felt. Then keeping the plunger steady, the trochar was slowly withdrawn until the mark close to the tip was visible in the incision. The first implant had thus been released under the skin. It was felt with the finger to ensure that it was in place. Rotating it about 15 degrees from the first implant changed the second implant. Then with one finger on top of the first implant, the trochar was advanced along side the finger to the mark near the top. The implant was released under the skin by pulling back the trochar.

This procedure was repeated until all the implants were inserted, without removing the trochar from the incision. With a piece of sterile gauze pressure was applied to the incision for about three minutes to stop bleeding. The edges of incision were then pressed together and the incision closed with Elastoplast. This was then covered with dry gauze bandage was draped firmly around the arm to ensure hemostasis. The patient was then asked to keep the bandage clean and dry for four days and remove the Elastoplast after five days. She was then discharged after being booked for review in one week's time.

Follow Up

She was seen as requested. She had no complaints. The wound was doing well, her menstrual cycles were regular and the flow had not changed. Her blood pressure was 110/70 mmHg. She had not gained weight and there was no abnormal finding on examination. She was rebooked for review in six months time.

DISCUSSION

This was a 35-year-old para 2+0 married woman who had been on depo provera injections and wanted to change because of side effects.

Norplant implants consist of flexible non-biodegradable tubes filled with levonorgestrel, a synthetic hormone of the progestin family. The implants are placed under the skin on the inside of a woman's upper arm. The hormone is slowly released at an almost constant rate for several years (Population Reports, 1987).

Norplant implants come in two forms. The first called simply Norplant consists of six hollow Silastic (silicone rubber) capsules. Each capsule is 34mm long, with a diameter of 2.4mm and contains 36-mg levonorgestrel. This is currently the most widely used of the two systems. Contraceptive effect lasts five years. The new system called Norplant-2 consists of two solid Silastic rods, each 44mm long, 2.4mm wide and each rod has 70mg of levonorgestrel dispersed in it matrix. Its contraceptive effect lasts three years (Population Reports 1987, Du et al 1990). In Kenya, Norplant was introduced in the Machakos Project Study Area in 1986 (Mati, 1989). Norplant is available at the Family Welfare Clinic of Kenyatta National Hospital and was the type inserted for this client. Norplant, which becomes effective within a few hours of insertion, prevents pregnancy through a combination of mechanisms. The most important ways are:

- By inhibition of ovulation
- Thickening of the cervical mucus thus making it more difficult for the sperm to migrate to the genital tract
- It suppresses the cyclic development of the endometrium in some cases (Population Council, 1989).

The criteria for Norplant us include women who are:

- Less than 40 years old
- Have at least one living child or have the number of children they want, but not want to be sterilized
- Married and living with their husbands or sexually active
- Not pregnant or breast-feeding
- Seeking a long term birth spacing
- Seeking continuous contraception and
- Those who voluntarily choose the method (Population Council, 1989, Du et al, 1990)

Our client fulfilled all these criteria. Women who are pregnant or have acute liver disease or jaundice or unexplained vaginal bleeding or those who have had varicose veins, pulmonary embolism, history of heart attack or cerebral vascular or coronary artery disease (stroke) are unfit for Norplant insertion. Traditionally accepted contraindications for hormonal contraceptives are: pregnancy hepatitis, Dubin-Johnson or Rotor Syndrome, sickle cell anemia, herpes gestationis and breast cancer or other hormonal dependant cancers (Population Council, 1989). Our client had none of these contraindications.

Before inserting the implants, a detailed medical history must be taken and thorough general and gynaecological examination must be carried out. Women with any of the mentioned contraindications should be excluded from the insertions (Population Council, 1989, Du et al 1990). Our client was suitable.

Insertion and removing Norplant implants are usually minor surgical procedures that require a local anaesthetic and small incision. Removal is more difficult and takes longer than insertion. Insertion of six capsules can take 5 to 6 minutes.

The best time to insert Norplant implants is when a woman is menstruating or no later than five to seven days from the start of menstrual bleeding. This ensures that she is not pregnant. Implants are inserted on the inside of the upper or lower arm 6 to 8 cm above or below the elbow just under the skin (Hatch 1989, Population Reports, 1987). In our client insertion was done on the inside of the left upper arm midway between the tip of the shoulder and the Olecranon process of the left elbow.

Complications of Norplant insertion are rare (Population Reports, 1987). If sterile conditions are maintained during insertion, infection at the insertion site is rare, occurring in only 3 per 1000 women (Population Reports, 1987). Mati (1989) reported no case of infection in the first insertion. Expulsion occurs if the insertion site becomes infected or if the implants are placed close to the incision. Insertion causes little or no immediate pain for most women although they may be bruised and sore for several days (Population Reports, 1987). Our client had none of these complications.

Removing the 6-capsule Norplant usually takes about 15-20 minutes and usually requires only one small incision. Generally, implants are relatively easy to remove if they were properly inserted (i.e. that is just under the skin). They are harder to remove if they were inserted improperly. When the implants are removed, a new set can be inserted immediately. If the original implants have been removed easily and insertion site is not swollen, the new implants can be inserted in exactly the

same place. However, if removal causes swelling or trauma, the implants should be inserted either in the other arm or through the original incision but facing the opposite direction (Population Reports, 1987, Population Council, 1989). . The complications reported after removal of implants are hematomas and infections, which occurred in the week after the removal. The hematomas need no treatment while the infections were treated with antibiotics (Population Reports, 1987). Our client had none of these complications.

Norplant must be removed at the end of five years when the method starts to become less effective or at anytime before then if the woman has to stop using the method either for medical or personal reasons (Population Council, 1989). Norplant provides almost complete protection against pregnancy. In the first five years of use of Norplant 6-capsule system, the chances of pregnancy are less than one per 100 women per year. This is a lower failure rate than for oral contraceptive, intrauterine devices, and barrier methods, and is comparable to surgical sterilization during the first three years of use (Population Reports, 1987, Population Council, 1989). Effectiveness decreases slightly after five years and in the sixth year 2.5% to 3% of users conceive. Thus a replacement after five years is recommended (Population Reports, 1987). Some of the reasons for failure are:

- Conception before Norplant insertion
- Capsules retained for more than five years and
- Women who weigh more than 70kg (Population Council, 1989)

Irregular menstrual bleeding is the most common side effect of Norplant (Population Reports, 1987, Hatcher 1989, Du et al, 1990). These irregularities vary from one woman to woman and may include prolonged menstruation, spotting between periods, amenorrhea or a combination of patterns. It has been

reported that about 60% of women noticed changes in their menstrual patterns in the first year after Norplant insertion, decreasing to 33.9% after three years (Population Reports, 1987, Du et al, 1990). The most common change is an increase in the number of days of bleeding and or spotting per cycle and a decrease in the length of the menstrual cycle, but the volume of blood lost does not change (Hatcher, 1989, Population Reports, 1987, Du et al, 1990, Nilsson and Holma, 1981). Magwa (1989) reported a slight drop in a body weight and in systolic blood pressure. Over five years on Norplant, our client's weight rose from 56kg in 1991 to 64kg in 1996.

The continuation rate of Norplant implants after one year has been reported to be 93.3% in Kenya (Mati 1989, Maggwa, 1989). 79.1% in Zambia (Chikamata and Labanya, 1989) and 6.5% in Shanghai (Du et al, 1990). After two years the continuation rate was from 66-92% and after five years 42-78% of users were still relying on implants. Bleeding irregularity is the most frequent reason for discontinuation (Population Reports, 1987).

The development of Norplant implants which is highly effective, long lasting, provides continuous protection for five years (6-capsule system), is unrelated to sexual intercourse is readily reversible, has no estrogenic side effects, may help prevent anemia and has an uncomfortable and barely visible insertion site appears to be a milestone event towards developing an 'ideal' contraceptive. Today, over half a million women have used Norplant worldwide and further trials and recruitment are continuing.

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ING COMPLAINTS

mitted as a referral from Chigana hospital with menorrhagia occurring for a year. She also had a report of endometrial biopsy showing nodular hyperplasia.

OF PRESENTING ILLNESS

at well until one year prior to admission when she started having heavy menses prolonged. She later developed intermenstrual bleeding that is. The bleeding was not associated with abdominal pain and she gave 1 year of sexual bleeding. She also gave no history of sexual discharge.

PHYSICAL AND GYNECOLOGIC HISTORY

5'4"0". Her last delivery was in 1989. All her pregnancies were at term deliveries at term. All her 5 pregnancies were at term. Her menstrual cycle at the age of 16 years. Her menses were very regular frequency 28 days with the duration of 4-5 days. The last menstrual cycle was 2005. She also had a history of 1+ leukorrhea.

GYNAE CASE 13

CYSTIC GLANDULAR HYPERPLASIA - TOTAL ABDOMINAL HYSTERECTOMY

NAME: A.M. PARITY: 5 + 0
AGE: 46 YEARS D.O.A.: 28.8.2001
I.P.: 0820950 D.O.D.: 13.9.2001

PRESENTING COMPLAINTS

She was admitted as a referral from Chogoria hospital with complaints of heavy vaginal bleeding for a year. She also had a report of endometrial biopsy reported as cystic glandular hyperplasia.

HISTORY OF PRESENTING ILLNESS

She had been well until one year prior to admission when she started having heavy menses that were prolonged. She later developed intermenstrual bleeding that came in clots. The bleeding was not associated with abdominal pains and she gave no history of post coital bleeding. She also gave no history of vaginal discharge.

PAST OBSTETRICAL AND GYNECOLOGIC HISTORY

She was para 5 + 0. Her last delivery was in 1989. All her deliveries were spontaneous vertex deliveries at term. All her 5 offsprings are alive and well.

She attained her menarche at the age of 16 years. Her periods had been regular lasting 3-4 days every twenty-eight days until the onset of her illness. Her last period was on 11 August 2001. She did not have any history of contraceptive use.

