

CASE RECORDS AND COMMENTARIES

FOR THE

EXAMINATION OF MASTERSHIP OF MEDICINE

IN

OBSTETRICS AND GYNAECOLOGY

OF THE

UNIVERSITY OF NAIROBI

SUBMITTED BY

DR. WAMALWA KIBUNGUCHY, MB., CHB. (NAIROBI)

APRIL, 1985

University of NAIROBI Library



0338041 7

UNIVERSITY OF NAIROBI
LIBRARY

ACKNOWLEDGEMENTS:

The compiling of this book epitomizes the years of my medical training in the University of Nairobi. Years in which I have known doubt, perplexity and fear. Years in which I have made mistakes and come to learn the virtues of humility, devotion, and love. In thanking the many people who either directly or otherwise helped in the compiling of this book I will be thanking the people who, at one time or another, held my hand and led me through the long and precarious path of my studies and who helped open my eyes to the most fascinating subject of Obstetrics and Gynaecology.

My sincere acknowledgements, therefore, go:

To Professor J.K.G.Mati, Dr. S.B.O. Ojwang, Dr. W. Mwaura, Dr. A.E. Makokha, Dr. J.B.O. Oyieke, and all the Senior Registrars for their invaluable guidance.

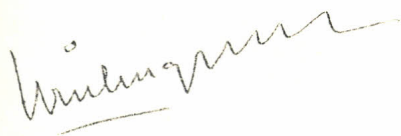
To the Ministry of Health for making it all possible.

To my fellow Registrars for the cooperation and the spirit of teamwork.

To the Nursing Staff for their devotion to work.

Finally, I would like to dedicate this book with love and affection to my children: Reuben, Michael, Christine, and Anita. Our hearts beat as one.

This is to certify that all the cases presented in this book were treated and operated on by me under the supervision and guidance of the Senior members of the Department of Obstetrics and Gynaecology, Kenyatta National Hospital, Nairobi, Kenya.



DR. WAMALWA KIBUNGUCHY, MB.CHB. (NAIROBI)

KENYATTA NATIONAL HOSPITAL,

NAIROBI, KENYA.

This is to certify that the obstetric case No. 5 and the Gynaecological cases Nos. 4, 9, 11, 12 and 14 were treated and operated by DR. W. KIBUNGUCHY under my supervision and guidance at the Kenyatta National Hospital, Nairobi, Kenya.

DR. S. B. O. OJWANG, M.D., M.MED.(O/G), DIP.(GYN. ONC.)

SENIOR LECTURER,

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY,

UNIVERSITY OF NAIROBI,

NAIROBI, KENYA.

This is to certify that the obstetric cases Nos. 7 and 14
and the gynaecological cases Nos. 7 and 13 were treated and
operated on by DR. W. KIBUNGUCHY under my supervision and guidance
at the Kenyatta National Hospital, Nairobi, Kenya.

DR. W. MWAURA, M.B.B.S., M.MED.(O/G)

CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST,

KENYATTA NATIONAL HOSPITAL,

NAIROBI, KENYA.

This is to certify that the obstetric cases Nos. 3,8, and 10
and the gynaecological case No.10 were treated and operated on
by DR. W. KIBUNGUHY under my supervision and guidance at the
Kenyatta National Hospital, Nairobi, Kenya.

DR. A. E. MAKOKHA, M.D.

SENIOR LECTURER,

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY,

UNIVERSITY OF NAIROBI,

NAIROBI, KENYA.

This is to certify that the obstetric cases Nos. 9 and 15 and the Gynaecological case No.15 were treated and operated on by DR. W. KIBUNGUHY under my supervision and guidance at the Kenyatta National Hospital, Nairobi, Kenya.

DR. J. B. O. OYIEKE, MB.CHB.,M.MED.(O/G),C.F.P.,

LECTURER,

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY,

UNIVERSITY OF NAIROBI,

NAIROBI, KENYA.

This is to certify that the obstetric case No.11 was managed
by Dr. W. KIBUNGUCY under my supervision and guidance at the Coast Province
General Hospital, Mombasa, Kenya.

DR. G. S. R. WEBALA, MB.CHB.,M.MED.(O/G).
CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST,
COAST PROVINCE GENERAL HOSPITAL,
MOMBASA, KENYA.

C O N T E N T S - OBSTETRIC CASES :

<u>CASE NO.</u>	<u>PAGE</u>
INTRODUCTION.....	1.
1. Cervical Incompetence: McDonald's Stitch Inserted - Vaginal Delivery of Live Baby.....	18.
2. Successful Induction of Labour in a Rhesus Negative Patient - Live Baby.....	27.
3. Previous Caesarean Section Scar and a True Conjugate of 10.0cm. Elective Repeat Caesarean Section - Live Baby.....	36.
4. Fracture of Right Femur in Pregnancy : Assisted Vacuum Extraction Under General Anaesthesia - Live Baby.....	43.
5. Twin Pregnancy : Spontaneous Vaginal Delivery at Term - Live Babies.....	52.
6. Umbilical Cord Prolapse : Emergency Caesarean Section - Live Baby.....	60.
7. Young Primigravida With Contracted Pelvis and Face Presentation : Emergency Caesarean Section - Live Baby.....	70.
8. Young Primigravida With Breech Presentation : Emergency Caesarean Section - Live Baby.....	77.
9. Total Placenta Praevia : Emergency Caesarean Section - Live Baby..	85.
10. Obstructed Labour and Fetal Distress : Emergency Caesarean Section - Live Baby.....	94.
11. Anaemia in Pregnancy : Successful Management and Term Delivery - Live Baby.....	102.

CASE NO.

PAGE

12. Cardiac Grade IV Disease in Pregnancy : Successful
Management and Elective Vacuum Extraction - Live Baby....112.
13. Severe Pre-Eclampsia and Poor Bishop's Score :
Emergency Caesarean Section - Live Baby.....124.
14. Rhesus Disease : Emergency Caesarean Section at 35+
Weeks Gestation - Early Neonatal Death.....134.
15. Previous Uterine Scar : Scar Dehiscence in Labour
- Uneventful Outcome.....145.

LONG OBSTETRIC COMMENTARY

- Anaemia in Pregnancy at Coast Province General
Hospital(CPGH), Mombasa : A Descriptive Study.....156.

C O N T E N T S - GYNAECOLOGICAL CASES :

<u>CASE NO.</u>	<u>PAGE</u>
1. Incomplete Abortion : Evacuation of the Uterus.....	192.
2. Right Bartholin's Gland Abscess : Marsupialization.....	197.
3. Conception With an Intra-Uterine Device In-situ : Right Tubal Pregnancy - Laparatomy and Right Salpingectomy.....	203.
4. Tortion of Right Serous Cystadenoma and Left Dermoid Cyst : Bilateral Oophorectomy.....	210.
5. Schistosomiasis of the Cervix : Medical Treatment.....	220
6. Ruptured Tubo-ovarian Abscess: Laparatomy and Left Salpingo-oophorectomy.....	226.
7. Vesico Vaginal Fistula : Successful Repair.....	234.
8. Multiple Uterine Fibroids : Total Abdominal Hysterectomy.....	242.
9. Primary Infertility : Investigations and Tubal Surgery.....	251.
10. Grandmultiparity : Laparoscopic Falope Ring Tubal Ligation.....	259.
11. Genital Prolapse : Manchester Repair Operation.....	266.
12. Choriocarcinoma : Chemotherapeutic Management.....	274.
13. Ovarian Serous Cystadenocarcinoma - Stage III : Total Abdominal Hysterectomy, Bilateral Salpingoophorectomy and Monthly Chemotherapy.....	284.
14. Endocervical Carcinoma In-situ : Extended Hysterectomy.....	294.
15. Perforation of the Uterus and Injury to Small Intestines Complicating Surgical Termination of Pregnancy : Uterine Repair, Resection and End-to-End Anastomosis of the Gut.....	303

LONG GYNAECOLOGIC COMMENTARY

Carcinoma of the Cervix and Cervical Intraepithelial Neoplasia (CIN) : Screening of a High-Risk Group.....	313.
---	------

I N T R O D U C T I O NKENYATTA NATIONAL HOSPITAL:

Kenyatta National Hospital (KNH) is the National referral and teaching hospital of the Republic of Kenya. Situated in the capital city of Nairobi, KNH also provides primary, secondary and tertiary services to the population of Nairobi (now estimated to number about one million) and its environs.

For teaching and research purposes, KNH works in close association with the University of Nairobi and the Medical Training Centre.

THE OBSTETRIC UNIT:

The Obstetric Unit of KNH was started in 1965 with the aim of conducting about 1500 deliveries per year. Over the years, with rapid increase in population, this unit now handles close to 7,000 deliveries annually. Obstetric services are provided in the antenatal clinics, postnatal clinics, maternity wards and labour ward. Patients are managed on "FIRM" basis of which there are three - FIRMS I, II and III. There are 3 maternity wards each having 32 beds. Firm I patients are managed in ward 2, Firm II patients in ward 1 and Firm III patients in ward 3. Wards 1 and 2 are on the ground floor, and ward 3 is on the first floor of the modern ward tower complex. At any one time, each ward has roughly equal number of antenatal and postnatal patients.

The labour ward has 10 beds in first stage, 3 delivery rooms, one room for critically ill patients (mainly comatose patients and patients with severe hypertensive disease in pregnancy or eclampsia), and two theatres. One theatre handles emergency and elective obstetric operations, and the other theatre is reserved for postpartum tubal ligation under local anaesthesia.

ANTENATAL CLINIC:

Done by a Senior Registrar, booking for antenatal clinic is held every Monday morning. About 50 cases are selected each time. Only high risk cases are booked into the clinic based on the following criteria:

- 6
- (i) PRIMIGRAVIDA: Teenage, elderly or short.
 - (ii) MEDICAL DISEASES: Cardiac disease, hypertension, diabetes mellitus, thyrotoxicosis and Rhesus isoimmunization.
 - (iii) PREVIOUS OPERATIVE DELIVERIES: Caesarean section, vacuum extraction and forceps delivery.
 - (iv) PREVIOUS OBSTETRIC COMPLICATIONS: Ruptured uterus, vesico-vaginal fistula (repaired or unrepaired) and postpartum haemorrhage.
 - (v) BAD OBSTETRIC HISTORY: Stillbirths, neonatal deaths, recurrent abortions.
 - (vi) GRANDMULTIPARITY: Para 5 or more.
 - (vii) OTHER INDICATIONS: Previous history of infertility, ovulation induction, suspected multiple pregnancy, and members of staff or their wives.

Once a patient is booked, blood samples are taken from her for haemoglobin and haematocrit estimation, Kahn (or V.D.R.L.) test, and blood group and Rhesus typing. Her weight, height and blood pressure are recorded and urine is checked for sugar proteins and ketones. She is then examined by one of the Registrars of the Firm booking.

All the cases who are not booked, because they do not fulfil any of the booking criteria, are referred with a note to the City Council clinic nearest their homes for antenatal care.

Those who are booked are subsequently seen once a month upto 28 weeks, fortnightly upto 36 weeks/
and then weekly until delivery. However, frequency of the visits may be shorter depending on the condition of each case. At each visit, the patient's urine is examined for sugar, proteins and ketones, and her blood pressure and weight are recorded. This is done by a nurse or midwife. The Registrar then examines the patient and listens to her complaints if any. The uterine size, lie and presentation of the fetus are noted. Fetal heart rate is then ascertained.

All primigravidae and patients with one previous scar undergo clinical pelvimetry at 36 weeks gestation.

Clinical Pelvimetry:

The patient is explained about the procedure and asked to empty her bladder. She is then placed on the examination couch and moved to the edge of the couch. A firm pillow is placed beneath the buttocks. The examiner's middle and index fingers of a gloved hand are well lubricated with hibitane cream and introduced into the vagina. The anterior sacral concavity and the ischial spines are palpated to give an idea of the midcavity of the pelvis.

The fingers are then pressed upwards in order to reach the sacral promontory. With the middle finger closely applied to the sacral promontory, the vaginal hand is elevated until it contacts the pubic arch, and the immediately adjacent point on the index finger is marked off by the index finger of the free hand. The distance between the tip of the middle finger and the point marked on the index finger is the diagonal conjugate. The true conjugate is then computed by subtracting 1.5-2.0cm. from the diagonal conjugate.

By checking the suprapubic arch and the intertuberous diameter, the adequacy, or otherwise, of the pelvic outlet is gauged.

Radiological erect lateral pelvimetry is performed in addition to clinical pelvimetry in patients with one previous uterine scar or breech presentation at term. Vaginal delivery is allowed only if the true conjugate is 10.5cm. or more with one previous scar or 11.5cm or more with breech presentation.

Amniocentesis for surfactant test:

All patients for elective delivery have amniocentesis done at 38 weeks gestation, or earlier depending on the condition, for determination of pulmonary surfactant as a measure of fetal lung maturity.

Amniocentesis is done in the clinic or in the ward for the in-patients. The procedure is explained to the patient and she is then asked to empty her bladder. The patient is placed in dorsal position and the fetal presenting part disengaged from the pelvis. The examiner then scrubs and puts on sterile gloves. The lower abdomen is then cleaned with hibitane solution and spirit and the area draped with sterile towels. Using the left hand the examiner displaces the presenting part upwards. A 6 cm. 20-gauge lumber puncture needle is then

introduced through the abdominal wall in the suprapubic region and advanced gently into the amniotic cavity. The stylet is withdrawn and a syringe connected to the needle. A variable amount of amniotic fluid is with drawn depending on the reason for doing amniocentesis. The commonest reason for doing amniocentesis in our unit is for surfactant test; then about 4ml. of amniotic fluid will suffice. Amniocentesis for bilirubin spectrophotometry is occassionally done. About 6ml. of amniotic fluid is necessary and then it must be put in a dark-coloured bottle to avoid sunlight breaking down the bilirubin.

After amniocentesis, the fetal heart is auscultated. Then the patient is asked to rest on her side for about 2 hours during which time the fetal heart is auscultated half-hourly.

Surfactant Test (Bubble or Shake test):

Into one clean and dry test tube are added 1ml. of amniotic fluid and 1ml. of 95% ethanol (1:1 dilution). 0.5ml. of amniotic fluid, 0.5 ml. of normal saline and 1ml. of 95% ethanol are added to a second test tube (1:2 dilution) Both tubes are then vigorously shaken for 15 seconds and placed upright in a rack for 15 minutes. The persistence of an intact ring of bubbles at the air-liquid interface after 15 minutes is considered a positive test.

LABOUR WARD:

Booked patients report directly to labour ward once they go into labour. Unbooked patients are first seen at casualty. All patients are seen at the admission desk where the antenatal card is obtained for booked patients. The intern doctor takes a full medical, obstetric and gynaecologic history and then carries out physical examination. This involves general examination (checking for pallor, oedema, dehydration, lymphadenopathy, etc), checking the vital signs, urine examination and systemic examination (respiratory, cardiovascular and abdominal examination). In the abdomen he/she determines the uterine size, fetal lie and presentation, and the fetal heart rate. Presence of uterine contractions is noted. After doing all these, pelvic examination is then performed.

Pelvic Examination:

The procedure is explained to the patient and then she is asked to lie on her back with her legs drawn up and apart. The doctor wears a face mask, scrubs his hands and puts on sterile gloves. The vulva and perineum are swabbed with hibitane solution and the area draped. The index and middle fingers are then introduced into the vagina after inspecting the vulva. Cervical dilatation, effacement, consistency and position are noted. The state of membranes (intact or ruptured) is ascertained; if ruptured, the colour of the liquor, the presentation and position of the presenting part, and the presence of moulding and caput are noted. If the membranes are intact and the cervix is 4cm. or more dilated then artificial rupture of membranes (ARM) is done to augment labour. During ARM the liquor is allowed to drain out slowly and the cord is diligently sought.

The First Stage of Labour:

Once the initial examination shows that the patient is in labour then she is transferred to one of the first stage rooms in labour ward. Half-hourly maternal pulse, blood pressure, duration and frequency of uterine contractions are charted on the partogram. Cervical dilation and descent of the presenting part are noted 4-hourly and charted on the partogram. This frequency can be shorter depending on the individual condition of each patient.

Active management of labour is the policy in our unit. The partogram, therefore, plays the central role in this connection. All nurses, students and other staff are required to be proficient in the use of the partogram. Alert and Action lines are drawn on the partogram once active phase of labour is reached. Syntocinon augmentation of labour, where indicated, is usually done using an infusion drip.

Abnormalities in fetal heart rate and rhythm are evidence of fetal distress, especially when associated with passage of meconium. These patients are reviewed by a senior doctor and are managed by dextrose infusion, oxygen by mask and they are asked to lie on their left lateral sides. If the fetal heart rate does not revert to normal, intervention to achieve immediate delivery is usually necessary

Routine induction of labour is started in the morning, usually by A.R.M. and syntocinon infusion. Extraamniotic prostaglandins are used in patients with intrauterine death or in early gestations.

Patients in established labour are given pethidine or morphin for analgesia. We do not use nitrous oxide or epidural anaesthesia.

Speculum examination is done on patients who present with antepartum haemorrhage or premature rupture of membranes.