PAST MEDICAL AND SURGICAL HISTORY

She was a known hypertensive for the last six years, for which she was being followed up in the medical clinic. She was on methyldopa 500mg 8 hourly and furosemide 40 mg once a day. In 1998 she had acute appendicitis for which appendisectomy was done.

FAMILY AND SOCIAL HISTORY

She was married and worked as a schoolteacher in Meru. She did not smoke nor drink alcohol. There was no history of any chronic illness in the family.

EXAMINATION

GENERAL

She was a middle-aged lady in good general condition, obese, not pale, afebrile, no jaundice, no oedema and there was no peripheral lymphadenopathy. The pulse was 80/min, regular and of good volume. The blood pressure was 160/100 mmHg.

CENTRAL NERVOUS AND RESPIRATORY SYSTEMS

These were essentially normal.

CARDIOVASCULAR SYSTEM

The peripheral pulse was normal. The JVP was not elevated. The precordium was not hyperactive. 1st and 2nd heart sounds were heard. There were no murmurs.

ABDOMINAL EXAMINATION

The abdomen was not distended and moved with respiration. There was a linc scar on the right Iliac fossa. There were no areas of tenderness. There were no palpable masses.

PELVIC EXAMINATION

The external genitalia was normal. On speculum examination, the cervix and vagina looked normal. The os was firmly closed. The adnexa and pouch of Douglas were normal. The uterus was normal size. There was no blood or discharge on examining finger.

INVESTIGATIONS

1. Haemogram - Hb 13.0 g/dl
WBC $4.8 \times 10^9/L$
2. Urea and Electrolysis - Sodium 132 meq/L
Pottassium 4.3 meq/L
Chloride 94 meq/L
BUN 5.1 mmol/L
3. Pap smear class I
4. Endometrial biopsy Cystic glandular hyperplasia.

DIAGNOSIS

A diagnosis of cystic glandular hyperplasia in a perimenopausal lady was made.

MANAGEMENT

The patient was adequately informed about the condition and the plan of management explained. She had completed her family and gave an informed consent for hysterectomy.

On the day prior to surgery, blood was taken for grouping and cross matching and two units of blood requested. She was advised to starve from midnight. The patient was premedicated with atropine sulphates 0.6 mg and pethidine 100mg given intramuscularly 30 minutes before theatre.

In theatre, general anaesthesia was induced with thiopentone and suxamethonium. She was intubated and anaesthesia maintained by nitrous oxides, halothane, oxygen and curare. She was put in semilithotomy position and valvul toilet done. She was aseptically catheterized draining clear urine. The catheter was left in situ. The vagina was painted with methylene blue and the patient placed in the supine position.

The abdomen was cleaned with savlon lotion and then draped with sterile towels. The abdomen was opened in layers through a midline subumbilical incision. The gut was packed out of the pelvis with moist sterile abdominal packs. The pelvic organs were grossly normal. A total abdominal hysterectomy and bilateral salpingo oophorectomy was done successfully. The abdomen was closed in layers. General anaesthesia was reversed and patient wheeled to recovery room for observations. The specimen was sent for histopathology.

POST-OPERATIVE CARE

Vital signs were observed half hourly till she was fully awake. She was put on intravenous fluid 2500ml/24 hours, alternating normal saline with 5% dextrose. Pethidine 100mg was given 8 hourly for 48 hours then changed to paracetamol two tablets 8 hourly for 5 days. She was put on intravenous ampicillin 500 mg 6 hourly for 24 hours then changed to oral for 5 days. On the 3rd post operative period was uneventful and on the 7th postoperative day, all stitches were removed.

The wound was dry and healing well. She was discharged to attend gynaecology clinic in 6 weeks.

FOLLOW-UP

She was seen on the appointed date. She had no complaints. The wound was well healed. Histology report showed small uterine leiomyomas and simple endometrial hyperplasia. She was discharged from the clinic.

COMMENT

This patient presented with abnormal uterine bleeding at 46 years of age. She was on treatment for hypertension and on endometrial biopsy; she was shown to have endometrial hyperplasia for which hysterectomy was done.

Endometrial hyperplasia is a pathologic condition that is usually associated with abnormal uterine bleeding (1,2). There is increase in the amount of endometrium, the density of glands with abnormalities, and there may be cytological changes of the glandular epithelium depending on severity (1,3). This condition is usually found in the perimenopausal women but can be encountered in younger patients who are anovulatory (1). This patient, at 46 years was in the perimenopausal age group.

Endometrial hyperplasia is classified into two, cystic hyperplasia and adenomatous hyperplasia. The cystic hyperplasia also known as simple hyperplasia indicates increased endometrial volume, stromal as well as glandular hyperplasia with a normal ratio of glands to stroma (1,2,3). Mitoses may be present in the glands and stroma. This process may present as endometrial polyps due to irregular proliferation of the endometrium (4). Cysts are characteristic of this proliferative

lesion, which is composed of simple, tubular glands (1). The patient presented had cystic glandular hyperplasia. Adenomatous hyperplasia is the second type of endometrial hyperplasia and indicates glandular atypia and an increased gland to stroma ratio. It may be graded as mild, moderate and severe by assessing the degree of structural and cytological abnormality of its component glands (1). It is associated with increased risk of progression to malignant disease (1,2,3,4).

In the United Kingdom approximately 5% of the women attending gynaecological outpatients departments present with postmenopausal bleeding (5). Sinei (6) found that abnormal uterine bleeding in the absence of obvious organic lesion of the genital tract account for 4.3% of acute gynaecologic admission to Kenyatta National Hospital. Endometrial hyperplasia has been reported to be the classic and most common abnormality of the endometrium in dysfunctional uterine bleeding (2). This patient presented with abnormal uterine bleeding.

Irregular uterine bleeding is the commonest symptom of endometrial hyperplasia and might be the only feature (1,4). Because of an underlying faulty ovarian function, or of the endometrial abnormality itself, infertility can be a symptom. Rarely are there significant physical signs although the uterus may be palpably symmetrically enlarged (4). Diagnosis is made by histopathological examination of the endometrial curettings (1,2,3,4). Recent studies have identified the ultrasound as a reliable method of screening for endometrial hyperplasia (5,7).

Endometrial hyperplasia occurs in women with persistent oestrogenic stimulation of the endometrium in the absence of progestogen influence (1,2,3,4,8). It is almost invariably found in anovulatory premenopausal women. It may also occur as a result of exogenous hormonal therapy or endogenous production of oestrogen

by ovarian tumours and from conversion of adrenal androstenedione to oestrogen by adipose tissue (1,8). Although there is a positive correlation between hyperestrogenism and endometrial hyperplasia, it is not the sole aetiological factor. Violorateas et al (8) after their study concluded that the increased oestrogenic activity in patients with adenomatous hyperplasia of the endometrium, testosterone, androstenedione and over activity of adrenal cortex may play a significant role in the pathogenesis of this condition. This patient was obese in the perimenopausal period. Management of endometrial hyperplasia depends on the source of oestrogen excess, the age of the patient, severity of the vaginal bleeding and the desires of the patient (1,4). Endometrial hyperplasia in menstruating women, is usually self limiting and returns to normal after curettage. When anovulation is the cause, treatment with progestational agents or induction of ovulation will usually result in cure. More vigorous therapy is indicated in adenomatous hyperplasia with high dose progestational therapy. Followup curettage after 3 months is necessary to typical adenomatous hyperplasia or those with symptoms of bleeding and are not controlled with hormonal therapy. For patients with a typical adenomatous hyperplasia or those with symptoms of bleeding and are not controlled with hormonal therapy or those women who will not take hormonal therapy, hysterectomy is advised (1). This patient could not take hormonal therapy as she was on treatment for hypertension. She was in the perimenopausal period and hysterectomy had the advantage of removing any risk of malignant transformation.

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HISTORIC AND GYNAECOLOGICAL HISTORY

37 YEARS OLD. She had her menarche at the age of 12 years. Her menses were coming every 28 days and lasting for 3 days. There was no pain. Her last menstrual period (LMP) was 13.7.2009. She had never used contraceptive method. She had been followed up on the gynaecology 5 years for infertility for which several investigations had been done. She and her husband had normal regular intercourse about 3-4 times a week.

MEDICAL AND SURGICAL HISTORY

No significant past medical and surgical history.

DIET AND SOCIAL HISTORY

She was living with the husband in Meru. The husband was a clerk. She had 4 children outside marriage. She did not smoke and did not drink. There was no family history of chronic illness.

AL EXAMINATION: GYNAE CASE 14

PRIMARY INFERTILITY –TUBAL SURGERY

Name : J. K. Parity : 0 + 0

IP no. 0817967 D. O. A: 6.8.2001

AGE: 27 YEARS D.O.D.: 26.8.2001

PRESENTING COMPLAINTS

The patient was first seen in the gynecology clinic on 8.3.2000 complaints of inability to conceive for 5years.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 0+0. She had her menarche at the age of 12 years. Her menses were regular occurring every 28 days and lasting for 3 days. There was no dysmenorrhea. Her last menstrual period (I.M.P) was 13.7.2001. She had never been on any contraceptive method. She had been followed up on the gynecology clinic for 5 years for infertility for which several investigations had been done. She lived with the husband and had normal regular intercourse about 3-4 times a week.

PAST MEDICAL AND SURGICAL HISTORY

There was no significant past medical and surgical history.

FAMILY AND SOCIAL HISTORY

She was a housewife living with the husband in Meru. The husband was a clerk and did not have children outside marriage. She did not smoke and did not drink alcohol. There was no family history of chronic illness.

PHYSICAL EXAMINATION

GENERAL

She was in good general condition, not pale, no jaundice, no peripheral lymphadenopathy and no oedema. She had fully development secondary sexually characteristics with normally formed breasts and no galactorrhoea.

CENTRAL NERVOUS, RESPIRATORY AND CARDIOVASCULAR SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was scaphoid and moved with respiration. There was a periumbilical laparoscopy scar and no other surgical scars were noted. It was soft with no areas of tenderness. There were no palpable masses.

PELVIC EXAMINATION

The external genitalia was normal. There was well-developed pubic hair. The cervix was firm and os was firmly closed. The uterus was normal in size. The adnexae and pouch of Douglas were free.

IMPRESSION

An impression of primary infertility was made

INVESTIGATIONS

Haemoglobin	-	Hb 13.2 gm/dl
		WBC 6.4 X 10 ⁹ /l
		Platelets Adequate
Urea and electrolytes	-	Sodium -145 meg/l
		Potassium -4.6 meg/L
		BUN -4.5mmo1/L
Semenalysis	-	Normal
Papsmear	-	Class I
Hysterosalpingogram	-	There was a filling defect in the cavity.
	-	Both tubes were not outlined. There was no spill.
Laparoscopy	-	Uterus was normal. There were a lot of adhesions in pouch of Douglas. Right tube was buried in adhesions, fimbrial end not visualized. Lt tube had peritubular adhesions. Both ovaries were normal with no evidence of recent ovulation. On dye instillation no dye was noted in both tubes. Endometrial biopsy was done. Tubal surgery was recommended for adhesion lysis.
Endometrial biopsy	-	Secretory phase Endometrium no acid-fast bacilli was isolated.

MANAGEMENT

Pre-operative investigations were undertaken:

Haemoglobin	-	Hb 14.2 gm/dl
Urea and electrolytes	-	Sodium 146mg/L
		Potassium 4.2 mg/L
		BUN 4.5mmol/L
Liver function test	-	Normal
Urinalysis	-	Protein -nil
		Sugar - nil

An informed consent was obtained on the day of operation; the patient was premedicated with sulphate 0.6mg and pethidine 50mg intramuscularly half hour before theatre. Patient was then taken to theatre.

SALPINGOLYSIS

In theatre, the patient was put under general anaesthesia. Vulvo vaginal toilet was done. Patient was draped and catheterized. Examination under anaesthesia was done and normal pelvic findings were found. The vagina was packed with moistened gauze roll to elevate the uterus and pelvic contents. The patient was placed in supine position and abdomen was cleaned and draped. A midline subumbilical incision was made and the abdomen opened in layers. The uterus was normal, the right tube and ovary were also normal with no adhesions. The left tube was covered with adhesions on its whole length, the adhesions covered also ovary. The adhesions were gently released using cutting diathermy while irrigating continuously with hartmans solution. Hydrotubation was done using methylene blue after clamping the cervix. There was no dye noted going into the tubes. An impression of bilateral cornual blockage was made. The peritoneal cavity was

washed with Hartmann's solution. The abdomen was then closed in layers. The estimated blood loss was about 300ml. Anaesthesia was reversed and the patient transferred to recovery room.

POST-OPERATIVE

The vital signs were observed half hourly in the recovery room till she was fully awake. She was transferred to the ward for 4 hourly observations. She was to be on intravenous fluids of normal saline alternating with 5% dextrose amounting to 2500ml per 24 hours until bowel sounds established and then put on oral feeds. She was put on intramuscular pethidine 100mg 8 hourly and ampicillin in 500mg 8 hourly until her bowel sounds were heard. Then she was put on oral ampicillin and paracetamol tablets. On the 7th day post-operative the wound was healed and all the stitches were removed. She was discharged on 6/8/2001 after explanation on the findings at the operation and prognosis. The patient was advised to attend the gynaecology clinic for possible plan to do corneal resection and re-implantation.

FOLLOW UP

The patient was lost to follow up.

COMMENT

The patient presented was 27 years old with primary infertility. She had bilateral tubal blockage for which unsuccessful salpingolysis was done.

Infertility is the inability by a couple to achieve a pregnancy within 1 year of unprotected coitus or repeated failure to carry a pregnancy to term (1,2). In a world health organization technical report series (3) primary infertility was defined as failure to conceive despite cohabitation and exposure to pregnancy for a period of two years. The patient presented was unable to conceive for 5 years despite unprotected coitus. Primary infertility refers to a situation where there has been no previous conception while secondary infertility refers to a situation whereby a pregnancy had been achieved before. Kenya has one of the highest birthrates in the world and also has a high infertility rate which is a major public health concerns (4). The prevalence of infertility worldwide is estimated to be between 15 – 40% (5,6). In Kenya the true incidence is exemplified by the fact that approximately 60% of all new outpatients in gynaecological clinic in Kenyatta hospital complain of infertility (4).

Infertility is a disorder of couples and both partners must be evaluated. The man is said to be responsible for about 30% of the cases and the woman about 40% and both in the remainder of the cases (6). The major causes of male infertility are related to disturbances in the sperm function, particularly in relation to its mobility and morphology or in some cases total absence or reduction in numbers (6). In this couple the semenalysis was normal. In the female, the causes of infertility include ovulatory abnormalities, abnormalities of implantation, uterine and tubal factors (1,2). Tubal factors are believed to be responsible for 35-50% of infertile in marriages. It is further believed to account for 70% of female infertility (4,6). In Kenya infertility was reported to be associated with pelvic inflammatory disease in about 70% of cases with gonorrhoea a being incriminated in upto 50% of patients with tubal occlusion (7). In Kenyatta National Hospital it was found that the association of pelvic inflammatory diseases and infertility was upto 80% (8).

Uterine factors include polyps, uterine fibroids, endometrial synechiae and uterine congenital anomalies. Endometriosis, postoperative pelvic adhesions are peritoneal factors (1,2,5).

In diagnosing the cause of infertility both partners must be evaluated. In the man the evaluation should begin with a thorough physical examination through semen analysis. In the presence of a normal semen analysis most other abnormalities of the man are probably inconsequential and no further evaluation may be necessary (1,2,5). In the female evaluation, a history and physical examination should precede invasive investigations. History should include duration of infertility, coital frequency and menstrual pattern, history of vaginal discharge or pelvic inflammatory disease, past operations and parity (1,2). History of menstrual disorders will point to ovulatory disorders; these may further be evaluated by taking basal body temperature (bbt), cervical mucus changes, endometrial biopsy in the luteal phase and assay of reproductive hormones (1). In the investigation of the uterotubal factors, Rubin test, hysterosalpingography and laparoscopy may be employed. The Rubin test is rarely used due to its inaccuracy and complications (9). Hysterosalpingography demonstrates the luminal outline of the tubes mapping the site of obstruction and may detect intrauterine defects. Laparoscopy is a transperitoneal endoscopic procedure that enables one to see the pelvic organs directly. Hydrotubation with dye enables demonstration of tubal patency at laparoscopy. Even after thorough evaluation the cause constituting unexplained infertility (1,2). It has been shown that in cases of unexplained infertility, sperm immobilizing antibodies may be the primary cause of failure to conceive in up to 13-23% of these couples (6). Post-coital test is a fairly non-invasive test that constitutes a first line approach to this problem. In the patient presented, the history and physical examination did not point to the cause of infertility. Semen analysis was

normal. On hysterosalpingography a filling defect in the uterine cavity suggested uterine fibroids and the tubes were not demonstrated suggesting cornual blockage of the tubes. At laparoscopy adhesions and cornial tubal blockage was noted. Adhesiolysis was recommended at laparoscopy.

There is general agreement that results of tubal surgery depend on the degree of tubal damage and the extent and nature of the commonly associated adhesions (10,11). Methods of tubal surgery include salpingolysis, salpingoplasty fimbrioplasty, salpingoneostomy and tubal anastomosis (1,2). The patient presented had cornual blockage and intrapelvic adhesions where salpingolysis alone was done. Success rates by type of surgery are better with salpingolysis, salpingostomy and tubocornual anastomosis in that order (1,3). Tubotubal anastomosis and tubouterine implantation are minor subgroups of tubal surgery. With the use of microsurgery tubocornual anastomosis has largely replaced tubouterine implantation for proximal tubal damage (13,14). Microsurgical tubocornual anastomosis is now a well-established surgical option for women with obstruction at the uterotubal junction. However various factors may limit the success of the procedure (13,14). A careful assessment of other likely infertility factors is mandatory before surgery. Various operative factors that appear to adversely affect the prognosis include, deep resection of the intramural tube requiring deep anastomosis, presence of chronic inflammatory changes, presence of tubal endometriosis and other co-existing infertility factors (13,14). In the patient presented the presence of uterine fibroids, tubouterine obstruction and intraplevic adhesions give her poor prognosis. Cases have been reported of a successful pregnancy following combined surgery but should there be doubts these patients should be guided towards invitro fertilization (14). This case was presented to underline the importance of choice selection for tubosurgery. It is noted intra-

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operatively that surgery should not be recommended or that plans should have been there for microsurgery tubouterine implantation.

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Tubo corneal anastomosis: surgical considerations and co-existent infertility factors in determining the prognosis; Ferti. Steril. 51(2) 241, 1989.

Case	IP NUMBER	0808321
18 YEARS	DOB:	20/10/62
0-4-0	(DOB)	30/11/2005

complaints

present through primary wife history of sexual assault.

presenting symptoms

history of having been sexually assaulted together with her mother by a man around 10 yrs. This was at Uthuru Park. Both the mother and her mother (now 44) both from a prayer meeting at the park. During the night, she did not meet the topic. She was not injured. People who were around her. The attackers were not apprehended.

she requires to being her to hospital because she found the possibility of a sexually transmitted disease and pregnancy. She was very upset because she was raped together with her mother. She said that it was her first assault.

Local Injury

any

GYNAE CASE 15

SEXUAL ASSAULT

NAME: C.M. IP NUMBER: 0808321
AGE: 19 YEARS DOA: 29/4/2002
PARITY: 0 + 0 DOD: 30/4/2002

Presenting complaints

She was admitted through casualty with history of sexual assault.