The Second Stage of Labour:

At second stage, the patient is taken to one of the delivery rooms and placed on the delivery couch in lithotomy position. Full scrubbing and gowning is done. The vulva and perineum are cleaned with hibitane and the area draped. Vaginal examination is done to assess cervical dilatation and position of the presenting part. The perineum is now infiltrated with 10ml. of a suitable local anaesthetic agent. The patient is encouraged to bear down with each uterine contraction. If the perineum is tight an episiotomy is performed when the head crowns. As the head crowns, it is kept in a flexed position while the other hand protects the perineum using a sanitary pad. As soon as the head is delivered the presence of the cord around the neck is checked. Then the baby's mouth, nose and eyes are wiped with a sterile gauze. After restitution and external rotation of the head, the anterior shoulder is delivered. This is followed quickly by the delivery of the posterior shoulder, the trunk and the legs. The cord is then clamped and cut between the clamps. The baby is wrapped in warm towels and taken to the resuscitation trolley for suction of mucus and secretions from the nose, mouth and pharynx. The Apgar score of the baby at 1 and 5 minutes is noted.

0.5mg. of ergometrine is given intramuscularly at the delivery of the anterior shoulder. The intravenous route is used in grandmultiparas patients with a history of postpartum haemorrhage, and after delivery of multiple fetuses. Ergometrine is not used in patients with cardiac disease and hypertensive disease in pregnancy unless bleeding is more than normal.

Episiotomy:

In our unit, the medio-lateral episiotomy is the one almost exclusively employed. Episiotomy is necessary in patients with tight perineum, vaginal breech delivery, and in operative vaginal deliveries. Episiotomy is performed when the head (or breech) crowns. The middle and index fingers of one hand are inserted into the vagina to protect the fetal head (or breech). Using a blunt-tipped Mayo's scissors an incision is made in the perineum starting in the midline and directed laterally and downwards. Properly performed this incision should include the vaginal skin, the bulbospongiosus and the superficial transverse perinei muscles, and the perineal skin.

Repair of the episiotomy is done after delivery of the placenta. Chromic catgut No. "0" or "00" is used as a continuous suture ^{to} close the vaginal skin. The perineal muscles are next approximated with interrupted sutures of No. "0" or "00" chromic catgut. The superficial fascia is then united with a continuous suture. Finally, the skin is closed with interrupted sutures of No. "0" or "00" chromic catgut, carefully burying the knots.

Operative Vaginal Delivery:

The vacuum extractor is exclusively used to assist vaginal delivery in our unit. It is indicated in delayed second stage, cardiac disease, severe hypertensive disease, and in poor maternal effort. The technique of vacuum extraction is described in detail under the case of Fracture of the Right Femur in Pregnancy.

Third Stage of Labour:

The placenta is delivered by controlled cord traction after the signs of separation are observed. These signs are: 1. The uterus becomes hard and contracted and rises in the abdomen, 2. the cord lengthens, and 3. there is a gush of blood per vaginam. After delivery of the placenta and membranes, these are checked for completeness before disposal. If the placenta is not delivered in 30 minutes, it is considered to be retained and manual removal is carried out in theatre under general anaesthesia.

The cervix, vagina and perineum are then inspected for tears or laceration. If these are detected they are repaired using No. "00" chromic catgut.

Postnatal Management:

After normal vaginal delivery the patient is observed in labour ward for about two hours. The patient is asked to empty her bladder, and her blood pressure, pulse, respiration and temperature are recorded half-hourly. If her condition is satisfactory, she is transferred to the lying-in ward. Most patients with uncomplicated vaginal deliveries are discharged after 24 hours. Well patients whose babies are in nursery are transferred to the "Mothers Hostel" after 24 hours.

The Newborn:

After delivery all babies are examined and notified. Normal babies stay with their mothers in the wards and early breastfeeding is encouraged. Babies who require special care are admitted to the nursery transported in an incubator.

The Nursery:

The nursery is managed by the Department of Paediatrics. It has 14 cots and 39 incubators and is on the first floor of the ward tower complex. It caters for neonatal problems such as prematurity, hyperbilirubinaemia, neonatal infections, and babies who require observations or resuscitation.

Perinatal Mortality Meetings:

These meetings are held every Tuesday in conjunction with the Department of Paediatrics. Weekly perinatal and maternal mortality reports, and other special reports are compiled and discussed. These meetings serve as a continuous internal audit of our performance.

Postnatal Clinic:

Patients are reviewed in the postnatal clinic six weeks after delivery. This clinic is held every Friday morning in the gynaecology clinic. Apart from routine check up, a pap smear is taken and contraception is discussed.

CAESAREAN SECTION:

Caesarean section is defined as delivery of the fetus through incisions made in the abdominal wall and the uterine wall. Caesarean section may be a planned (elective) operation or an emergency operation. Patients for elective caesarean section are starved overnight. Two or more units of blood are booked for them and their haemoglobin concentration is ascertained.

For both elective and emergency caesarean section the patients sign an informed consent form. This consent is signed by a close relative or a consultant for unconscious patients or those who are below 18 years of age. The patient's abdomen and vulva are then shaved and cleaned with hibitane solution. Premedication using 0.6mg of intramuscular atropine is given half an hour before the operation.

Technique of Caesarean Section:

After placing the patient on the operating table, the fetal heart rate is checked. Under aseptic conditions the patient is catheterised and the catheter left in place to maintain continuous bladder drainage during the operation. The surgeon and the assistant now scrub and put on sterile gowns and gloves. The operative field is thoroughly scrubbed with hibitane solution followed by spirit, and then draped with sterile towels. After this, general anaesthesia is induced using sodium thiopentone (250-500mg intravenously) and scoline (50mg intravenously), and maintained using a mixture of oxygen, nitrous oxide and halothane (0.5%) through a cuffed endotracheal tube.

The abdominal incision commonly employed in our unit is the subumbilical midline vertical incision. Occasionally the pfannenstiel type of incision is used. The commonly performed incision will be described here. This incision starts about 1cm. below the umbilicus and extends to just above the upper margin of the symphysis pubis. Using a clean knife the incision is then deepened to expose the rectus sheath. A small incision is now made in the sheath and this is continued upwards and downwards using a pair of curved scissors. The rectus and the pyramidalis muscles are then separated in the

midline to expose the underlying transversalis fascia and the parietal peritoneum. The transversalis fascia is incised and the peritoneum is picked up with a pair of Spencer-well forceps, ensuring by palpation that no viscera is included in the pick. The peritoneum is then opened and under direct vision the incision is extended upwards and downwards. This exposes the uterus and the bladder.

After correcting any uterine dextro-rotation, abdominal packs tagged with small artery forceps are packed on each side of the uterus. Using a non-toothed dissecting forceps the loose utero-vesical fold of peritoneum is picked up and The opening is then continued/ opened. Laterally on each side in a gentle U incision using curved scissors. By blunt dissection using a mounted swab the bladder is gently separated and pushed downwards to expose to lower uterine segment. The bladder is held down using a Doyen's retractor.

Using a scalpel the uterus is incised transversely for a distance of 2cm. This incision is deepened carefully to expose the membranes (or fetus). With the index and middle fingers of one hand separating the lower segment and the membranes (or fetus), the uterine incision is extended laterally and curved slightly upwards, first in one direction, then the other, until the length is considered adequate to allow safe delivery of the baby. If the membranes are intact they are ruptured at this stage. The Doyen's retractor is now removed. If the presenting part is cephalic, the surgeon's right hand is inserted below and behind the fetal head which is eased gently through the uterine and abdominal incisions. The baby's mouth and nose are wiped with a gauze swab. The fetal head is then grasped in both hands and with the assistant applying fundal pressure the anterior shoulder is delivered followed quickly by the posterior shoulder and the rest of the body. The cord is cut between two clamps and the baby is then handed over to the attending paediatrician for resuscitation.

The anaesthetist is asked to give 0.5mg of ergometrine intravenously and the placenta is delivered by cord traction or manual removal. Green-Armytage haemostatic clamps are applied to the lateral angles of the uterine incision and to any bleeding points. The Doyen's retractor is re-introduced to push down the

bladder. The uterus is now repaired in two layers using No. "1" chromic catgut on a round-body needle. Both sutures are continuous, with the second layer burying the first. The utero-vesical pouch of peritoneum is closed using continuous No. "00" chromic catgut.

The two abdominal packs are now removed. The peritoneal cavity is cleaned to remove any blood clots and liquor. The pelvic organs are inspected and their state noted. As soon as the instruments and swabs are found to be correct, the abdominal wall is closed. Continuous "00" chromic catgut suture is used to close the peritoneum including the overlying transversalis fascia. The rectus muscles are allowed to fall in place and the rectus sheath is sutured with No. "2" chromic catgut mounted on a cutting needle. The skin is closed using interrupted mattress silk or nylon sutures. The abdominal incision is then cleaned and dressed.

Finally vulvovaginal toilet is done simultaneous with massaging of the uterus to expel any residual clots. Unless continuous bladder drainage is required, for example for patients with obstructed labour, the urethral catheter is now removed. Anaesthesia is reversed using intravenous atropine (1.2mg) and prostigmine (2.5mg). Total blood loss is noted.

The description given is that of an uncomplicated primary lower uterine segment caesarean section. Change of technique may be found necessary in certain instances:

- (i) For a repeat caesarean section, or if the patient has had previous laparotomy, the old abdominal scar is first excised before opening the abdomen.
- (ii) Some surgeons prefer the pfannenstiel type of incision although this is only occasionally practised in our unit. Although this incision is said to give a stronger scar and has apparent cosmetic advantages, nevertheless it has its own drawbacks. It needs a certain amount of technical expertise to perform, exposure of the uterus may not be as good, extension of the incision if required may not be possible, and at repeat section re-entry may be more time consuming. These are some of the disadvantages of the pfannenstiel incision.

(iii) Delivery of the baby is by breech extraction in those babies presenting by breech or those lying transversely.

(iv) Classical caesarean section, though rarely performed in our unit, may be found necessary in the following conditions:

- Neglected transverse lie with ruptured membranes.
- When the lower segment cannot be exposed or entered safely because the bladder is densely adherent from previous surgery, or if a fibroid occupies the lower uterine segment.
- Invasive carcinoma of the cervix.
- In some cases of anterior placenta praevia especially if sterilization is to be performed.

(v) Tubal Ligation if requested is performed after the closure of the uterus.

The Pomeroy's technique is the one that is employed in our unit.

Post-operative Management:

The post-operative management of patients who have had caesarean section is as follows:

- (i) Nil by mouth for 24-48 hours.
- (ii) Intravenous fluids of 5% dextrose to alternate with normal saline. She is given 500mls every 6 hours for 24-48 hours.
- (iii) Her vital signs are checked $\frac{1}{2}$ -hourly until she is fully recovered from anaesthesia, thereafter every 4 hours.
- (iv) Analgesia is provided by Pethidine 100mg 6-hourly for 48 hours.
- (v) A strict input-output record is kept.
- (vi) Where antibiotics are indicated, ampicillin is used. In severe infection this may be combined with either Gentamycin, I.V. Flagyl or Dalacin-C (clindamycin).
- (vii) Patients are encouraged to get out of bed soon after the I.V. fluids are stopped.
- (viii) Post-operative haemoglobin check is done on the third post-operative day.

THE GYNAECOLOGY UNIT:

The gynaecology unit of KNH consists of the gynaecology wards, the gynaecology clinic, the family planning clinics, the "T/L" (Tubal Ligation) clinic, the casualty and filter clinics.

The Gynaecology Wards:

The in-patient service consists of one 33-bed acute gynaecology ward and 2 non-emergency ward of 32 beds each. These three wards are housed on the first floor of the modern ward tower complex. Beds in these wards are shared equally by the three FIRMS. Each firm has one or two consultants, 4 senior registrars and about 8 registrars who are postgraduate students. Each firm also supervises and teaches interns and undergraduates who rotate through the firms.

The Acute Gynaecology Ward:

This is ward 6. All gynaecological emergencies are admitted to this ward. The ward has 33 beds but at any time there may be 80-100 patients here. The average daily turnover is about 40 patients. Admissions to this ward include:

- (i) Abortions: All categories of abortions constitute about 60% of the admissions to this ward. Evacuation of the uterus is done daily from 8.30a.m. Uncomplicated abortions do not stay longer than 24 hours in the ward.
- (ii) Pelvic infections: Including acute pelvic inflammatory diseases, post-abortal sepsis, pelvic abscess, and puerperal sepsis. These patients are managed with antibiotics and emergency laparatomies where indicated.
- (iii) Ectopic pregnancy: Once admitted patients with ruptured ectopic pregnancy are operated on without delay. Those with chronic ectopics or unruptured ectopics usually require senior review and further investigations before laparotomy.
- (iv) Bartholin's abscess: Including patients with Bartholin's cyst, are included on the daily evacuation list. Marsupialization is the operation commonly employed.
- (v) Trophoblastic disease: Patients with molar pregnancy are included on the

evacuation list for suction curettage. Those with invasive mole or choriocarcinoma are transferred to the non-emergency wards for chemotherapy and other adjunctive treatment.

- (vi) Abnormal Uterine Bleeding: Including dysfunctional uterine bleeding and postmenopausal bleeding. These patients are usually included on the evacuation list for diagnostic dilatation and curettage.
- (vii) Gynaecological neoplasms: By far the majority are patients with carcinoma of the cervix. Others include ovarian cysts and malignancies, carcinoma of the endometrium, vulva, and vagina. Patients with ovarian cysts usually undergo emergency laparotomy from ward 6. Those with carcinoma of the cervix and vagina are worked up in ward 6 and then transferred to ward 39 for radiotherapy.
- (viii) Miscellaneous conditions: Including "Lost" coils, severe cervical erosions and severe bleeding fibroids.

Non-Emergency Wards:

These are wards 4 and 5. FIRM I has patients in ward 5; FIRM II's patients are in both wards, and FIRM III's patients are admitted in ward 4. Most of these patients are admitted from the gynaecology clinic but some are transferred from ward 6. These patients include those with uterine fibroids, genital fistulae, trophoblastic disease, infertility, genital malignancies, and genital prolapse.

Most of these patients are managed by some form of operation (depending on the condition). These operations are elective procedures.

Pre-operative Preparation:

Acute emergency laparatomies are prepared for theatre straight away. The abdomen is shaved and cleaned and the stomach contents are aspirated. Premedication is provided by atropine 0.6mg intramuscularly half an hour before theatre. Blood is urgently crossmatched and an intravenous drip is started.

Patients on the "evacuation list" have limited preparations. Vulval shaving is not found necessary but they are starved for about 12 hours. Premedication is provided by atropine.

For non-emergency operations, some preparations start in the gynaecology clinic where history is taken and physical examination done. Haemogram, urea and electrolytes are determined. The relevant x-rays and ultrasonographies are obtained. The pap smear is done. Once in the ward, consent for operation is obtained and blood is typed, crossmatched and kept ready for her. She is starved overnight and in the morning of the operation the operation area is cleaned and shaved. Premedication is provided by atropine - 0.6mg intramuscularly and pethidine 50mg intramuscularly; both being given half an hour before theatre.

Theatres and Operations:

The emergency gynaecology theatre is the busiest theatre in the whole hospital. It deals with evacuations, emergency laparatomies and other emergency operations on a daily basis. Some of these operations are described in specific cases in this book.

Elective operations are done on FIRM basis from 8.30a.m. to around 5.00p.m. Most operations are performed under general anaesthesia as outline below:

- (i) I.V. sodium thiopentone and I.V. scoline are used for induction of anaesthesia.
- (ii) Nitrous oxide, halothane and oxygen provide maintenance anaesthesia. These are given as a gaseous mixture through a cuffed endotracheal tube.
- (iii) Curare is given intermittently for muscle relaxation.
- (iv) Atropine and neostigmine are used for reversal.

Position of the Patient:

- (i) Supine Position: This is used for most abdominal operations.
- (ii) Lithotomy Position: This is used for most vaginal operations - e.g. evacuation of the uterus, marsupialization, repair of some genital fistulae, radical or simple vulvectomy, Manchester repair or vaginal hysterectomy, etc.
- (iii) Knee-chest Position: This is used in repair of some vesico-vaginal fistulae.

Abdominal Incisions:

The commonly performed incision is the midline subumbilical vertical incision - the technique of this incision is described under CAESARIAN SECTION. The pfannenstiel type incision and the paramedial incision are occasionally used to open the abdomen.

Operations:

Detailed procedures for operations commonly performed are described under appropriate cases in this book.

Post-Operative Care:

This is similar to that given under CAESAREAN SECTION, except patients with urinary fistulae have in addition continuous bladder drainage for 14 days.

The Gynaecology Clinic:

This is a busy clinic and deals with gynaecological patients who require specialized management. These patients are referred from casualty, the female filter clinic, other hospitals in country, and even patients from neighbouring countries. There is usually a long waiting list for first appointments. A large proportion of the clinic's patients are those with the problems of infertility. Patients are referred for admission after diagnostic work up has been completed.

The "T/L" ("Tubal Ligation") Clinic:

Started recently, this clinic is run by a registrar at Rehimtulla Wing. It runs on a daily basis and deals with cases who desire tubal ligation. It functions in close conjunction with the laparoscopy theatre and an 8-bed recovery ward. The registrar clerks, examines and books patients for tubal ligation and those referred for diagnostic laparoscopy.