History of presenting complaints

She gave a history of having been sexually assaulted together with her mother by many people at around 10 pm. This was at Uhuru Park. Both the patient and her mother were on their way home from a prayer meeting at the park. During the sexual assault, she did not resist the rape. She was not injured. People who were passing by rescued her. The attackers were not apprehended.

She asked the rescuers to bring her to hospital because she feared the possibility of contracting a sexually transmitted disease and pregnancy. She was very upset by the fact that she was raped together with her mother. She said that it was her first sexual experience.

Past Medical History

Not contributory.

Obstetric and Gynaecology History

She was para 0 + 0. Her LMP was 14/4/2002. Her menarche was at the age of 14 years. Her menses were regular with bleeding of 4 to 5 days and interval of 20 to 30 days. She did not have dysmenorrhea. She had not used any contraceptive method.

Family and Social History

She was the only child to a single mother. She had just completed secondary school. She was in a bible school. She does not drink alcohol or smoke cigarettes. There was no history of chronic illness in the family.

Examination

On admission, examination revealed a young lady in good general condition looking unhappy. Clothes were soiled with soil but not blood stained or torn. Wood lamp examination was not done because the instrument was not available. Central nervous system, respiratory, cardiovascular and musculoskeletal systems were essentially normal.

Pelvic Examination

On vaginal examination, the external genitalia was normal. There were no perineal or vulval tears or a discharge. Speculum examination 6 hours later revealed a normal vaginal mucosa, bloody discharge at the fornices and on the os. Cervix was healthy. Uterus was 8 weeks not tender. Adnexae was normal. The hymen was not intact with hymenal tags.

Diagnosis

A working diagnosis of sexual assault in a 19 year-old girl was made.

Treatment Plan

Counselling was arranged for and was offered by counsellors from the high-risk team. Specimens (High vaginal swab, blood for HIV Elisa and VDRL) were taken during speculum examination. Emergency contraception was prescribed. She was given postinor 2 doses 12 hours apart. Emergency anti-retroviral therapy was prescribed. This was not available in the hospital. She was requested to buy and use at home. Antibiotic treatment with tetracycline 500mg QID and metronidazole 400mg tds for one week was started. Mild sedation was also started with phenobarbitone for lack of better sedatives in the hospital. She was discharged through the patient support center for further counselling and emotional support.

Laboratory Results

High vaginal swab (HVS) wet preparation, no trichomoniasis, yeast cells, bacteria or spermatozoa or pus cells were seen. Gram stains of HVS showed moderate pus cells and gram-positive cocci but not gram-negative diplococci. ELISA results for HIV were not available. The patient did not come back to check for the results.

Follow up

The patient did not come back for follow up.

DISCUSSION

A 19 year old who was sexually assaulted is presented. She was raped in the presence of the mother. She was very concerned about the possibility of getting sexually transmitted disease as a result of the rape.

Sexuality and sexual function are a part of a woman's overall health and well-being. The element of sexuality has been used to inflict pain in a variety of settings. These include rape. Violent crime against people has been increasing. Sexual assault has also increased. It is estimated that one in eight women in the U.S. will be forcibly raped during her lifetime (Kilpatrick et al, 1992). Sexual assault victims (the term sexual abuse survivor or assault survivor are preferred to victim, Baram, 1998), which could be either male, the minority or female, the majority come to hospital or are brought to hospital for various reasons. Two of the main reasons if the victims are brought by the police are: medicolegal examination that may help the police decide whether the assault actually occurred and prosecution of the aggressor and for emergency medical treatment that is often needed. This patient was not brought to hospital by police rather she came on her own volition. Her main reason for coming to hospital was fear of contracting sexually transmitted disease and becoming pregnant. These fears were promptly addressed with provision of antibiotic, emergency contraception and relevant tests (HVS, ELISA for HIV and VDRL).

Sexual assault may be classified according to the site, oral, anal and vaginal or the degrees of penetration i.e. none, slight or full. Distribution of site and extent of sexual assault do carry medical importance, since the risk of injury, impregnation or acquisition of STD s will vary according to the specific situation of assault. Police classify rape as: rapes, attempted rape, canal knowledge, indecent act on minor, oral sodomy, rectal sodomy or attempted sexual sodomy.

Because of the legal ramifications, consent must be obtained from the patient prior to obtaining the history, performing the physical examination and collecting evidence. Documentation of the handling of specimens is especially important,

and the “chain of evidence” for collected material must be carefully maintained. Everyone who handles the evidence must sign for it and hand it directly to the next person in the chain. The patient should be interviewed in a quiet and supportive environment by the examiner who is objective and non-judgmental. Relatives or support people are once a victim of sexual assault presents to a doctor, responsibility of the doctor will include:

- Immediate care of physical injuries.
- Prevention of STDs.
- Alleviation or prevention of permanent psychological damage.
- Proper medico-legal examination with documentation for law enforcement authorities.
- Prevention of pregnancy.
- The history taken should include the following:
 - General medical history and gynecologic history, including last menstrual period, prior pregnancies, past gynecologic infections, contraceptive use and last voluntary intercourse prior to assault.
 - To ascertain whether the survivor bathed, douched, urinated, defecated, brushed her teeth or changed her clothes after the assault.
 - A detailed description of sexual assault including the date and time of the assault, number of assailants, use of weapons, threats and restraints and any physical injuries that may have occurred.
 - A detailed description of the type of sexual contact including whether vaginal, oral or anal contact or penetration occurred, whether the assailant used a condom and whether there were other possible sites of ejaculation such as hands, clothes or hair of the survivor.

- The emotional state of the survivor should be observed and recorded (Baram, 1998).

Investigations, which are recommended, include swabs from the vaginal walls and cervix, from mouth and rectum, blood for syphilis serology and HIV determination, Hepatitis B surface antigen, papanicolaou test and woods lamp examination for semen and pregnancy test. In this patient, a HVS was taken which was normal, not even spermatozoa were evident raising the possibility that there never have been penetration. Results for other test were not available.

Sexual assault has immediate and late complication. Victims of sexual assault may get vaginal or vagino-perineal lacerations or other physical injuries. However, majority of the victims have no physical injuries. In a study on over 5,000 victims, only 1% needed to be hospitalised due to injuries (Hicks, 1980). Our patient did not have physical injuries. However, even if there is no physical damage, victims of sexual assault do experience psychological trauma. The response and reaction vary with the age and situation of the victim. Young, single women are particularly vulnerable. They are most likely to feel guilty and shame. This patient was young, single and was already showing signs of guilt and shame. She was assaulted together with her mother. The response or reaction of sexual assault is in three predictable phases. This constitutes the Rape Trauma Syndrome which is a constellation of physical and psychological symptoms including fear, helplessness, disbelief, shock, guilt, humiliation, embarrassment, anger and self-blame. Initially, there is an acute reaction usually of several days. Second phase is the phase of outward adjustment and denial lasting weeks to months. The third phase is the phase of depression. In this phase, there is need to take preceding possible integration and there is resolution of emotional trauma (Hayman and

Lanza, 1971). Follow-up with counselling is thus recommended. Our patient did not come back for follow-up.

This patient was presented to illustrate some of the current management issues of sexual assault. Other than the already known consequences of sexual assault, pregnancy, STDs, etc. the patient stands a risk of acquiring HIV infection, which is not curable and unfortunately fatal with time. Studies have shown that instituting combination anti-retroviral therapy could significantly reduce the likelihood of acquiring HIV. The recommended regimen is 3TC, Idnavirir, and AZT. These drugs are not available immediately for patients who need them. They are certainly expensive but a policy to have them available will go a long way in helping rape victims. Secondly, the use of emergency contraception, which was given in this case, will reduce the need for elective termination of pregnancy if the assault results in pregnancy.

In conclusion, although few of the victims of assault have serious physical injuries, they will suffer psychological trauma that will affect their lives and the lives of those around them. As demonstrated in this case, there is need for policy on treatment and management of rape cases at the KNH in terms of establishment of a crisis counselling center and provision of the necessary drugs.

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**ACCEPTIBILITY OF FAMILY
PLANNING WITH SPECIAL
REFERENCE TO USAGE OF
EMERGENCY CONTRACEPTION BY
PATIENTS TREATED FOR POST-
ABORTION COMPLICATIONS IN A
RURAL SET UP.**

ABSTRACT

BACKGROUND

Use of regular family planning methods is high in Kenya (33%) as compared to other sub-Saharan African Countries, e.g. Botswana (28%). However Kenya, still has a high fertility rate (Total fertility rate 4.85/1000) population with consequent high number of unwanted pregnancies which mostly lead to abortions. It has been shown that the use of emergency contraception (EC) can reduce the number of unwanted and unplanned pregnancies and hence reduce maternal morbidity and mortality related to pregnancy and unsafe abortion.

Objective

To determine knowledge, attitude and practice of family planning with special reference to emergency contraception in patients treated for post abortion complications in a rural area.

Study population

Women seeking post-abortal care services at Muranga District Hospital of Central Province.

Setting

The questionnaire was administered in the acute gynaecological ward at Muranga District Hospital.

Study design

Cross-sectional study using interviewer administered questionnaires, consecutive sampling.

ABSTRACT

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Study design

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Methods

This study covered a period of one month, from 20th August to 5th September 2002. After the patients were treated, they were counseled about the study. Those who gave consent were recruited and interviewed.

Data Management

Responses to open-ended questions were coded and data entered into a microcomputer using SPCC/PC+ data entry programme. Data validation was done before analysis. Analysis was done using SPSS/PC programme and involved descriptive statistics like means and standard and deviations, frequency distributions and cross tabulations.

Main outcome measures

These were knowledge of the existence of family planning methods especially emergency contraception, the types, indication, attitudes and practices.

RESULTS

A total of 200 patients seeking post-abortion treatment in Muranga District Hospital were interviewed. Most of them were of primary level of education (55.2%) and were unemployed (90.5%). There was a high level of knowledge about regular contraceptives. A total of (95.7%) listed at least one regular contraceptive method used. Commonest used family planning method was the pill (51%) followed by IUCD (11%) and injectables (9.7%). About (71.1%) of the patients were currently on a family planning method with (48.3%) being on the pill.

Commonest (11%) reason of not using any method was fear of side effects. None of the respondents spontaneously listed emergency contraceptive as a method of contraception. Only 5% of the respondents had heard of emergency contraception.

Knowledge about the types of Emergency Contraceptive, usage and availability was very poor. 6 respondents (3%) had heard that pills can be used as EC. About 22.4% approved its use for rape victims, 13.4% for single women and 10% for schoolgirls. Most mentioned source of information was friends and colleagues. Only one person had used herbs with an intention that it was emergency contraception.

In the study, 78.1% believed that improving access to emergency contraception would reduce incidences of unwanted pregnancies and therefore of abortions and related complications.

Conclusion and Recommendation

This study has shown that the level of both knowledge and usage of EC was very low among the surveyed patients who were undergoing treatment for various post-abortion complications in Muranga District Hospital. There is potential for this group of people to be educated about the proper use of EC contraception as expressed by their appreciation of the fact that EC can reduce incidences of abortion.

This study therefore recommends improvement on access to family planning information with special reference to emergency contraception by incorporating EC information in health talks, family welfare clinics, health posters, news media and newspapers. Because of the potential of EC to prevent unintended pregnancy and hence reducing incidences of abortion, this study recommends stocking and distribution of EC by hospital and emergency departments.

INTRODUCTION

The first line of defense against unsafe abortion should be the provision of Family Planning services. The WHO estimates that about 585,000 women die each year as a result of pregnancy⁽¹⁾. This tragic loss is due to inadequate health services, unavailability of family planning and the effects of poverty. Some of these killers like induced abortion in case of unwanted pregnancy can be reduced by use of contraceptives. Family Planning is still not widely used in Africa – only about 10% of the African population use contraceptives⁽²⁾.

In Kenya, studies done previously at KNH have shown that deaths⁽³⁾ from abortion complications account for about 22.2% of all maternal deaths.⁽³⁾ Illegally induced abortions constitute about 80% of all abortion deaths with 97.4% of those who had evidence of interference dying of sepsis and its associated complications.

Elsewhere, abortion is reported to be a major cause of maternal mortality, constituting about 24.4% of all maternal deaths⁽⁴⁾. The cost of abortions in terms of money and other health care resources is high, with as much as 50% of some maternity hospital budgets being spent on treatment of abortion complications.

Studies cited by the National Abortion and reproductive rights action league in the U.S. show that we could reduce the number of unintended pregnancies and abortions by half annually if more people knew about emergency contraception⁽⁵⁾. Only one percent of women in the U.S. aged 18 – 44 years has used emergency contraception and 89% of women age 18 – 44 do not know about this important choice available to them. It has been shown that among University undergraduate female students 90% of the women who gave birth and 82% of the men who fathered a child, did not plan for it⁽⁶⁾. This is probably consistent with the general finding that most young people who end up pregnant do so unintentionally either

due to unawareness or lack of contraceptive advice. A study on undergraduate female students in two Kenyan Universities found that only 3.0% of the respondents had used emergency contraception⁽⁷⁾.

Maternal mortality is quite high in developing countries as shown by studies done in Kenya. Elsewhere⁽⁸⁾ illegal abortions contribute highly due to associated complications like sepsis and haemorrhage. In Kenya, abortion has been reported to account for upto 54.2% of reported maternal death⁽⁹⁾. Contraception use would therefore go along way in reducing maternal mortality.

Few studies have assessed patients' knowledge and perceptions of emergency contraceptives especially in developing countries where the consequences of unwanted pregnancy are particularly serious and the need for these methods is great. In Kenya, there is a high rate of abortions due to high rate of unwanted fertility⁽¹⁰⁾. The government is committed to an active family planning policy and now a Non Governmental Organizations (The Emergency Contraceptive Consortium) is actively promoting emergency contraception. The levonogestrel brand 'postinor' has been introduced in the Kenyan market as an emergency contraception pill (ECP). The hormonal pills required for the Yuzpe method are already available as regular methods in Kenya.

This study is therefore aimed at documenting the knowledge attitudes and practices in regards emergency contraception among patients seeking post-abortion care services in Murang'a District hospital. This may help determine whether the method is used or not in such a set up.

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This study is therefore aimed at documenting the knowledge attitudes and practices as regards emergency contraception among patients seeking post-abortion care services in Murang'a District hospital. This may help determine whether the method is used or not in such a set up.

LITERATURE REVIEW

Abortion is defined as the termination of pregnancy either spontaneously or deliberately, before foetal viability is achieved i.e. before the foetus attains the weight of 500g and above, which corresponds to about 20 weeks gestational age from the last normal menstrual period. Abortion has been used as one of the oldest method of preventing unwanted births and until recently, one of the hazardous methods (population reports series F number 7, 105; July 1980)⁽¹¹⁾.

It is estimated that 10-25% of all pregnancies terminate as spontaneous abortion in the first 12 weeks of gestation. But the true incidence of abortion is difficult to establish for some of the women will associate the bleeding from a spontaneous abortion to delayed period. Secondly, due to its legal and social implications not all induced abortions find their way to the hospital. Those who do are only but the few with complications⁽¹²⁾. However, it is estimated that the incidence of abortion for the whole world population is 15-20% and that between 30 to 50 million abortions take place annually, more than half of them in the developing countries. Previous studies in Kenya have indicated a high incidence of abortion. It has been reported that 60% or more acute gynaecological admissions in KNH are due to abortion. At other hospitals/centres in Africa, abortion has been reported to account for a large number of gynaecological admissions with figures ranging from 10% to 28% being quoted. The trend of abortion is on the increase worldwide because of the increase in sexual activity in communities.

Illegal abortions are usually done as means of avoiding an unwanted pregnancy while at the same time concealing the abortion due to its legal implication. With the exception of Zambia, most African countries forbid abortion entirely or permit it only if the pregnant woman's life or health is threatened. The Kenyan laws are

such that, abortion in any form is absolutely illegal for both the pregnant woman and the person procuring the abortion/carrying out the operation and is liable to imprisonment for a term of up to fourteen years. In this country, even in conditions where a pregnant mother's life is at risk due to the pregnant condition the law does not permit procuring of an abortion. A 'Rule of Practice', which is not yet law, has been developed and is what is used commonly by the medical practitioners whereby they terminate the pregnancy on medical grounds. In Kenya, studies done previously have reported high rates of illegal abortions among those women who have had an abortion ^(10,13). The strictness of the law in many countries has thus resulted in increased practice of illegal abortion.

The main reason why illegal abortion is so much more dangerous than legal abortion is that the former are often performed by unskilled, untrained providers and usually under unhygienic conditions. This results in complications which in short-term include pelvic infection, trauma, and perforation of pelvic viscera, shock and death, and in the long term are possible causes of impaired fertility mainly secondary infertility, a very serious problem to the woman and community. Illegally induced abortion has serious hazards and it has been found to be a major cause of morbidity and mortality among women of reproductive age in developing countries ^(3,4,14), where it accounts for 4 to 80% of maternal deaths in developing country hospitals and additional deaths outside of hospitals. While legal abortion is one of the safest procedures with a death rate in the United States of 1.4/100,000 procedures is about eleven times safer than tonsillectomy. Illegal abortions in developing countries kill 50 – 100 women/100 procedures.

In Kenya studies done previously in KNH have shown that deaths from abortion complications account for about 22.2% of all maternal deaths ⁽³⁾ of which illegally

induced abortions constitute about 80% of all abortion deaths ⁽¹⁵⁾ with 97.4% of those who had evidence of interference dying of sepsis and its associated complications. Elsewhere, abortion is reported to be a major cause of maternal mortality, constituting about 24.4% of all maternal deaths.

The increased incidence of abortion, especially illegal abortion, with its many serious complications has caused a lot of concern particularly in the developing countries. In this connection several research programmes and conferences have sprung up to define the problem and attempt to reduce morbidity and mortality of illegal abortion. An important aspect is the use of contraceptives among the women in the reproductive age to avoid unwanted pregnancies and hence prevent abortion. Though it has been shown from previous studies that more than 80% of abortion patients were aware of contraceptive methods, only a few (less than 50%) had ever used any method of contraception, with the majority of these having had used ineffective methods (6). Few studies have assessed knowledge and perceptions of emergency contraceptives in this group of patients especially in rural areas.

Emergency contraception has been defined as method of contraception aimed at preventing pregnancy after unprotected sex, contraceptive failure, coerced sex or rape. The roots of modern emergency contraception date back to the 1920's when researchers initially demonstrated that estrogenic ovarian extracts interfere with pregnancy in mammals ^(6,16).

Several emergency contraceptives regimes are safe and effective. Combined oral contraceptive containing ethinyl estradiol and levonorgestrel Yuzpe regime, levonorgestrel only pills and the copper IUCD all can help prevent pregnancy

when used after intercourse. These regimes avert at least 75% of the pregnancies expected among women seeking treatment.

Commonly used ones are:

Levonorgestrel

This is a synthetic progestin marketed as postinor. It is now available in this country. It is given as 2 doses of 75 mg taken 12 hours apart, starting within 8 hours and not later than 72 hours after unprotected sex⁽¹⁷⁾. When postinor is used as a primary postcoital method, it is recommended for use within 8 hours of unprotected sex.

Mifepristone

This is a potent antiprogesterone used as a single dose of 600mg, taken within 72 hours of unprotected sex. It has lower side effect profile than Yuzpe method though menstrual disturbances are more. The 600 mg dose is the same dose currently used as part of the medical abortion regimen⁽¹⁸⁾. World Health Organization is investigating the efficacy of Mifepristone in much smaller doses. It is clear that if the smaller doses are proven to be safe and effective these could be more palatable/acceptable politically in countries where abortion is restricted in so far as it might allay fears that women will hoard pills to use for medical abortion.