Laparoscopic tubal ligation, minilaparotomy tubal ligation and diagnostic laparoscopy are done in the laparoscopy theatre which runs on an outpatient basis. Patients arrive fasted on the day of the operation and are discharged on the same day after a variable amount of rest in the Recovery Ward.

Family Planning Clinics:

These clinics offer the full range of family planning methods and also give advice on family planning. The clinics are run by public health and family planning nurses. A registrar rotates there to deal with day to day problems.

CARCINOMA OF THE CERVIX:

This is considered to be the commonest female genital malignancy in this country. About 4-5 patients with carcinoma of the cervix are admitted every week. These patients are initially admitted ^{/to} ward 6 where basic investigations such as haemogram, urea and electrolytes, and pertinent x-rays are done. The patients are then taken for clinical staging and biopsy. When the biopsy report confirm the diagnosis, patients with advanced disease are referred to the Radiotherapy department for external and intracavitary radiotherapy. 12 beds are reserved in ward 39 for these cases. A few cases with stages I and II are treated with Wertheim's hysterectomy.

LABORATORY FACILITIES:

The department enjoys all the laboratory facilities offered by the hospital. In addition, the department runs its own laboratories which exclusively deal with gynaecological investigations.

Some of the services offered in these laboratories are:

- (i) Cervical cytology
- (ii) Semen analysis
- (iii) Radioimmunoassay
- (iv) Surfactant (Bubble or shake) test.
- (v) Bilirubin spectrophotometry
- (vi) Kleinhaur test
- (vii) Glucose tolerance test
- (viii) Pregnancy test

These laboratories work in close association with the many research projects being undertaken by the department.

CASE NO. 1.

* * * * *

CERVICAL INCOMPETENCE : MCDONALD'S STITCH

INSERTED - VAGINAL DELIVERY OF LIVE BABY.

CERVICAL INCOMPETENCE : MCDONALD'S STITCH
INSERTED - VAGINAL DELIVERY OF LIVE BABY

<u>NAME</u>	: M.M.M. (Mrs.)	<u>L.M.P.</u>	: 7.1.1982
<u>UNIT NO.</u>	: 491015	<u>E.D.D.</u>	: 14.10.1982
<u>AGE</u>	: 22 Years	<u>ADMISSION</u>	: 26.4.1982
<u>TRIBE</u>	: Kikuyu	<u>RE-ADMISSION:</u>	22.9.1982
<u>PARITY</u>	: 1 + 2	<u>DELIVERY</u>	: 22.9.1982

PRESENTING HISTORY

The patient was admitted on 26.4.1982 from the antenatal clinic for insertion of a McDonald's stitch because of cervical incompetence. Maturity at admission was 14 weeks.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 14 years. She had regular menstrual periods with a cycle of 32 days and a duration of 3 days.

She was Para 1 + 2. In March, 1980 she had a spontaneous abortion at 2 months gestation. Evacuation of the uterus was performed at Kenyatta National Hospital (KNH). In October 1980, she had another spontaneous abortion at 4 months gestation. This latter abortion was relatively painless, started with sudden drainage of liquor and was complete. In 1981, she had a premature delivery at 32 weeks gestation following insertion of McDonald's Stitch. The baby weighed 1910 grams and is alive and well.

HISTORY OF PRESENT PREGNANCY

Her last menstrual period was on 7.1.1982 and her expected date of delivery was to be on 14.10.1982. She was first seen in the antenatal clinic on 26.4.1982 at a gestation of 14 weeks where a past history suggestive of cervical incompetence was obtained. She gave no history of drainage of liquor, abdominal pains or vaginal bleeding during the current pregnancy. She was admitted on that day for insertion of McDonald's Stitch.

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

Her formal education ended in Form IV. She was married and worked as a school teacher in Muranga where she lived with her husband who was also a school teacher. There was no family history of twins or chronic medical diseases.

PHYSICAL EXAMINATIONGENERAL EXAMINATION

She was well nourished and was of average height. She was not anaemic clinically and had no leg oedema. Her blood pressure was 110/60 mmHg., pulse was 84 per minute and temperature was 35.8°C. Urinalysis was normal.

CARDIOVASCULAR AND RESPIRATORY SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

Uterine size was 16 weeks. There were no areas of tenderness. Liver and spleen were not palpable.

VAGINAL EXAMINATION

External genitalia were normal. The cervix was short and the internal os could admit one finger comfortably. The uterus was 16 weeks and the adnexae were clear. She was not draining liquor.

DIAGNOSIS AND MANAGEMENT

A diagnosis of cervical incompetence was made. She was admitted to the antenatal ward to be prepared for insertion of McDonald's Stitch. While in the ward routine antenatal investigations were done.

RESULTS OF THE INVESTIGATIONS

Haemoglobin : 13.8 gm/dl.
Packed Cell Volume : 40.8%
VDRL : Negative
Blood Group : "A" Rh (D) Positive

The McDonald's Stitch was inserted on 29.4.1982. Routine pre-operative preparations were accorded to the patient as described in the introduction.

MCDONALD'S CERCLAGE PROCEDURE

In theatre anaesthesia was induced using sodium thiopentone and maintained with oxygen and nitrous oxide. In lithotomy position vulvo-vaginal and perineal toilet was done then draped and catheterised.

Vaginal examination confirmed the earlier findings. An Avourd's speculum was used to expose the cervix. The anterior and the posterior lips of the cervix were then held with two sponge-holding forceps and the cervix pulled forwards and downwards. A purse-string suture of double No.2 mersilk was inserted at the junction of the rugose vaginal mucosa and the smooth cervix using a Mayo's round-bodied needle. The deep bite was started at 3 0'clock through to 12 0'clock, then to 9 0'clock, 6 0'clock and finally to 4 0'clock. The ligature was then tied sufficiently tight to admit just the tip of a finger. Multiple knots were made long enough to facilitate removal when necessary.

Anaesthesia was then reversed and the patient wheeled out of theatre.

POST-OPERATIVE MANAGEMENT

. The patient's vital signs were observed half-hourly until she was fully awake. She was given 100 mg. pethidine intramuscularly 6-hourly for 24-hours. She was kept in bed for 3 days and was sedated with phenobarbitone (30 mg. TDS) from the second post-operative day.

She had no drainage of liquor, abdominal pains or vaginal bleeding. After 3 uneventful days in the hospital she was discharged to be followed up in the antenatal clinic.

ANTENATAL FOLLOW-UP AND DELIVERY

She made 8 antenatal attendances. Observations of blood pressure, urinalysis and uterine size were within normal limits during all the antenatal visits. During each visit, however, she complained of slight intermittent abdominal pains. For this she was treated with bed rest at home, sedation (with phenobarbitone) and ventolin tablets (4 mg TDS).

On 22.9.1982, at 36+ weeks maturity she was re-admitted with labour pains and draining liquor. Speculum examination revealed profuse liquor drainage. The stitch was removed and she progressed very rapidly in labour. One hour after admission she had spontaneous vertex delivery to a male baby weighing 3050 grams who had an Apgar of 5 at 1 minute and 10 at 5 minutes.

The immediate postpartum period was uneventful. Mother and baby were discharged in good condition on 23.9.1982.

POSTNATAL FOLLOW-UP

She attended the postnatal clinic after 6 weeks. She and her baby were well. Her uterus was well involuted and was anteverted.

She was discharged through the family planning clinic for advice on contraception. She was told that she would need a McDonald's Stitch in her next pregnancy so she needed to attend the antenatal clinic early in pregnancy.

COMMENT

Lash and Lash (1), Shirodkar (2) and McDonald (3) were perhaps the first people to focus their attention on cervical incompetence as a cause of a substantial number of mid-trimester abortions. The incidence of cervical incompetence varies between 0.05-1% depending on the method of diagnosis (4,5). In Kenyatta National Hospital, Njage (6) found an incidence of 1:90 deliveries.

The aetiology of cervical incompetence maybe divided into two categories : The rare congenital type, and the more common acquired type. McDonald (7) pointed out that childbirth was the leading cause of cervical incompetence. Other acquired causes include surgical dilatation of the cervix, high amputation of the cervix in carcinoma in-situ, and trachelorrhaphy (3). Intrinsic fibro-muscular tissue abnormality accounts for the rare congenital type of cervical incompetence.

Classically, cervical incompetence is characterised by past history of repeat and/or consecutive pregnancy loss occurring in the second (or early third) trimester. There is an unsuspected and painless dilatation of the cervix followed by spontaneous rupture of the membranes and rapid evacuation of the uterus with no or minimum haemorrhage (3,7). Diagnosis is made on an unequivocal history and confirmed if examination reveals a short cervix with an internal os that is dilated to a greater or lesser extent.

This patient presented with a past history of a first trimester abortion followed by a second trimester abortion that had the characteristics of cervical incompetence. It appears, therefore that the cervical damage was sustained during her first abortion. In her third pregnancy she was given a McDonald's stitch and managed to carry the pregnancy to 32 weeks gestation. In the current pregnancy, her cervix was short and the internal os was somewhat dilated at 14 weeks gestation.

In the non-pregnant state certain investigations, none of which were performed in this patient, may aid in the diagnosis of cervical incompetence. These are :- 1. A hystero-cervico-gram using a Leech-Wilkinson cannula shows the characteristic "funnel" outline of the contrast media, 2. Hegar's dilator No. "3" passes easily through the internal os, and 3. a positive "traction test" of Bergman and Svenerund.

Block and Rahhal (5) and McDonald (7) reviewed these diagnostic aids and concluded that they were inferior and were no substitute to an accurate history.

With the elucidation that cervical incompetence was a discrete entity also emerged many and varied methods of its management. Lash and Lash (1) described, a now obsolete, method that involved a wedge resection on the anterior part of the cervix extending to the internal os then resuturing the edges. This is done in the non-pregnant state. Shirodkar's suture (2) entails excision of the cervical mucosa to deflect the underlying tissue *before inserting the cervical suture.* In 1957, McDonald (3) described a much simpler cerclage method. This method is the one that is exclusively used in our obstetric unit.

The success rate of either the Shirodkar's or the McDonald's cerclage method depends on two factors: Proper selection of patients (4,5) and optimal timing of insertion of the suture (3,7). Cushner (4) found that when the patient's history of cervical incompetence was "good" the success rate was 66.7%; but this dropped to 50% if the history was "suspicious". Block and Rahhal (5) devised a diagnostic and prognostic scoring system based on five criteria or indications. These are:-

1. Previous premature delivery or mid-trimester abortion without obvious cause.
2. Visual evidence of surgical or obstetric trauma to the cervix.
3. History of painless premature labour and rapid delivery.

4. Progressive cervical dilatation greater than 2 cm. on initial examination during mid-trimester.
5. Previous diagnosis of cervical incompetence with previous cerclage.

Block and Rahhal showed that patients with 3 or more indications had statistically higher success rate and longer cerclage - delivery interval than those with 2 or less indications. This patient had 3 indications and her prognosis was good.

McDonald (3) in his initial series of 70 patients inserted the suture when dilatation of the cervix had commenced and when products of conception were being expelled. His success rate was only 47%. In 1963, McDonald (7) ligated 25 patients at 14 weeks gestation, and before dilatation of the cervix had occurred, and achieved a success rate of 80%. In our unit, as was done in this patient, the McDonald's stitch is inserted between 14-18 weeks gestation and before any appreciable amount of cervical dilatation has taken place.

Removal of the McDonald's stitch is done at 38 weeks gestation to await spontaneous onset of labour. This patient went into premature labour at 36+ weeks gestation and the stitch was removed, as it should, at this time. She had very rapid progress of labour and delivered a healthy baby about one hour after removal of the stitch.

REFERENCES :

1. Lash, A.F. and Lash, S.R.
Habitual Abortion : The Incompetent Internal Os of the Cervix.
Am. J. Obstet. Gynaecol. 59 : 68, 1950.
2. Shirodker, V.N.
A New Method of Operative Treatment of Habitual Abortion in the Second Trimester of Pregnancy. Antiseptic
52 : 299, 1955.
3. McDonald, I.A.
Suture of the Cervix for Inevitable Miscarriage.
J. Obstet. Gynaecol. 64 : 346, 1957.
4. Cushner, I.M.
The Management of Cervical Incompetence by Purse-String Suture.
Am. J. Obstet. Gynaecol. 87 : 882, 1963.
5. Block, M.F. and Rahhal, D.K.
Cervical Incompetence: A Diagnostic and Prognostic Scoring System.
Obstet. Gynaecol. 47 : 279, 1976.
6. Njage, P.
Management of Cervical Incompetence by Purse-String Suture - Kenyatta National Hospital.
M.Med. Thesis, 1979.
7. McDonald, I.A.
Incompetent Cervix as a Cause of Recurrent Abortion.
J. Obstet. Gynaecol. Bri. Commonw. 70 : 105, 1963.

CASE NO . 2.

* * * * *

SUCCESSFUL INDUCTION OF LABOUR IN A

RHESUS NEGATIVE PATIENT - LIVE BABY.

SUCCESSFUL INDUCTION OF LABOUR IN A
RHESUS NEGATIVE PATIENT - LIVE BABY

<u>NAME</u>	: A.K.K. (Mrs.)	<u>LMP</u>	: 18.1.1982
<u>UNIT NO.</u>	: 522955	<u>EDD</u>	: 25.10.1982
<u>AGE</u>	: 25 years	<u>ADMISSION:</u>	26.10.1982
<u>NATIONALITY:</u>	Rwandese	<u>MATURITY</u>	: 40+ Weeks
<u>PARITY</u>	: 3 + 0	<u>DELIVERY</u>	: 28.10.1982

PRESENTING HISTORY :

Mrs. A.K.K. was referred from our antenatal clinic on 26.10.1982 for surfactant test and spectrophotometry of liquor amnii, and then plan for delivery. She did not give any history of labour pains, drainage of liquor or antepartum haemorrhage. Maturity by dates was 40+ weeks.

HISTORY OF PRESENT PREGNANCY :

She was booked in our antenatal clinic because she was Rhesus negative. Her first clinic attendance was on 27.7.1982 at 27 weeks maturity. She was 5ft. 8in. tall and was clinically not anaemic. Her observations of blood pressure, urinalysis and uterine size were within normal limits. Routine antenatal investigations plus indirect coombs' test were done. Her husband's blood was also taken for grouping and Rhesus typing.

.. She subsequently made 8 more unremarkable visits to the clinic. Repeat indirect coombs' test was done on 5.10.1982 at 37 weeks gestation.

RESULTS OF INVESTIGATIONS :

Haemoglobin	:	13.8 gm/dl
Packed Cell Volume	:	41.8%
Blood Group	:	"O" Rh (D) negative
Rh-genotype	:	d $\bar{c}e$ /d $\bar{c}e$
V D R L	:	Negative
Indirect Coombs' test	:	Negative on 27.7.82 and on 5.10.82
Husband's blood group	:	"O" Rh (D) Positive

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY :

Menarche occurred at the age of 13 years. Subsequently she had regular menstrual periods with a cycle of 28 days and a duration of 3 days. Her last menstrual period was on 18.1.1982, and she had no prior history of contraceptive use.

She was Para 3 + 0:

1977: At Kenyatta National Hospital (KNH), she had a spontaneous vertex delivery to a male baby who weighed 7½ lb. after an uneventful full-term pregnancy. The baby was not jaundiced and is alive and well. She was given anti-D immune globulin after delivery.

1978: At Mater Hospital, she had a spontaneous vertex delivery to a female preterm baby at 35 weeks gestation. The baby developed jaundice on the third day which was successfully treated with phototherapy and is now alive and well. The mother was given anti-D.

1980: She had another delivery at KNH to a male full-term baby who weighed 7½ lbs. The baby did not develop jaundice and the mother was given anti-D after delivery.

PAST SURGICAL AND MEDICAL HISTORY :

She gave no history of previous operations, blood transfusion or chronic medical diseases.

SOCIAL AND FAMILY HISTORY :

Her formal education ended in Form IV. She was married and was an accounts student at the Kenya Polytechnic. Her husband was a teacher and the couple with their children live in Nairobi.

There was no family history of hypertension, twins or diabetes mellitus.

PHYSICAL EXAMINATION :GENERAL EXAMINATION :

Her general condition was good. She was not clinically anaemic and had no jaundice or leg oedema. Her blood pressure was 90/60 mm Hg., pulse was 82 per minute and temperature was 36°C. Urinalysis was normal.

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION

The uterine size was consistent with a term pregnancy. A single fetus in cephalic presentation and longitudinal lie was palpable. Fetal heart rate (FHR) was 144 per minute and regular. She had no uterine contractions.

Liver and spleen were not palpable.

VAGINAL EXAMINATION

This was not done at admission because there was no indication for it.

DIAGNOSIS AND MANAGEMENT :

A diagnosis of a Rhesus negative patient at term was made. She was admitted to ward 2 for amniocentesis and plan for delivery.

Amniocentesis was done on the following day (the procedure is described in the introduction). Turbid liquor was obtained suprapubically and submitted to the laboratory for surfactant (Bubble) test and bilirubin spectrophotometry.

RESULTS

Surfactant Test : 1:1 Positive; 1:2 positive

Spectrophotometry: Optical density difference of 0.020. According to

Liley's curve delivery was recommended at term.