Danazol

This is one of the newer methods. The regime is two doses of 400 mg taken as 200 mg 12 hours apart. Regimens such as 3 doses of 400 mg each taken 12 hours interval and two doses of 600 mg each taken 12 hrs apart have also been investigated^(19,20). Danazol's advantages are that its side effect are less prevalent and less severe than those associated with Yuzpe method, and that it can be taken by women with contraindications to combined pills or estrogens.

However, the usefulness of effectiveness of Danazol remains unresolved with some studies showing that it is effective while others show it does not work.

Intrauterine Contraceptive devices (IUCDS)

This is quite an effective method with the copper IUCD having a failure rate probably not higher than 0.1% when used as an E.C. Although this method is very effective and the fact it can also be initiated later than the hormonal regimen (up until the expected start period of implantation, 6 to 9 days), its usefulness is limited because of its risk of infections especially in victims of sexual assaults or following intercourse with a new partner. IUCD insertion is also not recommended for nulliparous women and women at risk of STD's who unfortunately constitute a sizeable proportion of those requesting or requiring emergency contraception.

Studies have shown that 16 to 24 year olds have a high incidence of unwanted and unintended pregnancies.^(6,21) Among this group, illegal abortions are also increasing. A study on emergency contraception among undergraduate female students in two Kenyan Universities found that 52% of the women, had unplanned

sexual intercourse in the last one month. This study found that only 10.9% of the students were using contraceptives, while the pregnancy rate was 32.7% and abortion rate of 42.9% among those who became pregnant. Use of emergency contraception among these students (3.0%) was very low⁽⁷⁾. Unintended pregnancies are not only a problem of developing countries but also a global one. This problem is endemic in the United States⁽²²⁾. High incidence of unintended pregnancies led to high incidence of abortions. The cost of care for this eventuality is quite enormous. Although it has been shown that emergency contraception prevents unwanted/unplanned pregnancies, only 1% of the women of reproductive age have an induced abortion. Thus the cumulative number of women who have had induced abortions far exceeds the number who have used emergency contraception⁽²³⁾. In developing countries where abortion remains illegal, unsafe abortions are a leading cause of death among women of reproductive age. Abortions are also a major drain on scarce medical resources. In these settings, the availability of emergency contraception could prevent much needless death and suffering. It could also reduce the growing pressure on hospital beds, nursing staff, blood supplies and medications needed to treat the life threatening medical complications of abortions performed by untrained practitioners under unsanitary conditions.

Some objectives of reproductive health on safe motherhood and adolescent health include: to reduce maternal mortality due to pregnancy and childbirth, to reduce morbidity and mortality due to unsafe abortions. It is plausible that the extended use and availability of emergency contraceptive could remarkably help to reduce the level of unwanted and unplanned pregnancies and consequently therefore, morbidity due to unsafe abortions, thereby reducing maternal morbidity and mortality due to pregnancy and childbirth.

Rationale

In Kenya unsafe abortion is a major problem contributing significantly to the high number of maternal deaths and morbidity. In Kenya women have a one in twenty chance of dying from pregnancy related causes in their lifetime. Residents of Nairobi and Mombasa reported slightly fewer births on average than other rural residents⁽²⁴⁾. This might be due to much awareness in contraceptive knowledge and use in urban as opposed to rural areas. Previous studies have shown that knowledge and contraceptive use is higher among the educated as opposed to uneducated. The health and demographic survey 1996 has suggested that rural girls are more exposed to sexual intercourse than the urban ones⁽²⁵⁾.

Illegal abortions are usually performed as a means of avoiding unwanted/unplanned births, while at same time concealing the abortion due to its legal implications.

Experts predict that increased public knowledge of EC will reduce 800,000 abortions each year. The FDA predicted that if doctors and women adopt Emergency Contraceptive Pill (ECP), it could prevent up to 2.3 million unintended pregnancies every year in the US and prevent up to one million abortions. A conference in India indicated that ECP could make a major effect at reducing that countries 11 million legal and illegal abortions each year. Emergency contraception use is largely determined by women's (potential users) knowledge about the method and availability hence the importance to evaluate the KAP of women seeking post abortion care services about E.C. with a view of promoting E.C.

In Kenya no such studies have been done to evaluate awareness of EC among post-abortion care seekers in a rural set-up. Such study can help determine impact of EC on abortions and its complications.

Hypothesis

- Patients seeking post abortion care services have poor knowledge about Emergency Contraception.
- The attitude of these patients is negative
- The use of emergency contraception among these patients is low

Objective

To determine the knowledge, attitude and use of emergency contraception among the women seeking post abortion care services in a rural set-up.

Specific Objectives

1. To determine circumstances of the index pregnancy loss whether spontaneous or interfered with.
2. To determine the contraception behaviour of women seeking post-abortion care services
3. To determine the level of knowledge on emergency contraception among women seeking post-abortion care services.
4. To determine the attitude towards emergency contraception of women seeking post abortion care services.

STUDY DESIGN AND METHODOLOGY

5. To determine the use of Emergency Contraception of women seeking post abortion care services.

This was a descriptive cross-sectional study.

Study site

The study was carried out at Muringu's District Hospital in Central Province, Kenya. This hospital mainly serves Muringu District and its rural environs. The most common of the acute gynaecological emergencies such as abortions and acute pelvic inflammatory diseases, Bartholin's abscess, scars secondary to them and other gynaecological causes or complications, etc.

Within the ward there is a room specifically prepared to serve as a minor theatre using the patients with incomplete abortion having evacuation of the uterus done by suctioning using the Kanone Canula. The patients with incomplete abortion are not kept in the admission and discharged on analgesics and antibiotics. Cases are admitted in case of anaemia, sepsis etc.

Study population

Emergency post-abortion services at Muringu District Hospital.

Duration

The study was carried out from mid August to Mid September 2002.

STUDY DESIGN AND METHODOLOGY

Study design

This was a descriptive cross-sectional study.

Study area

This study was carried out at Murang'a District Hospital in Central Province, Kenya. This hospital mainly serves Muranga District and its rural environs. The ward admits all the acute gynaecological emergencies such as abortions and ectopic pregnancies, acute pelvic inflammatory diseases, Bartholins abscess, acute haemorrhage from any other gynaecological causes or complications, etc.

Within this ward there is a room specifically prepared to serve as a minor theatre where the patients with incomplete abortion have evacuation of the uterus done by aspiration using the Karman Cannula. The patients with incomplete abortion are done evacuation on admission and discharged on antibiotics and analgesics.

Others are observed in case of anaemia, sepsis etc.

The study population

Patients seeking post abortion services at Muranga District Hospital.

Study duration

The study period was one month from mid August to Mid September 2002.

Sample size.

Inclusion Criteria

- $n = \frac{Z^2 p(1-P)}{C^2}$
- $Z = 1.96$
- $P = \text{Prev. rate} = 15\%$
- $C = 0.05$

Exclusion Criteria

A p value of 15 was used as studies done in 1985 and 1990 in the UK (Johnstone Z.W., Hover potential use of postcoital conception to prevent unwanted pregnancy BMJ 1985, April 6, 290(6474) 1040 (Burton R, Seavage W Readf – The morning after pill is the wrong name for it and 1990 – 91 in Nigeria Adirima J, Okello A.O. The pill, perception and usage among Nigeria students – advance in contraception 1993 to Dec. 1994: 341-9 show low prevalence rate of 10%, 19% and 11.5%. Kaihura found a prevalence rate of 3%.

$$n = \frac{1.96^2 \times 0.15 \times 0.85}{0.05 \times 0.05} = 195$$

$$0.05 \times 0.05$$

ELIGIBILITY

Inclusion Criteria

1. All women seeking post abortion care services at the acute gynaecological ward of Murang'a District Hospital during the time of study and consent. Only those well enough to participate in the study were eligible for the interview.
2. Women whose pregnancy loss was less than 28 weeks of gestation.

Exclusion Criteria

1. All the patients who were not willing to give consent to join the study were excluded.
2. Very ill patients
3. All pregnancy complications after twenty-eight weeks of gestation.

Sampling Procedure

Convenience sampling was used in which all patients who met the inclusion criteria as stated above were consecutively recruited in the study until the sample size was achieved.

Methodology

The patient was interviewed by a trained interviewer between the time after the evacuation and before being discharged from the ward. The information obtained was recorded in an open and closed-ended questionnaire. In order to encourage honest answers the anonymity and confidentiality of the information was maintained. The principle investigator trained the interviewers. Pre-testing with the interviewers was done before beginning the exercise. The trained interviewers recruited all the clients. All patients admitted for post-abortion care during the study period and fulfilled the above inclusion criteria were recruited in the study.

The structured questionnaire will deal with demographic history of the index pregnancy, contraceptive behaviour, awareness and attitude of EC and intention to use.

Data Management

Responses to open-ended questions will be coded and data entered into a microcomputer using SPCC/PC+ data entry programme. Data validation will be done before analysis. Analysis will be done using SPSS/PC programme and will involve descriptive statistics like means and standard and deviations, frequency distributions and cross tabulations.

Ethical consideration

Permission to carry out the study was obtained prior from the departmental research committee, hospital ethical and research committee. Information collected remained confidential and was used for intended purposes only. No incentives were offered to motivate the respondents. A detailed subject consent form (attached) was clearly explained to them. Consent to participate in the study was then obtained. Those that did not consent were then discharged.

CONSENT

Patients will be required to fill informed consent forms.

RESULTS

Demographic profile of the respondents

Table 1: Respondents according to the marital status

	Number	Percentage
Single	51	25.4
Married	148	74.1
Divorced/separated	1	.5
Total	200	100

As shown in the table most of the respondents were married people 74.1% as compared to 25.4% (single).

Table II: Respondents according to religion

	Number	Percentage
Catholic	65	32.3
Protestant	130	64.7
Muslim	5	2.5
Total	200	100

Most respondents 64.7% were protestants as compared to 32.3% Catholics.