Because of positive surfactant test, the patient had a pelvic score according to the Bishop's criteria. The findings were as follows: Head was 5/5 above the pelvic brim (-3 station), the cervix was soft, anteriorly pointing, 4 cm. dilated and 75% effaced. She had, therefore, a Bishop's Score of 8 and was considered suitable for induction of labour. She was given soap enema with good results on the night before induction of labour.

INDUCTION OF LABOUR (28.10.82 AT 10.30 A.M.)

Before commencement of induction blood was taken from the patient for crossmatching and 2 units requested for. Physical examination revealed no change in the status quo of the patient.

In lithotomy position and under aseptic condition, sweeping of membranes was done followed by anterior amniotomy using Kocher's forceps. Clear liquor drained out slowly. There was no cord prolapse and the position was right occipital transverse. The pelvic was roomy. Fetal heart rate was auscultated after amniotomy and was found to be 140 per minute and regular.

The patient was then started on 2.5 units of syntocinon in 500 mls of 5% dextrose. This was started at 10 drops per minute and escalated quarter - hourly by 10 drops per minute until the patient was getting 3 uterine contractions in 10 minutes each lasting between 20-40 seconds or until a maximum rate of 60 drops per minute. Her labour progress was charted on the partogram.

The patient was reviewed 4 hours later. She was getting 4 uterine contractions in 10 minutes each lasting about 30 seconds. The head was 2/5 above the pelvic brim and the FHR was 148 per minute regular. The cervix was fully effaced and 7 cm. dilated. The position was right occipital anterior. There was minimum moulding but no caput formation. The rate of syntocinon drip was reduced from 60 drops per minute to 20 drops per minute.

One and a half hours later she was in second stage of labour. She was transferred to the second stage room and had an easy spontaneous vertex delivery to a male baby weighing 3500 grams who had an Apgar Score of 10 at 1 minute and 10 at 5 minutes. 0.5 mg. of ergometrine was given intramuscularly after the birth of the baby. The placenta was delivered by controlled cord traction; it was complete and weighed 500 grams. Inspection revealed no cervical, vaginal or perineal tears. Total blood loss was about 200 mls. Cord blood was taken for grouping and Rhesus typing, haemoglobin concentration, direct coombs' test and serum bilirubin concentration.

THE BABY

The baby was admitted to nursery for observation. He was estimated to be 40 weeks maturity and had no overt congenital malformation. He was active and was not anaemic or jaundiced.

RESULTS OF CORD BLOOD

Haemoglobin : 18.3 gm/dl.
Total Bilirubin : 0.6 mg%
Direct Coombs' Test : Negative
Blood Group : "O" Rh (D) Positive

After these results the baby was discharged to join the mother. The mother was given 300 micrograms of anti-D 18 hours after delivery. Mother and baby were discharged in excellent condition on 30.10.1982.

POSTNATAL FOLLOW-UP

The patient attended the postnatal clinic after 6 weeks. She had not resumed her menstruation and complained of pruritis vulvae and thick yellowish vaginal discharge. She was not anaemic, her blood pressure was 130/80 mmHg and her breasts were active and normal. Pelvic examination revealed a frothy yellowish discharge, healthy-looking cervix, a completely involuted axial uterus and clear adnexae.

A pap smear was taken and she was treated with Flagyl tablets (400 mg. TDS for 5 days) and Canesten Vaginal Tablets (One daily for 6 days). She wanted an intrauterine device. This was inserted 3 weeks later during a normal menstrual period. The pap smear was reported as Class II with numerous trichomonads.

COMMENT

The patient presented in this paper was a 25 year old Para 3 + 0 lady who was Rhesus negative, and because of this she was successfully managed *by induction of labour at term. This comment will be confined to induction of labour because Rhesus disease is exhaustively dealt with in case No. 14 in this book.*

Induction of labour may be defined as the stimulation of uterine activity by an external stimulus aimed at achieving vaginal delivery usually after 28 weeks gestation and before spontaneous onset of labour. The incidence of induction of labour has only recently been worked out in this area. For the city of Nairobi, Mati et al (1) found an incidence of 5.7%, while for Kenyatta National Hospital (KNH), Kaguta (2) recorded an incidence of 5.6%. Because of an increased readiness to induce labour in the Western more affluent countries, the incidence of induction of labour in these countries is in the region of 26-27% (3).

Knutzen et al (4) showed that the leading indication for induction of labour is hypertensive disease in pregnancy. However, in KNH, Kaguta (2) found that hypertensive disease in pregnancy was only second to premature rupture of membranes. In Kaguta's series of 366 patients, only 5 patients had induction of labour because of "Rhesus disease". Patients with this obstetric problem are not, because of increased readiness for transplacental haemorrhage, allowed to go beyond 40 weeks gestation. This is even more important in patients, like the one presented here, who are not immunised.

There are certain factors which have been shown to influence the outcome of induction of labour. Leading among these are parity, method of induction and state or ripeness of the cervix. Primigravidae have been shown to have significantly longer induction-delivery intervals than other parity groups (2, 5), and amniotomy followed immediately by oxytocin infusion in titration offers the best method of induction of labour (2, 6).

The state or ripeness of the cervix is undoubtedly the most important factor that influences the outcome of induction of labour. Bishop (7) introduced a scoring system for elective induction of labour based on dilatation, effacement, consistency and position of the cervix, and station of the presenting part. To each of these five parameters was allotted a specific score (with a score range of 0-13). Bishop found that no induction failures occurred with a pelvic score of 9 or greater; and 20% induction failures were associated with a score of less than or equal to 4. In KNH, Kaguta (2) showed that the most favourable outcome of induction of labour (in terms of shorter induction-delivery time and fewer failed inductions) was associated with a Bishop's score of more than or equal to 6.

This patient was Para 3 + 0, had a Bishop's score of 8, and was induced with anterior amniotomy followed immediately by syntocinon infusion in titration. She had an induction-delivery interval of 5½ hours. Each of these three favourable factors must have played a role to culminate in such a short induction-delivery interval.

REFERENCES

1. Mati, J.K.G., Aggarwal, V.P., Sanghvi, H.C.G. et al
The Nairobi Birth Survey III.
J. Obstet. Gynaecol. East Cent. Afr. 2: 47, 1983.
2. Kaguta, T.K.
Review of Induction of Labour : Outcome and Complications
as seen at Kenyatta National Hospital.
M.Med. Thesis, 1984.
3. Patterson, W.M.
Amniotomy with or without simultaneous Oxytocin Infusion.
J. Obstet. Gynaecol. Bri. Commonw. 78 : 310, 1971.
4. Knutzen, V.K., Tannenberger, U., and Davey, D.A.
Complications and Outcome of Induced Labour.
S. Afr. Med. J. 51 : 657, 1978.
5. Shepherd, J.M., Pearce, J.M.F. and Sims, C.D.
Induction of Labour Using Prostaglandin E₂ Pessaries.
Bri. Med. J. 2 : 108, 1979.
6. Turnbull, A.C., and Anderson, A.B.M.
Induction of Labour Part III: Results with Amniotomy and
Oxytocin "Titration".
7. Bishop, E.H.
Pelvic Scoring for Elective Induction.
Obstet. Gynaecol. 24 : 266, 1964.

CASE NO. 3

* * * *

PREVIOUS CAESAREAN SECTION SCAR AND A

TRUE CONJUGATE OF 10.0CM. : ELECTIVE

REPEAT CAESAREAN SECTION - LIVE BABY

PREVIOUS CAESAREAN SECTION SCAR AND A
TRUE CONJUGATE OF 10.0 CM : ELECTIVE
REPEAT CAESAREAN SECTION - LIVE BABY

<u>NAME</u>	: A.N.U. (Mrs.)	<u>L.M.P.</u>	: 3.11.1981
<u>UNIT NO.</u>	: 507695	<u>E.D.D.</u>	: 10.8.1982
<u>AGE</u>	: 24 Years	<u>ADMISSION</u>	: 27.7.1982
<u>TRIBE</u>	: Kikuyu	<u>MATURITY</u>	: 38 Weeks
<u>PARITY</u>	: 1 + 0	<u>DELIVERY</u>	: 30.7.1982

PRESENTING HISTORY

The patient was admitted on 27.7.1982 from our antenatal clinic for elective caesarean section. She did not give any history of labour pains, draining liquor or antepartum haemorrhage. Maturity at admission was 38 weeks.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 15 years. She menstruated regularly for 4 days every 30 days. She had not used any contraception. She was para 1 + 0. This delivery was in 1980 in Mater Hospital where she was delivered by emergency caesarean section because of prolonged labour. A female baby weighing 6½ pounds was delivered who is alive and well.

HISTORY OF PRESENT PREGNANCY

She was booked in our antenatal clinic on 3.5.1982 at 25 weeks gestation because of one previous scar. Her height was 5ft. 1 in. Routine antenatal investigations were done. She was subsequently seen 7 more times. Observations of blood pressure, urinalysis and uterine size were within normal limits during all the antenatal visits. On 20.7.1982 at 37 weeks maturity clinical and radiological pelvimetry were performed. Amniocentesis for surfactant test was done on 27.7.1982 at 38 weeks maturity.

ABDOMINAL EXAMINATION

There was a midline sub-umbilical scar. Uterine size was consistent with a term pregnancy. A single fetus in longitudinal lie and cephalic presentation was palpable. Fetal heart rate was 144 per minute and regular. There were no uterine contractions.

VAGINAL EXAMINATION

This was not done.

DIAGNOSIS

One previous uterine scar at term with a true conjugate of 10.0 cm. She was admitted in the ward for preparations for elective caesarean section. These were done as outlined in the introduction.

ELECTIVE CAESAREAN SECTION

With two units of compatible blood available, the patient was premedicated as usual on 30.7.82 at 10.00 a.m. In theatre the patient was catheterised aseptically. Anaesthesia was then induced with thiopentone sodium and scoline and maintained with oxygen, nitrous oxide and halothane.

After abdominal toilet and draping the abdominal scar was excised. Routine lower uterine segment caesarean section was performed as described in the introduction. A male baby weighing 3100grams, who had an Apgar Score of 10 at 1 minute and 10 at 5 minutes was delivered. Syntometrine 1 ml. was then given intravenously and the placenta delivered by cord traction. It was complete and weighed 560 grams.

Both ovaries and tubes appeared grossly normal. After the usual precautions the uterus then abdomen were closed as described in the introduction. Total blood loss was about 500 mls.

POST-OPERATIVE CARE :

Routine post-operative care was accorded to the patient as described in the introduction. She made uneventful recovery. She was mobilised and started on oral sips of water on the second post-operative day.

On the third day post-operative haemoglobin estimation was done and this showed a haemoglobin concentration of 11.5 gm%. Alternate and all stitches were removed on the sixth and seventh post-operative days respectively. The mother and the baby were discharged in good condition on 5.8.1982.

POSTNATAL FOLLOW-UP

She attended the postnatal clinic after 6 weeks. She had not resumed her menstruation and had no complaints. Her blood pressure was 100/60 mmHg and urinalysis was normal. The abdomen was soft and the scar well healed. The uterus had involuted completely and was anteverted.

The baby had received the necessary immunisations and was breast feeding and gaining weight satisfactorily.

She wanted oral contraception and was discharged through the family planning clinic.

COMMENT

The old cliché "once a caesarean always a caesarean" is no longer acceptable because of the high rate of vaginal deliveries in patients with one previous scar (1,2). At the same time, it is well recognised that previous uterine scar is one of the leading causes of uterine rupture (3,4). To resolve these two positions, different centres have adopted different criteria for selection of patients for trial of scar. In our unit we follow the criteria that were laid down by Walton in 1978 (2). Amongst these, pelvic assessment occupies the pivotal position. Clinical and radiological pelvimetry are normally performed at around 36 weeks gestation. If the true conjugate is 10.5 cm. or above then a trial of scar is allowed over a period of 8-12 hours when the patient goes into spontaneous labour. On the other hand, if the true conjugate is less than 10.5 cm., as was the case in this patient, then elective repeat caesarean section is the recommended mode of delivery. Reliance is based on true conjugate because brim disproportion is the main problem in our area (2).

Prematurity is a well known cause of respiratory distress syndrome (RDS), which in turn is the leading cause of perinatal mortality and morbidity. To safeguard against what could turn out to be iatrogenic prematurity, fetal lung maturity must be known before embarking on any planned delivery. Gluck et al (5) showed that amniotic fluid lecithin: Sphingomyelin (L/S) ratio of 2:0 or more was not associated with severe or lethal RDS. Githiari (6) showed that the "Bubble" or "Shake" test correlated very well with the L/S ratio and neonatal outcome.

The "Bubble" or "Shake" test is the one that is almost exclusively done in our unit in assessing fetal maturity before any planned delivery. A complete ring of bubbles around the meniscus in the 1:2 dilution persisting for more than 15 minutes is a positive indication of satisfactory pulmonary function.

This patient had positive "Bubble" (surfactant) test in the 1:1 and 1:2 dilutions at 33 weeks gestation. A healthy baby who did not suffer from RDS was delivered 3 days later.

REFERENCES

1. Morewood, G.A., O'Sullivan, M.J. and McConney, J.
Vaginal Delivery After Caesarean Section.
Obstet. Gynaecol. 42 : 589, 1973.
2. Walton, S.M.
The Antenatal and Intrapartum Management of
Patients with Previous Caesarean Section Scars.
E.Afr. Med. J. 55 : 1, 1978.
3. Armon, P.J.
Rupture of the Uterus in Malawi and Tanzania.
E. Afr. Med. J. 54 : 462, 1977.
4. Lawson, J.B. and Ajobor, L.A.
Ruptured Caesarean Section Scar.
J. Obstet. Gynaecol. Bri. Commonw. 75 : 1296, 1968.
5. Gluck, L., Kulovich, M.V., Borer, R.C. et al.
Diagnosis of Respiratory Distress Syndrome by
Amniocentesis.
Am. J. Obstet. Gynaecol. 109 : 440, 1971.
6. Githiari, J.N.
The Relationship of the Shake Test to the Lecithin
/Sphingomyelin Ratio in Kenyatta National Hospital.
M.Med. Thesis, 1979.

CASE NO. 4

** * * * *

FRACTURE OF RIGHT FEMUR IN PREGNANCY :

ASSISTED VACUUM EXTRACTION UNDER

GENERAL ANAESTHESIA- LIVE BABY.

FRACTURE OF THE RIGHT FEMUR IN
PREGNANCY : ASSISTED VACUUM EXTRACTION
UNDER GENERAL ANAESTHESIA - LIVE BABY

NAME : J.W.W. (Mrs) L.M.P. : 22.9.1981
UNIT NO.: 501832 E.D.D. : 29.6.1982
AGE : 24 Years ADMISSION: 25.6.1982
TRIBE : Kikuyu MATURITY : 39+ Weeks
PARITY : 0 + 0 DELIVERY : 25.6.1982

PRESENTING HISTORY

The patient was admitted in labour ward from Ward 21 on 25.6.82 at 4.45 a.m. She gave a two-hour history of intermittent abdominal pains and draining liquor. Maturity at admission was 39+ weeks.

She had presented in casualty on 23.6.1982 with a history of having been hit by a "matatu" while crossing the road from her antenatal clinic. Examination and X-rays done at that time showed fracture mid-shaft of the right femur. She was admitted in Ward 21 but before internal fixation of the fracture could be performed she went into spontaneous labour.

ANTENATAL CARE

Her last menstrual period was on 22.9.1981, therefore her expected date of delivery was to be on 29.6.1982. She attended Parkroad Nursing Home for her antenatal care. Her first visit was on 20.3.1982 at 25+ weeks maturity. Her observations of blood pressure, urinalysis and uterine size were within normal limits. She subsequently made two further unremarkable visits to the clinic. Her last visit, after which the aforementioned accident occurred, was on 23.6.1982 at 39 weeks maturity.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 16 years. She had regular menstrual periods with a cycle of 28-30 days and a duration of 4-5 days. She was Para 0 + 0 and had not used any contraceptives.

PAST MEDICAL AND SURGICAL HISTORY

Apart from the Road traffic accident she gave no relevant past medical and surgical history.

FAMILY AND SOCIAL HISTORY

She was married and worked as a secretary. Her husband was an electrical engineer and the couple lived in Nairobi. There was no family history of twins or chronic medical diseases.

PHYSICAL EXAMINATION - (25.6.1982 : 4.45 A.M.)GENERAL EXAMINATION

Her general condition was satisfactory. She was a lady of good physique and average height. She had no pallor, jaundice or leg oedema. Her blood pressure was 120/80 mmHg., pulse was 90 per minute and temperature was 36.4°C.

Urine examination revealed no sugar, proteins or ketone bodies.

RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Both were essentially normal.

MUSCULO-SKELETAL SYSTEM

Her right lower limb was in a Thomas' splint. It had strappings running medially and laterally for purposes of applying skin traction. This limb was externally rotated, was about one inch shorter than the left and had a swelling in the mid-area of the thigh. There was excruciating pain in this area on passive movements of the limb. Motor function, sensation and reflexes were, however, intact.

Uterine size corresponded to 36 weeks gestation. The lie was longitudinal and the presentation cephalic with 4/5 of the head above the pelvic brim. Fetal heart rate was 140 per minute and regular. She was getting 2 uterine contractions in 10 minutes each lasting about 15 seconds.

VAGINAL EXAMINATION

External genitalia were normal. The cervix was fully effaced and 3 cm. dilated. The membranes were ruptured and she was draining clear liquor. There was neither cord prolapse, moulding nor caput formation. The position was left occipital anterior and the pelvis was clinically adequate.

DIAGNOSIS AND MANAGEMENT

A diagnosis of a primigravida in early labour with fracture right femur was made.

She was nursed in a supine position with skin traction applied to her right lower limb. She was given 100 mg. of pethidine intramuscularly for analgesia. Her labour progress was monitored on the partogram.

She was reviewed 5 hours later. Her general condition was satisfactory. She was getting 2 uterine contractions in 10 minutes each lasting between 20-40 seconds. The head was 4/5 above the pelvic brim and fetal heart rate was 148 per minute and regular. The cervix was 5 cm. dilated and there was no moulding or caput formation. Repeat pethidine was given to her.

She made satisfactory progress of labour and at 11.30 a.m., about 7 hours after admission in labour ward, the cervix was 9 cm. dilated and the head was 2/5 above the pelvic brim. She was pre-medicated with 0.6 mg. of atropine sulphate intramuscularly. 20 minutes later she was wheeled to theatre for vacuum extraction under general anaesthesia.

Anaesthesia was induced using sodium thiopentone and maintained with nitrous oxide and oxygen. With two assistants abducting the patient's thighs, vulvo-vaginal toilet was done, she was then draped and catheterised. Vaginal examination revealed a fully dilated cervix, slight caput formation and minimum moulding. Position was left occipital anterior.

A vacuum extractor was assembled using a 50 mm. cup. Obstetric cream was applied to the cup, then the latter was introduced into the vagina and applied to the vertex in the sagittal plane. A small degree of vacuum of 0.2 Kg/cm^2 was induced. The middle finger was then swept around the rim of the cup to ascertain that no vaginal or cervical tissue was interposed between the cup and the fetal scalp.

A left medio-lateral episiotomy was performed. Thereafter the vacuum was increased by steps of 0.2 Kg/cm^2 every two minutes to a maximum vacuum of 0.8 Kg/cm^2 . Synchronous with each uterine contraction steady traction was applied in a perpendicular direction to the cup. The direction became more and more anterior as the fetal head descended down the birth canal. The cup detached once and was re-applied. After about 20 minutes the head crowned at the vulva. The vacuum was released and the delivery completed in the normal way as described in the introduction. A male baby weighing 2550 grams was delivered and had an Apgar score of 4 at 1 minute, 8 at 5 minutes and 10 at 10 minutes. The baby received initial resuscitation in form of mucus extraction and oxygen by mask.

Ergometrine 0.5 mg. was given intravenously after the birth of the baby. The placenta was delivered by controlled cord traction; it was complete and weighed 500 grams.

Inspection revealed no cervical, vaginal or perineal injuries. The episiotomy was then repaired in three layers as described in the introduction. Anaesthesia was reversed and the patient wheeled out of theatre. Total blood loss was estimated to be 300 mls.

FURTHER MANAGEMENT

In the immediate postpartum period the patient's vital signs were observed $\frac{1}{2}$ -hourly and she was given pethidine 6-hourly for analgesia. At 4.00 p.m., about 4-hours after delivery, the patient was fully awake and her vital signs were within normal limits. She was transferred back to ward 21 for management of the fracture.

While awaiting internal fixation of the fracture several investigations were done. During this interim period she was managed by skin traction and physiotherapy to minimise risks of thrombo-embolism.

RESULTS OF INVESTIGATIONS

Haemoglobin : 13.4 gm/dl.
Packed Cell Volume : 39.6%
Urea : 20 mg%
Sodium : 140 mmol/L
Potassium : 4 mmol/L
Blood Group : "B" Rh (D) Positive
M.S.S.U. : No Bacterial growth.

On 2.7.1982, 7 days postpartum, the patient underwent internal fixation of the fracture. Thereafter her condition improved steadily and was discharged in good condition on 25.7.1982. Her baby had received the initial immunisations and was breastfeeding well at the time of discharge.

COMMENT

In the 1950's Malmstrom produced and later on modified and improved on a vacuum extractor that bears his name. Since then the vacuum extractor has gained widespread popularity and has replaced the forceps for assisting vaginal delivery in many countries (1,2). Ease of application, less trauma to the mother, may be applied before the cervix is fully dilated, and safety to the fetus are some of the advantages of the vacuum over the forceps (3).

Chalmers (2) gave the following indication for vacuum extraction:-

1. Maternal distress in its widest sense, including the effects or potential effects of cardiac disease.
2. Fetal distress in late first stage or in second stage of labour.
3. Failure to progress in labour to avoid prolonged first stage or second stage of labour.
4. To assist delivery in occipital posterior or occipital transverse positions.

In all these indications care must be taken to exclude cephalopelvic disproportion.

This patient had fracture of the right femur. Because of this she was likely to endure a lot of pain and discomfort during the manipulations involved in delivery. A decision to assist her second stage by vacuum extraction under general anaesthesia was based upon this consideration. This is a rare indication for vacuum extraction; indeed road traffic accidents in pregnancy are rare. In 1978, Ojwang and his colleagues (4) reported on two cases of ruptured uterus due to road traffic accident. These two patients sustained other injuries like bone fractures apart from the ruptured uteri.

Blunt trauma may also cause premature separation of the placenta and premature onset of labour. This patient sustained only fracture of the femur.

Epidural block or pudental block are usually satisfactory anaesthesia for vacuum extraction. General anaesthesia is restricted to nervous or unco-operative patients (2). This patient was likely to be unco-operative thus the decision to do vacuum extraction under general anaesthesia.

Success of vacuum extraction depends on proper selection of cases and on good technique. Gross cephalopelvic disproportion, face presentation and traction on the after-coming head in breech presentation are absolute contra-indications for vacuum extraction; and incompletely dilated cervix, high fetal head and premature fetus are relative contra-indications (3).

Bird (1) and Chalmers (2) pointed out that good technique involves using the largest cup possible, application of the cup as far back to the fetal head as possible, and that traction should be synchronized with uterine contractions and should be perpendicular to the cup. They also emphasised that to avoid trauma to the fetus application of the vacuum should not take more than 30 minutes and the cup should be re-applied only once after detachment.

The vacuum was applied for 20 minutes in this case, and the cup was re-applied once. The other precautions were also observed. The baby who was delivered was asphyxiated and had poor Apgar score.

His condition, however, improved after mucus extraction and oxygen by mask.

Pritchard and Macdonald (5) emphasised that stasis is probably the strongest single predisposer to deep vein thrombosis, and therefore should be kept to a minimum. To avoid thromboembolic disease, this

patient was successfully managed with physiotherapy before internal fixation of the fracture.

REFERENCES

1. Bird, G.C.

The Use of the Vacuum Extractor.

Clin. Obstet. Gynaecol. 9 : 641, 1982.

2. Chalmers, J.A.

The Use of the Vacuum Extractor to Accelerate the
First and the Second Stages of Labour.

Clin. Obstet. Gynaecol. 2 (1) : 203, 1975.

3. Ott, W.J.

Vacuum Extraction : Review Article

Obstet. Gynaecol. 30 : 643, 1975.

4. Ojwang, S.B.O., Bennun, N. and Musila, S.

Uterine Rupture Due to Road Traffic Accident.

E. Afr. Med. J. 55 : 14, 1978.

5. Pritchard, J.A. and Macdonald, P.C.

Thromboembolic Disease. In : Williams Obstetrics.

16th Edition Page 907.

Appleton - Century - Crofts/New York. 1980.

CASE NO. 5

* * * *

TWIN PREGNANCY : SPONTANEOUS VAGINAL DELIVERY

AT TERM - LIVE BABIES

AT TERM - LIVE BABIES

<u>NAME</u> : P.N.G. (MRS.)	<u>L.M.P.</u> : 29.12.1981
<u>UNIT NO.</u> : 518601	<u>E.D.D.</u> : 5.10.1982
<u>AGE</u> : 35 Years	<u>ADMISSION</u> : 10.10.1982
<u>TRIBE</u> : Kikuyu	<u>MATURITY</u> : 40+ Weeks
<u>PARITY</u> : 5 + 0	<u>DELIVERY</u> : 11.10.1982

PRESENTING HISTORY

Mrs. P.N.G. was admitted through casualty to labour ward on 10.10.1982 at 2.45 p.m. She gave a 12-hour history of intermittent abdominal pains, but did not give any history of draining liquor or antepartum haemorrhage.

Her last menstrual period was on 29.12.1981 and her expected date of delivery was on 5.10.1982. Maturity was 40+ weeks.

ANTENATAL CARE

This was at Gichuru Health Centre. She attended three times only, and at each visit the observation of blood pressure, urinalysis and uterine size were reported to be within normal limits. She was advised to deliver at Kenyatta National Hospital because of high parity.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 15 years. Her menstrual periods were regular with a cycle of 30 days and a duration of 5 days.

She was Para 5 + 0. All her deliveries were well-spaced full-term vaginal deliveries, except the second delivery in 1973 when she was induced because of hypertensive disease in pregnancy and she gave birth to a set of twins - the first twin was male and the second female. All her children, three boys and three girls, were alive and well.

This was non-contributory.

SOCIAL AND FAMILY HISTORY

She was married and her husband was a small-scale farmer. There was no family history of any chronic medical diseases.

PHYSICAL EXAMINATION :

Her general condition was satisfactory. She was well nourished and was of average height. She had no pallor, jaundice or oedema. Her blood pressure was 100/60 mmHg, pulse was 34 per minute and temperature was 36.4°C. Urinalysis was normal.

Her respiratory, cardiovascular and central nervous systems were all essentially normal.

ABDOMINAL EXAMINATION

The abdomen was grossly distended more so in its transverse diameter with a convex curve on both sides. Two fetal heads could easily be palpated. Both fetuses were in longitudinal lie. The presentation of the first twin was cephalic and the second breech. Fetal heart rate of the first twin was 136 per minute regular and the second was 144 per minute regular. She was getting 2 uterine contractions in 10 minutes each lasting about 15 seconds.

VAGINAL EXAMINATION

The vulva was normal. The cervix was soft, 50% effaced and 2 cm. dilated. The scral promontory could not be tipped by the examining fingers, the sacral curve was good and the ischial spines were not prominent. The membranes were intact and there was no cord presentation.

DIAGNOSIS

Latent phase of labour in a multiparous patient with twin pregnancy at term. The pelvis was clinically adequate.

Two units of compatible blood were booked for her. Progress of labour was monitored according to the partogram.

She was reviewed 5 hours later. She was now getting 2 uterine contractions in 10 minutes each lasting between 20-40 seconds. The head of the first twin was 4/5 above the pelvic brim. The cervix was 75% effaced and 4 cm. dilated. The membranes were bulging and there was no cord presentation. Artificial rupture of membranes was done and clear liquor drained out slowly. Presentation of the first twin was vertex and there was no moulding or caput formation. She was considered to be in active phase of labour and was started on a drip of 10% dextrose.

The patient made satisfactory progress of labour. At 4.45 a.m. 14 hours after admission, she had spontaneous vertex delivery to a female baby after performing a left medio-lateral episiotomy. The baby weighed 2750 grams and had an Apgar score of 10 at 1 minute and 10 at 5 minutes. The maternal side of the cord was kept clamped.

DELIVERY OF THE SECOND TWIN

Immediately after delivery of the first twin, the lie of the second twin was ascertained by maternal abdominal examination. The lie was longitudinal and the presentation breech. The membranes were intact and there was neither cord presentation nor vaginal bleeding. With an assistant pressing the breech into the pelvis artificial rupture of membranes was done. The mother was encouraged to bear down with each contraction. 10 minutes later she had an assisted breech delivery to a female baby weighing 2850 grams who had an Apgar score of 10 at 1 minute and 10 at 5 minutes.

Syntometrine 1 ml. was given intravenously after the birth of the second twin. The single placenta was delivered by controlled cord traction. It was complete and had two chorions and two amnions. The placenta and membranes weighed 1400 grams. Estimated blood loss was 400 mls. The episiotomy was then repaired in 3 layers as described in the introduction.

POSTPARTUM CARE

Both babies were examined by the paediatrician. They were active and were considered appropriate for gestational age. The first twin had no overt congenital malformations, but the second twin had mongoloid features with a flat occiput and low-set ears.

The mother was advised on tubal ligation but she declined to accept the advice. They were discharged in good condition on 12.10.1982. The second twin was referred to the paediatric clinic for follow-up.

POSTNATAL FOLLOW UP

She attended the postnatal clinic after 6 weeks. She had no complaints and had not resumed menstruation. Systemic and pelvic examination did not reveal any abnormalities.

The babies were gaining weight well and had received the desired immunisations. The mother wanted injectable contraception and was referred to the family welfare clinic for this.

COMMENT

Twin pregnancy is a high risk pregnancy because of increased maternal and fetal complications. Maternal complications include anaemia in pregnancy, hypertensive disease in pregnancy, obstetric haemorrhages, premature and complicated labours, and hydramnios. Fetal complications are cord prolapse, fetal-fetal haemorrhage, prematurity growth retardation, congenital malformations and cerebral palsy (1,2,3,4). Apart from mongoloid features in the second twin, which were most likely due to advanced maternal age, this patient and her babies did not suffer from any of these complications.

Determinants of twinning rates are race, heredity, increased maternal age and parity, elevated endogenous FSH, and the use of agents for induction of ovulation (4). The highest rates of twinning are found among the negroid, lowest rates among the mongoloid, and intermediate rates among the caucasian racial groups. These differences are almost entirely due to a heterogeneity in the prevalence of dizygotic births; the monozygotic rates vary little between races (2,4). In Kenyatta National Hospital (KNH), Oyieke (5) found an incidence of 1:59 births. He did not consider this to be representative of the whole country because KNH deals with high risk cases.

Because of increased incidence of complications, twin pregnancies need intensive antenatal, intrapartum and neonatal care. This care is primarily aimed at reducing the high perinatal mortality and morbidity due to prematurity and growth retardation. Oyieke (5) in his series showed that perinatal mortality was related to birth weight and gestation; babies weighing less than 1500 grams had 82% perinatal mortality and those delivered before 30 weeks maturity had 100% perinatal death. He also found that mortality was higher in the second twin. This was enhanced if delivery of the second twin was delayed for more than 45 minutes and/or if the second twin was presenting by breech - more so if breech extraction was done.

The twins in this case were at term and had adequate weights at birth. Although the second twin was presenting by breech, breech extraction was not done. The time interval between delivery of the first and the second twin was 10 minutes. Both babies had good Apgar scores, were active and had no evidence of birth trauma.

Marivate and Norman (2) reviewed the measures that have been taken to reduce premature onset of labour. These include early diagnosis, bed rest in hospital, prophylactic administration of tocolytic agents, cervical cerclage, and antenatal prediction of premature labour. Bed rest in hospital was considered by Marivate and Norman not to be cost-effective in areas, like ours, where over-crowding is the order of the day and the incidence of twinning is high.

This patient was not accorded any of these measures. Infact the diagnosis of twins was only made when she presented in labour. She had had one twin delivery before, and coupled with high parity and her age, this should have increased the index of suspicion in this pregnancy. Fortunately all was well.

Because of the tendency for postpartum haemorrhage due to uterine atony, patients with twin pregnancy are given intravenous ergometrine or syntometrine after the birth of the second twin. The placenta is then delivered by controlled cord traction. An intravenous line should be established and blood grouped and crossmatched, as precautionary measures, as soon as these patients go into labour.

From examination of the placenta and membranes, the twins in this case, although of the same sex, were most likely fraternal twins. But, Zygoty in dichorionic diamniotic twins of the same sex can only be established with certainty after doing blood group studies, finger and foot prints and reciprocal skin grafts (4). None of these studies were done in these twins.

REFERENCES

1. Macgillivray, I.
Twins and Other Multiple Deliveries.
Clin. Obstet. Gynaecol. 7 (3) : 581, 1980.
2. Marivate, M. and Norman, R.J.
Twins.
Clin. Obstet. Gynaecol. 9 (3) : 728, 1982.
3. Powers, W.F.
Twin Pregnancy, Complications and Treatment.
Obstet. Gynaecol. 42 : 795, 1973.
4. Pritchard, J.A. and Macdonald, C.P.
Multifetal Pregnancy. In : Williams Obstetrics.
16th Edition Page 639.
Appleton-Century-Crofts/New York. 1980.
5. Oyieke, J.B.O.
A 2½-Year Review of Some Aspects of Twin Delivery
at Kenyatta National Hospital.
M.Med. Thesis. 1978.

CASE NO. 6.

* * * * *

UMBILICAL CORD PROLAPSE : EMERGENCY CAESAREAN

SECTION - LIVE BABY.

UMBILICAL CORD PROLAPSE : EMERGENCY CAESAREANSECTION - LIVE BABY

<u>NAME</u> : R.M.M. (Mrs.)	<u>L.M.P.</u> : 22.2.1982
<u>UNIT NO.</u> : 519778	<u>E.D.D.</u> : 29.11.1982
<u>AGE</u> : 20 Years	<u>ADMISSION</u> : 7.10.1982
<u>TRIBE</u> : Mkamba	<u>GESTATION</u> : 32+ Weeks
<u>PARITY</u> : 1 + 0	<u>DELIVERY</u> : 7.10.1982

PRESENTING HISTORY

Mrs. R.M.M. was admitted in labour Ward via casualty on 7.10.1982 at 12.00 noon. She gave an 8-hour history of intermittent abdominal pains but no history of draining liquor or vaginal bleeding.