Table III: Respondents according to education level

	Number	Percentage
None	3	1.5
Primary	110	55.2
Secondary	87	43.2
Total	200	100

Table III shows the education level of the respondents. Majority of them were of primary and secondary education level.

Table IV: Respondents according to occupation levels

	Number	Percentage
Unemployed	182	91.5
Employed	18	8.5
Total	200	98.5

As shown in table IV most respondents were unemployed 91.5%.

Table V: Types of abortions

	Number	Percentage
Spontaneous	144	71
Induced	56	26.5
Total	200	100

As shown in the above table most of the abortions were spontaneous 71% compared to 26.5% for the induced.

Use of contraceptive methods

Table VI: Contraceptive methods ever used by the respondents

Contraceptive Method	Frequency	Percentage
Emergency Contraceptive	0	0
Pills	103	64
Injectable	19	11.8
IUD	23	14.3
Natural	9	5.6
Pill & Injectable	1	0.6
Pill & IUCD	2	1.2
Injectables & Norplant	2	1.2
Injectables & IUD	2	1.2
Total	200	100

As shown in table VI the most commonly used method of contraception was the pill 64%, followed by IUDs and injectables 14.3% and 11.8% respectively.

Knowledge about Emergency Contraceptives

Table VII: Methods of family planning mentioned

Method	Familiar with EC		Not familiar with EC		P-value
	NO	Number	NO	Percentage	
Pill		97		45	
IUD	3	13	36	10.9	0.6
Injectable	7	22	33	36.5	
Natural		11		5.5	
Total		200		100	

Most respondents mentioned the pill (97%) the method they know most followed by injectables and IUD respectively.

Family	6	3.0	105	96.9	0.6
Friends	5	2.5	95	97.5	
Workplace	1	0.5	19	99.5	
Others	1	0.5	19	99.5	
Unsure	16	8.0	172	88.2	
Don't know	2	1.0	18	99.0	0.27
Unsure	7	3.5	193	96.5	
Unsure	4	2.0	196	98.0	0.001
Unsure	3	1.5	197	98.5	
Unsure	10	5.0	190	95.0	0.2
Unsure	0	0	200	100	

Table VIII: Proportion of respondents who were familiar with emergency contraception different categories

<u>Category</u>	<u>Familiar with EC</u>		<u>Not familiar with EC</u>		<u>P-value</u>
	<u>NO.</u>	<u>%</u>	<u>NO</u>	<u>%</u>	
<u>Ever used contraceptive</u>					
Yes	5	3.1	56	96.9	0.6
No	7	17.5	33	82.5	
<u>Currently using any method</u>					
Yes	4	2.8	139	97.2	
No	8	13.8	50	86.2	0.006
<u>Education level</u>					
- Primary education	6	5.4	105	94.6	0.6
- Secondary education	6	6.9	8	93.1	
<u>Occupation</u>					
- Employed	10	11.8	172	88.2	0.27
- Unemployed	2	5.5	15	94.5	
<u>Marital status</u>					
- Single	7	13.7	44	86.3	0.001
- Married	4	2.7	145	97.3	
<u>Religion</u>					
- Catholic	2	3.1	63	96.9	0.2
- Protestants	10	7.7	20	92.3	
- Muslim	0	0	0	100	

Table VIII above shows the various factors associated with knowledge about emergency contraception.

Of the respondents who were single, 13.7% had heard of EC compared to 2.7% of the married respondents ($P < .001$).

While all Muslims had not heard of EC, 3.1% and 7.7% of Catholics and Protestants had heard of EC. The difference was not statistically significant ($P = 0.2$).

For those with primary education, 5.4% compared to 6.9% for those with secondary education had heard of EC. There was no significant difference between the two groups ($P = 0.6$).

No significant difference ($p = 0.27$) for those who have heard of EC between respondents who are employed (11.8%) and those unemployed (5.5%).

There was a significant difference for those who have heard of EC between respondents who have ever used any contraception and those who have not 3.1% versus 17.5% $p = 0.003$.

A higher percentage of those currently not using any method 13.8% had heard of EC compared to 2.8% of those currently using a method ($p = 0.006$).

Table IX: Sources of knowledge about emergency contraception among respondents

Mode of learning	Number	Percentage
Friends & Colleagues	5	3
Media	1	0.5
School	1	0.5
Miti Shamba Dispensary	1	0.5
Herbalist	1	0.5
Did not know	191	96
Total	200	100

Most frequent source of information was friends and colleagues (3%). Most of the respondents had not heard about emergency contraception.

X detailed knowledge about emergency contraception

Table X: Emergency contraceptive methods listed by the respondents

Method	Number	Percentage
Malariaquine	2	1
Concentrated tea leaves	1	.5
Pills	8	3
Didn't know	189	95.5
Total	200	95.5

Table X shows how this group has poor knowledge about EC. They mentioned non-medical methods used in the rural areas for attempting abortion. Those who mentioned pills (3%) didn't have an idea how they are used.

Attitudes as regards emergency contraception

Of the respondents 20.4% said that emergency contraception was abortifacient as it destroys life, which has already started.

DISCUSSION

Abortion is the termination of pregnancy before the period of viability which is considered to occur at 28th week. However, for international acceptance the limit of viability is brought down to either 20th week or fetus weighing 500gm.

Illegal abortions are usually done as means of avoiding an unwanted pregnancy while at the same time concealing the abortion due to its legal implication. Most of these abortions are done by unskilled, untrained providers and usually under unhygienic conditions.

This study was conducted in a rural area where access to medical care is low due to poor infrastructure and resources. Most of the respondents said they had not procured an abortion. This was expected as the Kenyan Law forbids abortion.

The mean age of the respondents was 25.8 years, 25% of respondents were single while 74.1% said that they were married. The average age of those that were single was 20-29yrs while those that were married was 27.6 yrs. This was statistically significant ($p < 0.001$).

There was a high rate of unemployment with 90.5% compared to 8.5% who were employed. The mean gestation at which the abortion occurred was 12.7% weeks. Among the respondents 25.9% conceded to having induced the abortions.

The increased incidence of abortion especially illegal abortion, with its many serious complication has caused a lot of concern particularly in the developing countries. An important aspect is the use of contraceptives among the women in the reproductive age to avoid unwanted pregnancies and hence prevent abortion.

Most of the respondents (80.1%) had used contraceptive method, the most popular being the pill.

Overall only about 5% of the respondents had heard about EC. Of these the commonest source of information was friends/colleagues (6%) followed by media, school and traditional practitioners (1% each). EC use is largely determined by women's knowledge about the method and availability of the method before they need it. In Muranga District Hospital information on the importance and availability is needed. The health provider needs to be trained and EC integrated in frequent health talks. A study on qualified nurses in Kenya found that they have a low knowledge about EC (Gichangi et al.).

Globally, knowledge and use of the emergency contraception has been poor until recently despite the existence of the method. In 1985, Johnstone⁽²⁶⁾ in a study involving 100 women seeking termination found only 41 women with vague or inaccurate knowledge of post coital contraception, while 47 of them had no knowledge at all. In 1990, Burtun⁽²⁷⁾ found 65% of women seeking abortion having heard of the morning after pill but only 19% had the correct knowledge in its use.

In this study no one had used EC apart from one who used herbs. This further demonstrates that there is generally poor knowledge about EC. Availability of EC is particularly important for these women because it could have avoided the various complications that brought them to hospital.

Widespread availability and use of EC could therefore contribute directly to improvement of women's health. This will go a long way in achieving WHO (1998) reproductive health objective of reducing maternal morbidity and mortality due to unsafe abortions.

Some factors were found to influence knowledge of E.C. About 3.1% of the respondents who had ever used any contraceptives were familiar with EC as compared to 17.5% who had not. This possibly further demonstrates that E.C. is not emphasized adequately in the family planning outlets. This was further shown when knowledge about E.C. in respondents currently using any family planning method and those not on any was compared (13.8% for those not using compared to 2.8% those currently using a method ($p = 0.006$)). Emphasis on Emergency Contraception need to be integrated in the family planning outlets.

In the study age was found not to influence knowledge on emergency contraception. The average age of those who had heard about E.C's and those who had not was 22 and 26 years respectively. ($P = 0.07$). The average age of the respondents who considered E.C. to be an abortion was 27.4 years while those who considered it not to be an abortion was 25.6 years. ($P=0.06$). This was not significant.

There was no significant difference for those who have heard of EC between respondents who are employed (11.8%) and those who were unemployed ($p = 0.27$). This again demonstrates low level of knowledge for EC, as one would expect the employed to be more informed. For those with primary education 5.4% compared to 6.9% with secondary education had heard of E.C. There was no significant difference between the two groups ($n = 6$). Most of the secondary

school leavers in this setting got their education locally. There is a dire need to include family planning studies in their curriculum. It is possible that after they leave, and spend most of their time here the level of knowledge does not change much. However, this forms a good target group to educate on the role of E.C.

While all Muslims had not heard of E.C., 3.1% and 7.7% of Catholics and Protestants respectively had heard of E.C. The difference was not statistically significant $p = 0.2$. Most of the respondents perceived their inadequacy of knowledge about E.C. and expressed the need for more information on types available, mode of action and side effects. The methods that they named as E.Cs demonstrated very low knowledge. Methods listed were pills (3%), herbs and Malariaquine tables 1% each and concentrated tea leaves 0.5%. Most of them did not have an idea how the methods they listed were used.

They did not have much knowledge about fertility period. However, it is interesting to note that some had an idea that the methods are supposed to be taken as stat doses. The attitude of the users is important for promotion and provision of E.C. Of the respondents 20.4% said the emergency contraception was abortifacient. Marital status, age and religious affiliations did not influence this view.

There was approval for E.C. use by rape victims (22.4%) with 13.4% of respondents saying that single ladies should use E.C.s while 6% recommended for schoolgirls and married women respectively. There was overwhelming approval for the impact of ECs on abortion incidences, with 78% of the respondents saying that its availability and more information would drastically reduce incidences of abortion.