She also gave a 2-day history of chills, rigors, headache and joint pains.

ANTENATAL CARE

This was at Kangemi Health Centre where she was booked on 6.9.1982 at 28 weeks gestation. Her height was 140 cm., blood pressure was 120/70 mmHg., and uterine size corresponded to 32 weeks gestation.

She was seen again on 5.10.1982 at 32 weeks gestation but with a uterine size of 36 weeks. The other observations were normal. Routine antenatal investigations were not done.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 14 years. She had regular menstrual periods every 30 days lasting for 3-4 days. Her last menstrual period was on 22.2.1982. She never used any contraceptives.

She was Para 1 + 0. This delivery was in Pumwani Maternity Hospital in 1980. It was an uncomplicated full-term vaginal delivery to a female baby who is alive and well.

PAST MEDICAL AND SURGICAL HISTORY :

There were no relevant past medical or surgical illnesses.

SOCIAL AND FAMILY HISTORY :

She was a married housewife with no formal education. Her husband worked as a watchman and the couple lived in Kawangware. There was no family history of twins or chronic medical diseases.

PHYSICAL EXAMINATION :GENERAL EXAMINATION :

She was a sick-looking woman who was of small stature. She had jaundice and was clinically febrile. She had no pallor, leg oedema or cyanosis.

VITAL SIGNS :

Blood Pressure : 110/80 mmHg.
Pulse : 104 per minute regular
Respiration : 32 per minute
Temperature : 37.8°C

URINALYSIS :

Sugar : Nil
Albumin : Nil
Bilirubin : +++

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION :

The uterine size was consistent with 36 weeks gestation. A single fetus in longitudinal lie and cephalic presentation was palpable. The head was 5/5 above the pelvic brim. Fetal heart rate was 144 per minute regular. She was getting 3 uterine contractions in 10 minutes each lasting between 20 and 40 seconds.

The spleen was palpable about 3 cm. below the costal margin in the mid-clavicular line. The liver was not palpable.

VAGINAL EXAMINATION :

The vulva was normal. The cervix was fully effaced and the os was 6 cm. dilated. In the course of examination the membranes ruptured spontaneously and a pulsating umbilical cord prolapsed. The liquor was thickly meconium stained. Presentation was vertex.

DIAGNOSIS AND MANAGEMENT :

A diagnosis of umbilical cord prolapse in a patient with premature labour and a haemolytic process (possibly due to malaria) was made. She was also considered to have wrong dates because of the discrepancy between dates and the uterine size.

She was put in a deep Trendelburg's position and the fetal head was held away from the pelvic brim by a hand through the vagina. She was given oxygen by mask and an intravenous drip of 10% dextrose was started.

After this she was quickly prepared for emergency caesarean section as described in the introduction.

LOWER UTERINE SEGMENT CAESAREAN SECTION (L.U.S.C.S.)

The patient was wheeled to theatre about 20 minutes after the cord prolapsed. She was transferred to the operating table which was also tilted with the head down. Fetal heart was auscultated and heard before abdominal swabbing and draping.

Routine L.U.S.C.S. under general anaesthesia was performed as described in the introduction. A female baby, bathed in thick meconium-stained liquor, was delivered cephalic. The baby weighed 2250 grams and had an Apgar score of 6 at 1 minute and 8 at 5 minutes.

0.5 mg. of intravenous ergometrine was given after the birth of the baby. The placenta was delivered by cord traction. It was complete, was grossly normal and weighed 400 grams. It was, unfortunately, not submitted for histopathology to ascertain whether or not there was parasitization.

The uterus was then closed in layers as described in the introduction. Haemostasis was achieved. Both ovaries and tubes appeared grossly normal on inspection. After a correct swabs' and instruments' count the abdomen was closed in three layers. Total blood loss was about 400 mls.

POST-OPERATIVE CARE :

Routine post-operative care was instituted as outlined in the introduction. On the second post-operative day the patient was found to be still febrile (temperature of 38.4^oC) and jaundiced. She was not anaemic clinically. The chest was clear and the breasts were active and normal. The abdomen was soft and sluggish bowel sounds were heard. The spleen was still palpable. Lochia was normal and was not foul-smelling. Calf muscles were not tender.

Blood specimens were taken for complete haemogram, serum bilirubin, malaria parasites, grouping, and VDRL. A mid-stream specimen of urine was also taken for culture. She then started on a course of chloroquine tablets (600 mg. stat, 300 mg. after 6 hours, 300 mg. daily for 3 days), folic acid tablets (5 mg. daily), and aspirin tablets (300 mg. 8-hourly for 3 days).

RESULTS OF INVESTIGATIONS :

1. HAEMOGRAM : Haemoglobin : 10.6 gm/dl
 PCV : 31.3%
 MCHC : 34.2 gm/dl
 FILM : Red Cells show slight anisocytosis with occasional macrocytes and microcytes. Slight polychromasia and hypochromasia.
2. BLOOD SLIDE : Numerous malaria parasites seen.
3. BLOOD GROUP : "O" Rh(D) Positive
4. VDRL : Negative
5. SERUM BILIRUBIN : Total : 65 mol/L
 : Direct : 55 mol/L
 : Indirect : 10 mol/L
6. MSSU : No bacterial growth

The patient made uneventful improvements over the subsequent days in hospital. Jaundice gradually waned and the temperature came down to normal range. Alternate and all stitches were removed on the sixth and seventh post-operative days respectively. The wound was clean and had healed by primary intention. She was discharged on daily folic acid and weekly chloroquine for 6 weeks.

POSTNATAL REVIEW :

She attended the postnatal clinic on 26.11.1982. She had no complaints and had not resumed her menstruation. She was neither anaemic nor jaundiced. Her vital signs and urinalysis findings were normal. Abdominal examination revealed a soft abdomen, well healed scar and no splenomegally. The uterus was completely involuted on pelvic examination.

The baby had received the necessary immunizations and was gaining weight adequately.

She wanted an intra-uterine contraceptive device and was discharged through the family planning clinic for the same.

COMMENT :

This patient had 3 related obstetric problems :-

1. Prolapse of the umbilical cord in the first stage of labour.
2. Premature Labour
3. Malaria in pregnancy causing moderately severe haemolysis.

The pointers of malaria in this patient were : A history of chills, rigors, headache and joint pains; jaundice with raised serum and urinary bilirubin; fever and splenomegaly; positive blood slide for malaria parasites and improvements of her condition once she was started on chloroquine. That malaria causes premature labour is now a well established fact (1,2). These aspects of the patient will not be discussed any further because they are adequately covered in my long obstetric commentary in this book.

Cord prolapse may be defined as a condition where the umbilical cord is at or below the presenting part with ruptured membranes. When the membranes are intact, the condition is that of cord presentation. Cord prolapse is a relatively rare obstetric accident but when it occurs it carries grave consequences to the unborn baby.

The overall incidence of cord prolapse is reported to be between 0.3-0. (3,4,5). A higher incidence is found in malpresentations and malpositions, hydramnios, cephalopelvic disproportion, premature labour, multiparity with a high fetal head, multiple pregnancy, placenta praevia, and operative manouvre (3,6). All these conditions have the common denominator of an inadequately sealed lower segment by the presenting part. Other predisposing factors like a long cord or low placental insertion have been cited (6). Ochiel (5) in his series found that 80% of patients with cord prolapse at Kenyatta National Hospital had spontaneous rupture of membranes; and the majority were multipar

This patient presented with premature labour. On examination the fetal head was 5/5 above the pelvic brim. She had spontaneous rupture of membranes while pelvic examination was being performed. All these factors must have contributed in whole or in part to cord prolapse in this case.

Cord prolapse is one of the obstetric emergencies that calls for prompt intervention. Fetal prognosis depends on early diagnosis, short interval between diagnosis and delivery, abdominal delivery, and on fetal maturity (3,5). Caesarean section is, therefore, very liberally performed in cord prolapse. Vaginal delivery may be allowed in patients with adequate pelvis with a fully or nearly fully dilated cervix, in fetal death, in fetuses with known gross congenital malformations incompatible with life, and in extremely premature fetuses..

This patient had spontaneous rupture of membranes at pelvic examination and cord prolapse was thus diagnosed immediately. The cord was pulsating strongly and the fetal heart was stable. Because the cervix was only 6 cm. dilated, emergency caesarean section was decided upon as the safest way of delivery. This was done 20 minutes later with good fetal outcome.

In the interim period between diagnosis and abdominal delivery, if this has been decided upon, the patient should be placed in such a position that gravity prevents the presenting part from obstructing the cord (7). The knee-elbow or knee-chest position is one such way but it has been found to be irksome to most patients. The exaggerated Sim's position with raising the foot of the bed or the deep Trendelburg's position are two other methods which are aesthetically acceptable and more convenient. At the same time it may be necessary to push the presenting part up and away from the pelvic brim either abdominally or vaginally. In all these manipulations, care must be taken not to handle the cord or allow it to come outside the vagina. This is because handling or cold air, may cause the cord vessels to go into spasm - an important cause of fetal death (7). Giving oxygen to the mother to improve fetal oxygenation has also been advocated (3).

These precautions were observed in this patient. She was then expeditiously prepared for caesarean section.

In conclusion, brief mention must be made about anticipation and early diagnosis of cord prolapse. A high index of suspicion should be maintained in patients with known predisposing factors to cord prolapse. It is the routine in our unit to do a pelvic examination (digitally or using a speculum) in patients who present with ruptured membranes or who rupture membranes spontaneously while in labour. Amniotomy has been said to predispose to cord prolapse (6). In our unit amniotomy is routinely done to augment labour. In all instances the liquor is allowed to drain out slowly, the cord is sought diligently before and after amniotomy, and the fetal heart is auscultated after the procedure.

REFERENCES :

1. Mati, J.K.G., Hatimy, A., and Gebbie, D.A.M.
The Importance of Anaemia of Pregnancy in Nairobi, and the Role of Malaria in the Aetiology of Megaloblastic Anaemia.
J. Trop. Med. Hyg. 74 : 1, 1971.
2. Lawson, J.B.
Malaria in Pregnancy. In: Obstetrics and Gynaecology in the Tropics and Developing Countries.
ELBS and Edward Arnold (Publishers) Ltd.
1974 Edition, Page 59.
3. Ball, G., Rojas, J.A. and Dyer, I.
Prolapse of the Umbilical Cord : An Analysis of 82 Consecutive Cases.
Obstet. Gynaecol. 18 : 609, 1961.
4. Savage, E.W., Kohl, S.G. and Wyne, R.M.
Prolapse of the Umbilical Cord.
Obstet. Gynaecol. 36 : 502, 1970.
5. Ochiel, O.
Cord Prolapse as Seen at Kenyatta National Hospital.
M.Med. Thesis, 1980.
6. Morris, E.D.
Prolapse and Presentation of the Umbilical Cord.
In : Intergrated Obstetrics and Gynaecology for Postgraduates Edited by Sir John Dewhurst. 3rd Edition. Page 393.
Blackwell Scientific Publications. 1981.
7. Donald, I.
Prolapse of the Cord. In : Practical Obstetric Problems.
4th Edition Page 360. Lloyd-Luke (Medical Books) Ltd. 1969.

CASE NO. 7

* * * *

YOUNG PRIMIGRAVIDA WITH CONTRACTED PELVIS

AND FACE PRESENTATION : EMERGENCY

CAESAREAN SECTION - LIVE BABY.

YOUNG PRIMIGRAVIDA WITH CONTRACTED PELVIS
AND FACE PRESENTATION : EMERGENCY
CAESAREAN SECTION - LIVE BABY

<u>NAME</u>	: E.N.N. (Miss.)	<u>L.M.P.</u>	: 10.10.1981
<u>UNIT NO.</u>	: 507109	<u>E.D.D.</u>	: 17.7.1982
<u>AGE</u>	: 14 Years	<u>ADMISSION</u>	: 22.7.1982
<u>TRIBE</u>	: M̄kamba	<u>MATURITY</u>	: 40+ Weeks
<u>PARITY</u>	: 0 + 0	<u>DELIVERY</u>	: 22.7.1982

PRESENTING HISTORY

This young patient was admitted in Labour Ward via Casualty on 22.7.1982 at 7.00 p.m. She presented with a 24-hour history of intermittent abdominal pains and draining liquor. Her last menstrual period was on 10.10.1981. Maturity at admission was therefore 40+ weeks.

ANTENATAL CARE

This had been in Mwalā, in Machakos but she did not come with any documents from there.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was Para 0 + 0. She had had only two cycles of menstrual periods. Both were regular, lasting 30 days and the duration was 5 days.

PAST MEDICAL AND SURGICAL HISTORY

This was not significant.

FAMILY AND SOCIAL HISTORY

Her formal education had ended in Standard 6. She was single and lived with her parents in Machakos District. There was no family history of chronic medical disease.

PHYSICAL EXAMINATION

GENERAL EXAMINATION

She was a young lady of short stature who was neither anaemic clinically nor had oedema of the legs. Her blood pressure was 100/60 mmHg., pulse 84 per minute regular and temperature was 36.7°C. Her Urinalysis was normal.

RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

Uterine size was consistent with 36 weeks gestation. The lie was longitudinal and the presentation cephalic with 4/5 of the head above the pelvic brim. Fetal heart rate was 148 per minute and regular. She was getting 3 uterine contractions in 10 minutes, each lasting about 30 seconds. Liver and Spleen were not palpable.

VAGINAL EXAMINATION

The vulva was normal. The cervix was fully effaced and 6 cm. dilated. The alveolar margins in the mouth, the nose and the supra-orbital ridges could easily be palpated. Position was right mento-posterior.

The sacral promontory could easily be reached with the examining fingers (clinically the true conjugate was estimated to be 8-9 cm). The membranes were ruptured and meconium-stained liquor was draining out.

DIAGNOSIS AND MANAGEMENT

A diagnosis of prolonged labour in a young primigravida with a contracted pelvis, face presentation and fetal distress was made. A decision to deliver her by emergency caesarean section was taken.

A senior member of staff signed the consent form on her behalf because she was under age. Her abdomen and vulva were shaved and cleaned with 1% hibitane solution. Blood was taken for grouping and crossmatching and an intravenous line with 5% dextrose solution was set up. She was pre-medicated as described in the introduction.

EMERGENCY CAESAREAN SECTION

Routine lower uterine segment caesarean section under general anaesthesia was performed as described in the introduction. A female baby, bathed in meconium-stained liquor, weighing 2130 grams was delivered cephalic. The baby had moderate facial oedema but had no overt congenital malformations; and her Apgar Score was 4 at 1 minute and 7 at 5 minutes.

After naso-pharyngeal suction and oxygen by mask the baby's condition improved satisfactorily.

Ergometrine 0.5 mg. was given intravenously after the birth of the baby. The placenta was then delivered by cord traction; it was complete and weighed 450 grams. Both ovaries and tubes appeared healthy and normal.

After the usual precautions the uterus then the abdomen were closed in layers as described in the introduction. Anaesthesia was then reversed and the patient wheeled out of theatre. Total blood loss was estimated to be 650 mls.

POST-OPERATIVE CARE :

Routine post-caesarean section care was accorded to the patient as described in the introduction. On the second post-operative day the intravenous fluids were discontinued and she was started on oral sips of water and was mobilized from bed. On the third day blood specimens were taken from her for haemoglobin estimation, U.S.R. and blood grouping and Rhesus typing.

RESULTS OF INVESTIGATIONS :

1. Haemoglobin : 9.6 gm/dl.
2. Packed Cell Volume : 30.4%
3. Blood Group : "O" Rhesus (D) Positive
4. U.S.R. : Negative

Because of low haemoglobin concentration she was started on ferrous sulphate and folic acid tablets. Alternate and all stitches were removed on the 6th and 7th post-operative days respectively. She was discharged in good condition after removal of all stitches. Her baby was breast feeding well and was also in good condition at the time of discharge. She was sent home on ferrous sulphate and folic acid and was asked to attend the postnatal clinic after 6 weeks. She did not, however, turn up to the postnatal clinic.

COMMENT :

The incidence of face presentation varies from series to series in the literature. Hellman and Associates (1) found an incidence of 1:468 deliveries, while Cruikshank and White (2) recorded an incidence of 1:596 deliveries in their series. Aetiologically, face presentation has been associated with contracted pelvis, multiparity, anencephaly and prematurity (1,2,3,4). Of more significance to this case, Hellman and Associates (1) showed that face presentation was a rare occurrence in primigravidae; but when it occurred about half of them had contracted pelvises.

This patient was a young primigravida who was found to have face presentation in association with a clinically contracted pelvis. She also presented with prolonged labour; a complication which occurs in upto one-third of cases of face presentation (2).

Diagnosis of face presentation is usually done at vaginal examination (3). The findings of the mouth, nose and supra-orbital ridges makes the diagnosis beyond doubt (3,4). In the presence of extensive facial oedema or in early labour with a high head and inadequately dilated cervix the face could be mistaken for the breech. In these circumstances abdominal X-ray is invaluable in confirming, or otherwise, the diagnosis (3,4). The X-ray findings of a hyper-extended head with facial bones at or below the pelvic inlet are diagnostic of face presentation.