Of the respondents 80.6% felt that the EC should be provided for at a cost. About 9% and 6.5% of the respondents felt that it should be free and not to be provided at all respectively.

The overwhelming view that E.Cs should be provided for a cost probably was due to the low knowledge about them.

This study has identified two main problems relating to wide spread availability and use of E.C. among patients treated for abortion complications in this area. First, potential users are uninformed about the method and therefore they cannot look for it when need arises. This is coupled with low level of information among providers (Gichangi et al. 1999). This could be due to the fact that this method is recently introduced in the country and hence it will take time to reach here. It has been shown that if family planning providers mentioned this method at regular check ups, women will know about it before they need to use it (NGO et al. 1997, Slonide 1997). E.C. use largely determined by women's knowledge about the method and availability before they need it. (Cases and Raymond 1997).

Conclusions

1. There was poor knowledge of EC among this group of women.
2. Emergency Contraception is under utilized in Kenya. This situation might remain so unless efforts to improve the knowledge of E.C. among women are undertaken.
3. There was enormous approval that E.C. could reduce incidence of abortions.

Recommendations

1. Emergency contraception should be made available to all women who seek it provided no contraindications are present.
2. Advocacy and information (education communication (/EC) activities about emergency contraception should be strengthened and materials provided at grassroot levels.
3. Refresher course in family planning for all family planning providers at the grassroot levels. Incorporating E.C. will improve knowledge and hence usage.

Interventions Planned

1. Lectures on E.C. should be planned to all health providers including the policy makers at the Muranga District Hospital and its outreach health centers.
2. More information should be provided in form of posters and handouts in Kikuyu, Kiswahili and English.

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**LABOUR OUTCOME OF PATIENTS PRESENTING IN LATENT PHASE OF
LABOUR AT KENYATTA NATIONAL HOSPITAL
CONSENT FORMS**

SUBJECT CONSENT FORM

**ACCEPTIBILITY OF FAMILY PLANNING WITH SPECIAL REFERENCE TO
USAGE OF EMERGENCY CONTRACEPTION OF PATIENTS BEING TREATED FOR
POST-ABORTION COMPLICATIONS IN A RURAL SET UP.**

Dear client,

We are carrying out a study to determine the usage of family planning methods in particular reference to emergency contraception. Emergency contraception are methods used to prevent pregnancy after unprotected sex, after contraception failure, coerced sex rape. The commonly used are oral tablets (marketed as postinor) taken one tablet within twelve hours of unprotected sex and then the other table within seventy-two hours. They help avert at least 75% of unwanted pregnancies. They work by preventing the product of fertilization from attaching to the inside of the uterus and therefore it is not an abortion in itself. They are affordable about one hundred shillings per one dose. And are available in most chemists. They have minor side effects just like most drugs e.g. nausea which is self limiting after the completion of the dose. Should one get pregnant after the emergency contraception; there are no harmful effects to the fetus. Emergency contraception is not to be used as regular method of contraception but rather reserved for the indications mentioned earlier. Other methods used is intrauterine e contraception device (IUCDs) popularly known as the 'coil' which has a failure rate probably not higher than 0.1% when used as an emergency contraception. This involves inserting the coil into the uterus done in a medical facility and by qualified medical personnel. This can be done even upto 9 days after the unprotected sex. However its usefulness is limited because of risk of infections. The information we gain will help us come up with recommendations on how we can use emergency contraception to reduce incidences of unwanted pregnancies, which lead to abortions, and their relevant complications e.g. pelvic abscess, infertility and even death.

We are asking you to consider being in the study. We are assuring you our strict confidentiality as to the contacts of your responses. No names will be written. If you prefer not to be part of the study, feel free to say so. If you have questions about the study feel free to contact one of the people below.

If your decision is to take part in the study we ask you to sign on the form below.

I _____ of _____ agree to
participate in the study as explained to me by _____

Patient's signature _____

Witness _____

Signature _____

Person responsible for research.

Dr. E.W. Murage
P.O. Box 76098
Nairobi, Kenya
Tel: 710521

Dr. J.B. Oyieke
Chairman of Obs/Gynae
University of Nairobi
P.O. Box 20723, Nairobi
Tel. 712324

Others

Dr. Wasike C.S.G.
Specialist Obs/Gynaecologist
Kenyatta N. Hospital
P.O. Box 20723, Nairobi
Tel. 726300

STAKABADHI YA MAKUBALIANO

UKUBALIFU WA UPANGAJI UZAZI KWA KUREJELEA UTUMIAJI WA DHARURA WA KINGAMIMBA (UZUIAJI MIMBA) KWA WAGONJWA WANAOTIBIWA KWA UTATA WA UIVIAJI MIMBA KATIKA MAZINGIRA YA MASHAMBANI.

Kwa mteja,

Tunafanya uchunguzi kubainisha matumizi ya mbinu za upangaji uzazi hasa tukirejelea kingamimba za dharura. Kingamimba za dharura ni njia mojawapo zitumiwazo kuzuia mimba baada ya kujiamiana bila kutumia kinga yoyote, baada ya kingamimba kutofaulu au ukabaji. Inayotumika zaidi ni tembe ijulikanayo kama (Postinor) inayomezwa tembe moja kati ya muda wa saa kumi na mbili baada ya kujiamiana bila kinga. Tembe zilizosalia, kati ya muda wa saa 72 (siku tatu). Zinasaidia kuzuia angalau asilimia 75% ya mimba zisizotakikana. Isitoshe, tembe hizi huzuia mimba ili isianze kukua tumboni na hivyo basi si njia moja ya uaviaji mimba (kutoa mimba). Bei yake nafuu kwani ni shilingi mia moja kwa kipimo na zinapatikana katika maduka ya dawa. Yana madhara kidogo kama tembe nyingine; zaweza kumfanya mtu ahisi kitefutefu baada ya kumeza. Endapo utapata mimba baada ya kutumia kingamimba hii, hakuna madhara yoyote kwa kijusi (foetus). Kingamimba hii isitumiwe kama njia ya kawaida kuzuia mimba lakini, itumike kama ilivyodokezwa hapo awali.

Njia nyingine zitumiwazo ni kama kitanzi (coil) (IUCDS) ambayo kima chake cha kutofaulu inakisiwa kuwa sio juu ya asilimia nukta moja (0.1%) ikitumiwa kama kingamimba. Inahusisha kuingiza kitanzi chupani (uterus) inayofanywa na wataalam wa kiafya tena katika mazingira yanayofaa. Hii yaweza kufanywa hata siku tisa baada ya kujiamiana bila kinga. Ijapokuwa ufanisi wake ni dhaifu kwani waweza kupata maambukizo. Ujumbe tunaoupata utatusaidia kupendekeza jinsi ambavyo tunaweza kutumia kingamimba hii kupunguza matukio ya mimba zisizotakikana ambazo zinasababisha uaviaji mimba na madhara yake kama vile usaha katika fupanyonga, utasa na hata kifo.

Tunakuomba uwe mmoja wa washiriki. Tunakuhakikishia kuwa mkataba huu ni wa siri kwa mujibu wa majibu yako. Jina lako litabanwa kabisa. Una uhuru wa kukataa au kukubali kuwa mshiriki. Endapo una maswali kuhusu suala hili, mwandikie mmojawapo wa madaktari hawa ikiwa umeamua kuwa mmoja wa wahusika tunaomba utie sahihi kwenye fomu hii.

Mimi _____ wa _____

nakubali kushiriki kwenye mtaala huu kama nilivyoielezwa na _____

Sahihi ya mgonjwa _____

Shahidi _____

Sahihi _____

UNIVERSITY OF NAIROBI

Wanaosimamia utafiti huu ni

Daktari E.W. Murage
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Simu: 02-710521



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Ref: KNH-ERC/01/1396

4 July 2002

Dr. Ephantus Wachira Murage
Dept. of Obs/Gynae
Faculty of Medicine
University of Nairobi

Dear Dr. Murage,

RESEARCH PROPOSAL "PREGNANCY OUTCOME OF PATIENTS PRESENTING IN LATENT
PHASE OF LABOUR AT KENYATTA NATIONAL HOSPITAL" (P26/3/2002)

This is to inform you that the Kenyatta National Hospital Ethical and Research Committee has reviewed and **approved** the revised version of your above cited research proposal.

On behalf of the Committee I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of data base that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Thank you.

Yours faithfully,

PROF. A.N. GUANTAI
SECRETARY, KNH-ERC

c.c. Prof. K.M. Bhatt,
Chairman, KNH-ERC,
Dept. of Medicine, UON.

Deputy Director (CS),
Kenyatta N. Hospital.

Supervisors: Dr. J.B. Oyieke, Dept. of Obs/Gynae, UON
Dr. C.S. Wasike, Dept. of Obs/Gynae, KNH

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Ref. KNH-ERC/01/1451

Date.....15 August 2002

Dr. Ephantus W. Murage
Dept. of Obs/Gynae
Faculty of Medicine
University of Nairobi

Dear Dr. Murage,

RESEARCH PROPOSAL "ACCEPTABILITY OF FAMILY PLANNING WITH SPECIAL REFERENCE TO USAGE OF EMERGENCY CONTRACEPTION OF PATIENTS BEING TREATED FOR POST-ABORTION COMPLICATIONS IN A RURAL SET UP" (P27/3/2002)

This is to inform you that the KNH-Ethics and Research Committee has reviewed and approved the revised version of your above cited proposal.

On behalf of the Committee, I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of database that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely,

DR. L. MUCHIRI
For: SECRETARY, KNH-ERC

cc Prof. K.M. Bhatt, Chairperson, KNH-ERC

The Deputy Director (C/S), KNH

Supervisors: Dr. J.B. Oyieke, Dept. of Obs/Gynae, UON
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The Chairman, Dept. of Obs/Gynae, UON

The Dean, Faculty of Medicine, UON