In this patient the diagnosis did not pose any problems. At the time of admission the cervix was 6 cm. dilated and there was no appreciable facial oedema; the alveolar margins in the mouth, the nose and the supra-orbital ridges could, therefore, be palpated with ease.

Mento-posterior position at the onset of labour, the finding in this patient, is between 25-30% (1,2). The rest are either mento-anterior (majority) or mento-transverse.

Outcome of labour in whatever position is favourable as long as the pelvis is adequate, because the majority of the mento-posterior cases revert spontaneously to mento-anterior (1,2). But if spontaneous version to mento-anterior position does not occur and/or in the presence of a contracted pelvis then abdominal delivery is recommended (1,2,3,4).

This patient had been in labour for 24 hours at the time of admission. It was unlikely, therefore, that spontaneous version to mento-anterior position was going to take place. Compounded with this, she also had a contracted pelvis and there were features of fetal distress (i.e. meconium-strained liquor). In the face of all these complications emergency caesarean section was decidedly the best method of delivery.

REFERENCES :

1. Hellman, L.M., Epperson, J.W.W. and Connally, F.
Face and Brow Presentation : The Experience of the
Johns Hopkins Hospital, 1896 to 1948.
Am. J. Obstet. Gynaecol. 59 : 831, 1950.
2. Cruikshank, D.P., and White, C.A.
Obstetric. Malpresentations : Twenty Years' Experience •
Am. J. Obstet. Gynaecol. 116 : 1097, 1973.
3. Pritchard, J.A., and MacDonald, M.C.,
Face Presentation. In : Williams Obstetrics.
16th Edition Page 309.
Appleton - Century - Crofts/New York. 1980.
4. Donald, I.
Face Presentation. In : Practical Obstetric Problems.
4th Edition Page 353. Lloyd - Luke (Medical Books) Ltd.
1969.

CASE NO. 8

* * * *

YOUNG PRIMIGRAVIDA WITH BREECH PRESENTATION:

EMERGENCY CAESAREAN SECTION - LIVE BABY

YOUNG PRIMIGRAVIDA WITH BREECH PRESENTATION :EMERGENCY CAESAREAN SECTION - LIVE BABY

<u>NAME</u> : L.W.K. (Miss.)	<u>L.M.P.</u> : 27.4.1982
<u>UNIT NO.</u> : 533989	<u>E.D.D.</u> : 3.2.1983
<u>AGE</u> : 17 Years	<u>MATURITY</u> : 36+ Weeks
<u>TRIBE</u> : Kikuyu	<u>ADMISSION</u> : 10.1.1983
<u>PARITY</u> : 0 + 0	<u>DELIVERY</u> : 10.1.1983

PRESENTING HISTORY

She was admitted through casualty on 10.1.1983, with an 11-hour history of labour pains. She did not give any history of draining liquor or antepartum haemorrhage. Gestation was 36+ weeks.

ANTENATAL CARE

This was at Gichuru clinic but she did not bring any documents from there.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at 14 years. Her menstrual periods were regular; the cycle was 26 days and the duration 3 days. She was a primigravida and had not used any contraceptives.

PAST MEDICAL AND SURGICAL HISTORY

This was not relevant.

FAMILY AND SOCIAL HISTORY

She was single and lived with her mother in Kahuho. There was no family history of twins, diabetes, hypertension or tuberculosis.

PHYSICAL EXAMINATIONGENERAL CONDITION

She was a young woman of short stature. Her general condition was satisfactory. She was not anaemic clinically, had no jaundice or leg oedema.

VITAL SIGNS :

Blood Pressure : 140/90 mmHg.
Pulse : 80 per minute regular
Temperature : 36.2°C
Respiratory Rate : 26 per minute

URINALYSIS :

Proteinuria : +
Sugar : Nil
Ketone Bodies : Nil

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION :

The uterine size was consistent with a term pregnancy. A good-sized fetus was in a longitudinal lie and breech presentation with the whole breech above the pelvic brim. Fetal heart rate was 148 per minute regular. She was getting 2 uterine contractions in 10 minutes each lasting about 30 seconds.

VAGINAL EXAMINATION :

The vulva was normal. The cervix was 5 cm. dilated and 75% effaced. The membranes were intact and the position was right sacral posterior.

The sacral promontory could easily be reached with the examining fingers (clinically the true conjugate was estimated to be 9 cm.). The sacral curve was good and the ischial spines were not prominent.

DIAGNOSIS AND MANAGEMENT :

A diagnosis of a young primigravida with breech presentation, mild pre-eclampsia and a contracted pelvis in active premature labour was made. A decision was taken to deliver her by emergency lower uterine segment caesarean section (L.U.S.C.S.).

A senior member of staff signed the consent form for her because she was under age and her relatives were not available. Pre-operative preparations and premedication were as described in the introduction.

EMERGENCY L.U.S.C.S.

Routine L.U.S.C.S. under general anaesthesia was performed as described in the introduction. The right hand of the surgeon was then passed into the uterus and grasped a foot. This leg was gently pulled out. The other leg followed and was eased out. Traction was applied to both legs until the scapulae appeared through the incision. One arm then another were hooked out. The head was delivered by Barnes' method. The mouth, nose and eyes were wiped with a sterile gauze as they appeared through the incision. The male baby weighed 2900 grams and had an Apgar Score of 8 at 1 minute and 10 at 5 minutes.

5 units of syntocinon were given intravenously after the birth of the baby. The placenta and membranes were manually removed; they were complete and weighed 500 grams. The uterus was then closed in layers. Both ovaries and tubes appeared grossly normal. The abdomen was then closed in layers after correct swabs' and instruments' count. Total blood loss was about 500 mls.

POST-OPERATIVE CARE

Routine post-operative care was instituted. On the second post-operative day the patient had passed flatus and the bowel sounds were present. She was started on oral sips of water, intravenous fluids were discontinued and she was gradually mobilised.

Post-operative haemoglobin estimation was done on the third day and showed a haemoglobin concentration of 13.1 gm/dl. She made uneventful recovery. Alternate and all stitches were removed on the sixth and seventh post-operative days respectively. The mother and her baby were discharged in good condition after this.

POSTNATAL VISIT

She attended the post natal clinic after six weeks. She had no complaints and had not resumed her menstruation. Systemic and pelvic examination was normal. The baby had received the appropriate immunisations. She was discharged through the family planning clinic for advice on contraception.

COMMENT

The incidence of breech presentation is between 3-4% in singleton pregnancies (1,2). In comparison to cephalic delivery, breech delivery has specific characteristics, delivery patterns and complications resulting in increased perinatal morbidity and mortality (2,3,4). Causes of breech presentation are prematurity, growth retardation, multiple pregnancies, polyhydramnios, fetal abnormalities, uterine malformations, contracted pelvis, placenta praevia and pelvic tumours (1,2). Complications associated with breech presentation and vaginal breech delivery include cord prolapse, fetal distress and trauma (1,5). Tank and associates (5) found that the most frequently injured organs during vaginal breech delivery were the brain, spinal cord, liver, adrenal glands and the spleen in that order. The brain is injured primarily from tentorial tears due to rapid compression and decompression of the head, and secondarily from hypoxia due to cord compression by the shoulder or the after-coming head. Morbidity is therefore immediate or long-term in form of brain damage.

Because of the overall poor prognosis in breech delivery, these cases should be assessed and delivered at the main hospital which has the necessary skills and facilities. Brenner (1) and Rovinsky and associates (3) outlined indications for vaginal breech delivery. Leading among these is accurate measurements of the pelvis. In our unit vaginal breech delivery is allowed only if the true conjugate is 11.5 cm. or more in the presence of an average-sized fetus. Apart from pelvic measurements, the patient should not have adverse medical or obstetric conditions, and progress of labour should be satisfactory with no fetal distress or uterine dysfunction.

Zatuchni and Andros (6) devised prognostic scoring index for breech delivery. It is based on parity, gestational age, fetal weight, previous breech delivery, cervical dilatation and station of the breech. The scoring is weighed against a primigravida with a big baby beyond 38 weeks gestation. They recommended caesarean section for patients with low score. This patient apart from having a contracted pelvis also had mild pre-eclampsia and premature labour. With these added complications, it was considered best to deliver her by caesarian section.

External cephalic version (E.C.V.) as a prophylactic measure against breech delivery is shrouded with controversies. Ranney (7) showed that E.C.V. reduced the incidence of breech delivery to 0.6%. Conversely, Brenner (1) found that E.C.V. does not lower perinatal mortality although it may decrease the incidence of breech delivery. This patient was not offered E.C.V. during her antenatal period.

REFERENCES :

1. Brenner, W.E.
Breech Presentation.
Clin. Obstet. Gynaecol. 21 (2) : 511, 1978
2. Pritchard, J.A. and MacDonald, P.C.
Breech Presentation. In : Williams Obstetrics.
16th Edition Page 797.
Appleton - Century - Crofts/New York. 1980.
3. Rovinsky, J.J., Miller, J.A., and Kaplan, S.
Management of Labour of Breech Presentation at term.
Am.J. Obstet. Gynaecol. 115 : 497, 1973.
4. Njuki, S.K.
M.Med. Thesis, University of Nairobi.
5. Tank, E.S., Davis, R., Holt, J.F., and Morley, G.W.
Mechanism of Trauma During Breech Delivery.
Obstet. Gynaecol. 38 : 761, 1971.
6. Zatuchni, G.I. and Andros, G.J.
Prognostic Index for Vaginal Delivery in Breech Presentation
at Term.
Am. J. Obstet. Gyanecol. 98 : 854, 1967.
7. Ranney, B.
The Gentle Act of External Cephalic Version.
Am. J. Obstet. Gynaecol. 116 : 239, 1973.

CASE NO. 9

* * * *

TOTAL PLACENTA PRAEVIA : EMERGENCY CAESAREAN

SECTION - LIVE BABY

TOTAL PLACENTA PRAEVIA : EMERGENCY CAESAREANSECTION - LIVE BABY

<u>NAME</u>	: M.A.O. (Mrs.)	<u>L.M.P.</u>	: 28.12.1983
<u>UNIT NO.</u>	: 637309	<u>E.D.D.</u>	: 4.10.1984
<u>AGE</u>	: 32 Years	<u>ADMISSION</u>	: 30.7.1984
<u>TRIBE</u>	: Luo	<u>DELIVERY</u>	: 22.8.1984
<u>PARITY</u>	: 4 + 0	<u>DISCHARGE</u>	: 29.8.1984

PRESENTING HISTORY

The patient was admitted through casualty on 30.7.1984, at 31 weeks maturity, with a history of painless vaginal bleeding for two hours. She had changed vaginal pads three times and the fourth pad was moderately soaked when she was examined. She did not give any history of labour pains or draining liquor.

ANTENATAL CARE

This was in a private clinic in town but she did not bring any documents from there.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 14 years. Her menstrual periods were regular; the cycle was 28 days and the duration 3 days.

She was para 4 + 0. All these deliveries were uneventful and the children were alive and well. She had used intrauterine contraceptive devices in-between the pregnancies.

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

She was married and worked as a typist. Her husband was a sales representative. The couple and their children lived in Nairobi.

There was no family history of twins, hypertension or diabetes mellitus.

PHYSICAL EXAMINATION

Her general condition was good. She was a cheerful lady of good nutritional status and average height. She had no pallor, jaundice, cyanosis or peripheral oedema. Her blood pressure was 120/70 mmHg., pulse was 78 per minute regular with full volume, and temperature was 36.2°C.

Her cardiovascular, respiratory and central nervous systems were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was symmetrically distended. It was soft and not tender. Uterine size corresponded to 32 weeks gestation. A single fetus in transverse lie was palpable. Fetal heart rate was 136 per minute regular. She was not having any uterine contractions. The liver and spleen were not palpable.

SPECULUM EXAMINATION

The vulva and vagina were covered with blood. The cervix appeared healthy and closed. Slight blood was oozing through the os.

DIAGNOSIS AND MANAGEMENT

A diagnosis of antepartum haemorrhage most likely secondary to placenta praevia was made. Blood was taken for urgent grouping and crossmatching. An intravenous line of 5% dextrose was then established. She was admitted in labour ward on sedation and was given a fresh pad to assess the amount of vaginal bleeding.

While in labour ward the amount of bleeding gradually ceased over an eight-hour period. She was then transferred to Ward 2 for conservative management and investigations.

Conservative management involved bed rest and mild sedation (with phenobarbitone tablets : 30 mg three times daily). She was also given prophylactic ferrous sulphate (200 mg three times daily) and folic acid (5 mg once daily). She was reviewed every day to ascertain whether she had had any vaginal bleeding; and if so, how much.

RESULTS OF THE INVESTIGATIONS

1. Haemoglobin : 12.1 gm/dl
2. Haematocrit : 36.4%
3. VDRL : Negative
4. Blood Group : "A" Rh(D) Positive
5. M.S.S.U. : No growth on culture
6. Pap Smear : Class II. Non-specific inflammatory changes.
7. Ultrasonography : Single fetus, cephalic presentation. Bi-
(on 20.8.1984) parietal diameter of 8.0 cm. - this corresponds to 34 weeks maturity. The placenta is in the lower uterine segment and covers the internal os. Fetal movements and cardiac activity demonstrated.

She remained in good condition while in the ward. The couple decided and signed forms for tubal ligation. She did not experience any vaginal bleeding until on 22.8.1984 at 34 weeks gestation when she suddenly woke up at 2.00 a.m. and found herself in a pool of blood. She was quickly rushed to labour ward and an intravenous line established. Blood was taken for urgent crossmatching and four units requested for. She was then expeditiously prepared for emergency caesarean section as described in the introduction.

EMERGENCY CAESAREAN SECTION AND BILATERAL TUBAL LIGATION

Because of the heavy vaginal bleeding and also bearing in mind the ultrasound report, it was prudently decided to omit the examination under anaesthesia and to proceed straight away with the caesarean section. This was performed as described in the introduction. It was necessary to cut through the placenta in order to extract the baby. A baby weighing 2960 grams was delivered who had an Apgar score of 7 at 1 minute and 10 at 5 minutes

0.5 mg of intravenous ergometrine was given after the birth of the baby. The placenta was then manually removed; it was complete and weighed 550 grams. The uterus was now closed in layers as described in the introduction.

Both tubes and ovaries appeared healthy on inspection. Bilateral tubal ligation was now done using the modified Pomeroy's method. After a correct swabs' and instruments' count the abdomen was closed in layers as described in the introduction. All in all the patient lost about 1700 mls. of blood. She was transfused with three units of blood.

POST-OPERATIVE CARE

She received routine post-operative care as described in the introduction. Her post-operative haemoglobin done on the third day was 10.5 gram/dl. She had an uneventful recovery and was discharged in good condition on the seventh post-operative day after removal of all stitches.

POSTNATAL REVIEW

She attended the postnatal clinic on 5.10.1984. She had no complaints and had not resumed her menstruation. The abdomen was soft and the scar well healed. Pelvic examination revealed a completely involuted uterus and clear adnexae.

The baby had received the necessary immunizations and was gaining weight well.

COMMENT

One of the important causes of antepartum haemorrhage (APH) is placenta praevia; which may be defined as partial or complete localization of the placenta in the lower uterine segment. The reasons for this are not known, but several factors are commonly associated with placenta praevia. These include: multiparity and advanced age, unsatisfactory nidation environment, scarred uterus, large placental surfaces and previous pregnancy losses (1,2,3). This patient was 32 years old and was para 4 + 0; both factors which would have predisposed her to development of placenta praevia. She, however, did not have a scarred uterus, multiple pregnancy or other causes of large placentas.

The incidence of placenta praevia is quoted to range from 0.3% to 0.6% (1,2). In Kenyatta National Hospital, Ojwang (4) found an incidence of 0.25% of the deliveries.

The most constant symptom of placenta praevia is spontaneous painless vaginal bleeding, which in most instances occurs upwards from the 32nd week of gestation. Crenshaw and associates (2) showed that patients with major degrees of placenta praevia, as was in this case, apart from experiencing the initial bleeding earlier in pregnancy also had shorter durations of pregnancy.

Other clinical findings which are suggestive of placenta praevia are: a soft non-tender uterus, malpresentation of the fetus (breech, transverse or oblique lie) or a high head at term. This patient had a soft non-tender uterus and transverse lie; further strengthening the clinical impression of placenta praevia.

Early and accurate diagnosis of placenta praevia is imperative in the management of patients who present with APH. Because patients with placenta praevia require close observations, accurate diagnosis will spare those patients with other causes of APH the economic, emotional and social expenses of intensive and extensive programme of conservative care.

Placental localisation, therefore, plays the most crucial role in the management of patients who present with APH. In this hospital, the two current methods of placental localisation are ultrasonography and displacement placentography; with the latter method used only if the former is not available. Ultrasonic localisation of the placenta is the most apt as it is very accurate and is non-invasive. Bowie et al (5) recorded an accuracy of 93% in their series.

Definitive diagnosis of placenta praevia is only made by pelvic examination. This examination is never permissible unless the patient is in an operating room with all preparations for caesarean section, for even the gentlest examination of this sort can cause torrential haemorrhage. Furthermore, such an examination is only done if delivery is contemplated or inevitable. Examination under anaesthesia was decidedly omitted in this case because of the heavy bleeding - lest a bad situation was made worse - in the face of the ultrasound report.

In general, management of patients with placenta praevia depends on the individual case bearing in mind maternal and fetal welfare. With the availability of blood transfusion and ready recourse to caesarean section, maternal mortality from placenta praevia has been reduced to acceptable levels (1,2,3,6). What has not, however, been accomplished with the same dexterity is the reduction of perinatal mortality. Guided by three observations-i.e.-(i) the initial haemorrhage in placenta praevia is rarely, if ever, fatal; (ii) vaginal or rectal examination often precipitates severe haemorrhage; and (iii) the major cause of perinatal loss in placenta praevia is prematurity - Macafee (6) and Johnson (7) independently propounded the philosophy of "conservative expectant management".

In prolonging the intrauterine development, this conservative management aims to reduce prematurity and thence perinatal mortality.

However, severe haemorrhage, as occurred in this case, onset of labour, intrauterine fetal death, and unequivocal evidence of a badly malformed fetus militates against this temporizing management and termination of pregnancy is then expediated.

Mode of delivery in patients with placenta praevia depends on many factors (3). In our unit we are principally guided by the findings at examination under anaesthesia. The policy is to deliver abdominally all patients with type II posterior, type III and type IV placenta praevia. In those patients with type I and type II anterior placenta praevia vaginal delivery is advocated because the tamponading action of the presenting part controls further bleeding.

REFERENCES

1. Brenner, W.E., Eledman, D.A. and Hendrick, C.H.
Characteristics of Placenta Praevia and Results
of "Expectant Management".
Am. J. Obstet. Gynaecol. 132 : 180, 1978.
2. Crenshaw, C., Jones, D.E.D. and Parker, R.T.
Placenta Praevia.: A Survey of Twenty Years
Experience with improved Perinatal Survival by
Expectant Therapy and Caesarian Delivery.
Obstet. Gynaecol. Sur. 28 : 461, 1973.
3. Pritchard, J.A. and MacDonald, P.C.
Placenta Praevia. In : Williams Obstetrics.
16th Edition, Page 508.
Appleton-Century-Crofts/New York. 1980.
4. Ojwang, S.B.O.
Antepartum Haemorrhage.
M.Med. Thesis, 1974.
5. Bowie, J.A., Rochester, D., and Cedkin, A.
Accuracy of Placental Localisation by Ultrasound.
Radiology 128 : 177, 1978.
6. Macafee, C.H.G.
Placenta Praevia - A Study of 174 Cases.
J. Obstet. Gynaecol. Brit. Emp. 52 : 313, 1945.
7. Johnson, H.W.
The Conservative Management of Some Varieties
of Placenta Praevia.
Am. J. Obstet. Gynaecol. 50 : 248, 1945.

CASE NO. 10.

* * * * *

OBSTRUCTED LABOUR AND FETAL DISTRESS:

EMERGENCY CAESAREAN SECTION - LIVE BABY.

OBSTRUCTED LABOUR AND FETAL DISTRESS :
EMERGENCY CAESARIAN SECTION - LIVE BABY

<u>NAME</u> : M.W.K. (Mrs.)	<u>LMP</u> : 10.4.1982
<u>UNIT NO.:</u> 534003	<u>EDD</u> : 17.1.1983
<u>AGE</u> : 18 Years	<u>ADMISSION</u> : 10.1.1983
<u>TRIBE</u> : Kikuyu	<u>GESTATION</u> : 39 Weeks
<u>PARITY</u> : 0 + 0	<u>DELIVERY</u> : 10.1.1983

PRESENTING HISTORY :

The patient was admitted in labour ward on 10.1.1983 as a referral from Kiambu District Hospital. She had been in labour for about 24 hours and had not made any progress. Signs of fetal distress had also intervened -i.e.- irregular fetal heart rate and meconium straining in the liquor. Maturity at admission was 39 weeks.

ANTENATAL CARE :

She had not had any antenatal care.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY :

Menarche occurred at the age of 15 years. Her menstrual periods were regular with a cycle of 26 days and a duration of 4 days. She was Para 0 + 0 and had not used any contraception.

PAST MEDICAL SURGICAL HISTORY :

This was not relevant.

SOCIAL AND FAMILY HISTORY :

She was married and lived with her husband, a small-scale farmer, in Kiambu. She neither consumed alcoholic drinks nor smoked cigarettes. There was no family history of twins or chronic medical diseases.

PHYSICAL EXAMINATION :

GENERAL EXAMINATION :

She was a young woman of short stature and generally poor physique. She was restless, apprehensive and groaning in pain. She was moderately dehydrated with a hot dry skin, dry tongue and cracked lips.

There was no pallor, jaundice, cyanosis or leg oedema. Urine examination showed Ketone bodies ++, but no sugar or proteins.

VITAL SIGNS :

Blood Pressure : 100/60 mmHg.
 Pulse : 102 per minute regular with good volume
 Respiratory Rate : 38 per minute
 Temperature : 37.8°C

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION :

The abdomen was uniformly distended. The uterine size was consistent with a term pregnancy. A single fetus was palpable; the lie was longitudinal and the presentation cephalic with 4/5 of the head above the pelvic brim. There was second degree overlap between the fetal head and the pelvic brim. Fetal heart rate was 120 per minute and irregular with late decelerations. She was getting 4 uterine contractions in 10 minutes each lasting 40 seconds.

VAGINAL EXAMINATION :

The vulva was normal on inspection. The cervix was oedematous and the os was 6 cm. dilated. She was draining foul-smelling meconium-stained liquor. There was pelvic caput formation and third degree moulding. The sacral promontory could easily be reached with the examining fingers; clinically the true conjugate was estimated to be 8-9 cm. Because of caput formation it was not easy to ascertain the position of the presenting part.

DIAGNOSIS AND MANAGEMENT

A diagnosis of a young primigravida with obstructed labour and fetal distress due to cephalopelvic disproportion was made. Decision to do an emergency caesarian section was taken. Blood was taken from her for urgent grouping and crossmatching and intravenous 10% dextrose was started. She was advised to lie on her left lateral side and oxygen was given to her by mask.

The patient was prepared for caesarian operation in the usual way. She was premedicated with 0.6 mg intramuscular atropine sulphate half an hour before being wheeled to theatre.

EMERGENCY LOWER UTERINE SEGMENT CAESARIAN SECTION :

In theatre the patient was catheterised aseptically and the catheter left in-situ. Anaesthesia was induced with sodium thiopentone and scoline and maintained with oxygen, nitrous oxide and halothane through a cuffed endotracheal tube.

The abdomen was swabbed and draped in the usual way. Routine lower uterine segment caesarian section was performed as described in the introduction. A female baby bathed in thick foul-smelling meconium-stained liquor was delivered cephalic. The baby weighed 3530 grâms and had an Apgar Score of 5 at 1 minute and 10 at 5 minutes. A diagnosis of acute intrauterine hypoxia was made but she showed dramatic improvement after suction, oxygen by mask and external stimulation.

0.5 mg of intravenous ergometrine was given after the birth of the baby. The placenta was delivered by cord traction; it was complete, grossly normal and weighed 650 grams. Because of foul-smelling liquor the patient was also given 2 grams of ampicillin intravenously.

The uterus then abdomen were closed in layers as described in the introduction. Both ovaries and tubes were grossly normal. The urethral folley's catheter was draining clear urine and was inflated and left in-situ. Anaesthesia was then reversed. Total blood loss was estimated to be 650 mls.

POST-OPERATIVE CARE :

Routine post-operative care was accorded to the patient. She had, in addition, continuous bladder drainage for 10 days as prophylaxis against urinary fistulae.

The patient made uneventful recovery. On the second post-operative day she had bowel sounds. She was thus started on oral sips of water and was mobilized from bed. The haemogram done on the third post-operative day showed a haemoglobin of 12.2 gm per dl. and a PCV of 34.2%. Alternate and all stitches were removed on the sixth and seventh post-operative days respectively. The wound was cleaned and had healed by first intention.

The catheter drained clear urine continuously. Catheter specimens of urine was taken for culture on the fifth and tenth post-operative days. Results showed no bacterial growth on both occasions. The catheter was removed on the tenth day. She was kept in the ward for one more day and did not develop urinary incontinence. The mother and the baby were discharged in good condition on the eleventh post-operative day.

POSTNATAL FOLLOW UP :

The patient was seen in the post natal clinic after six weeks. She had not resumed her menstruation and had no complaints. Her vital signs were within normal limits and she was not anaemic clinically. The abdominal scar was well healed and the abdomen was soft with no abnormal masses. Pelvic examination revealed a healthy cervix, a completely involuted axial uterus and clear adnexae. She was given family planning advice but she declined to adopt any contraceptive method. She was urged to attend Kiambu District hospital for antenatal care when she next became pregnant.

The baby was healthy and breast feeding well. She had received all the necessary immunizations.

COMMENT :

Obstructed labour is due to mechanical factors, not to disturbances of uterine physiology; and is an absolute not a relative condition.(1). The commonest cause of obstructed labour, as was the case in this patient, is cephalopelvic disproportion due to a generally contracted pelvis caused by childhood malnutrition (1,2). The incidence of obstructed labour is, therefore, related to the incidence of cephalopelvic disproportion in the community and to the availability and quality of antepartum and intrapartum care (1,3).

Philpott (3) also observed that in some parts of the developing countries women are in a stage of transition. During their childhood and formative years poor nutrition led to poor pelvic growth. In their reproductive years there may have been improvement in socio-economic conditions in their community and fetal growth has been optimal. This, indeed, seems to have been the case with this patient. She was of short small stature with a contracted pelvis but her baby was a good-sized 3530 gram infant.

Lawson (1) and Philpott (3) outlined clinical features exhibited by primigravidae with obstructed labour. In summary there is maternal and fetal distress/death. These clinical features were present, in varying degrees, in the patient presented here. Treatment at this stage involves rapid resuscitation and prompt relieve of obstruction. Where the fetus is alive, as in this case, emergency caesarian section is the best method of delivery. Other operations to relieve obstruction when the fetus is dead include craniotomy, cleidotomy and decapitation (1).

Because obstructed labour is due to mechanical factors, modern obstetric practice aims at prevention not treatment of obstructed labour. Cephalopelvic disproportion is more likely in women with short stature (less than 5 feet in height), small shoe size (less than 5), deformities of the lower limbs or spine, previous difficult deliveries, and non-engagement of the fetal head in the last 4 weeks of pregnancy (1,3,4).

In our obstetric unit clinical pelvic assessment is done on all primigravidae at 36 weeks gestation.

Even with all these precautions, the ultimate method of assessing cephalopelvic disproportion is a carefully conducted trial of labour. Prudent use of simple partogram with clear guidelines to help in recognition of slow progress of labour is invaluable in predicting and detecting problems in labour (3).

This patient also showed features of fetal distress. Kublin et al (5) showed that the majority of fetuses with truly compromised respiratory situation during labour will exhibit some abnormalities of fetal heart rate pattern. Stewart and Philpott (6) studied the fetal response of cephalopelvic disproportion. They showed that initially the fetal heart rate exhibited early and prolonged fetal heart rate decelerations which were more pronounced the greater the disproportion and the longer the duration of labour. As labour progressed further the late decelerations and the falling PH typical of hypoxia develop. They also showed that other unequivocal signs of fetal distress include: moulding to a maximum score of 6 together with arrested descent of fetal head, and passage of meconium for the first time in labour.

This patient had foul-smelling meconium-stained liquor. The fetal head showed considerable moulding and remained 4/5 above the pelvic brim after 24 hours of active labour. The fetal heart rate was irregular with late decelerations. From all these considerations, even without facilities for doing continuous fetal heart rate monitoring or fetal scalp blood PH, it was obvious that the fetus was under distress. This was borne out after delivery when the baby showed features of acute intrauterine hypoxia.

Obstructed labour has a high perinatal mortality and morbidity. Maternal mortality is also high mainly as a consequence of ruptured uterus or sepsis. Those who survive may sustain lower genital tract injuries such as vesico-vaginal or recto-vaginal fistulae (1). Obstructed labour was relieved in this patient before these catastrophic complications occurred. Continuous bladder drainage was maintained as prophylaxis against urinary fistulae formation.

REFERENCES

1. Lawson, J.B.
Obstructed Labour. In : Obstetrics and Gynaecology in the Tropics and Developing Countries. ELBS and Edward Arnold (Publishers) Ltd. 1974 Edition, Page 172.
2. Gebbie, D.M.A.
Cephalopelvic Disproportion. In : Health and Diseases in Kenya. Editors : L.C. Vogel et al.
East African Literature Bureau.
Kampala. Nairobi. Dar-es-Salaam. Page 487. 1974.
3. Philpott, R.H.
Obstructed Labour.
Clin. Obstet. Gynaecol. 9 : 625, 1982.
4. Everett, V.J.
The Relationship Between Maternal Height and Cephalopelvic Disproportion in Dar-es-Salaam.
E. Afr. Med. J. 52 : 251, 1975.
5. Kublin, F.W., Hon, E.H., Khazin, A.F., and Takemura, H.
Observations of the Heart Rate and PH in the Human Fetus During Labour.
Am. J. Obstet. Gynaecol. 104 : 1190, 1965.
6. Stewart, K.S. and Philpott, R.H.
Fetal Response to Cephalopelvic Disproportion.
Bri. J. Obstet. Gynaecol. 87 : 641, 1980.

CASE NO. 11.

* * * * *

ANAEMIA IN PREGNANCY: SUCCESSFUL MANAGEMENT

AND TERM DELIVERY - LIVE BABY.

ANAEMIA IN PREGNANCY : SUCCESSFUL MANAGEMENTAND TERM DELIVERY - LIVE BABY

<u>NAME</u>	: B. R. K. (Mrs.)	<u>L.M.P.</u>	: 1.2.1983
<u>IP/NO.</u>	: 7499/83	<u>E.D.D.</u>	: 8.11.1983
<u>AGE</u>	: 14 years	<u>ADMISSION</u>	: 20.9.1983
<u>TRIBE</u>	: Giriama	<u>RE-ADMISSION</u>	: 31.10.1983
<u>PARITY</u>	: 0+0	<u>DELIVERY</u>	: 31.10.1983

PRESENTING HISTORY:

This patient first presented to Lady Grigg Maternity Hospital (LGMH), Mombasa on 20.9.1983. She gave a two-week progressively worsening history of weakness, easy fatigability, palpitations and dyspnoea on exertion. She gave no history of labour pains, draining liquor or vaginal bleeding. Maturity was 33 weeks.

ANTENATAL CARE:

This was at Utange Municipal Clinic. She had attended twice, and at each visit her observations were recorded as within normal limits.

PAST OBSTETRIC AND GYNAECOLOGY HISTORY:

Menarche occurred on 1.2.1983, which also happened to be her last menstrual period. The menstrual flow was moderate with a duration of 4 days. She was Para 0+0.

PAST MEDICAL AND SURGICAL HISTORY:

This was non-contributory.

SOCIAL AND FAMILY HISTORY:

Her formal education ended in standard 7. She was married and the couple lived in Utange, Mombasa. Her husband was an apprentice tailor in an Asian shop. The couple led a modest life and their average daily diet was composed of mainly carbohydrates.

There was no family history of twins, diabetes mellitus, hypertension or tuberculosis.

PHYSICAL EXAMINATION

She was a young lady of fair general condition. She had marked pallor of the mucous membranes, finger nails and palms of the hands. There was a tinge of jaundice but no cyanosis, peripheral oedema or lymphadenopathy.

Her blood pressure was 130/80 mmHg, pulse was 90 per minute regular and bounding, and temperature was 37°C. Urinalysis was normal.

Respiratory, and central nervous systems were essentially normal.

CARDIOVASCULAR SYSTEM:

The apex beat was in the 4th intercostal space within the mid-clavicular line. First and second heart sounds were heard, there was an ejection systolic murmur heard best in the aortic area.

ABDOMINAL EXAMINATION:

The uterine size corresponded to 34 weeks gestation. A single fetus in longitudinal lie and cephalic presentation was palpable. Fetal heart rate was 136 per minute regular. There were no contractions.

The spleen was tipped on deep inspiration (Grade I splenomegaly on the Hackett classification). The liver was not palpable.

DIAGNOSIS AND MANAGEMENT

A diagnosis of a young primigravida with severe anaemia in pregnancy was made. She was admitted in the antenatal ward and several investigations were done before she was started on treatment.

RESULTS OF INVESTIGATIONS:

1. HAEMOGRAM: HAEMOGLOBIN : 4.2 gm/dl.
 PCV : 12%
 MCHC : 35%
 FILM : Marked anisocytosis with both microcytes and macrocytes prevailing. Moderate poikilocytosis with few target cells. Slight polychromasia with ~~normoblasts~~ seen. Marked hypochromia.
2. BLOOD SLIDES: Numerous ring forms of falciparum malaria seen.
3. SICKLING TEST: Negative
4. SERUM BILIRUBIN: TOTAL : 4.5 mg%
 INDIRECT: 4.1 mg%
 DIRECT : 0.4 mg%
5. STOOL : Ova of hookworms seen. 10 eggs per high power film.
6. BLOOD GROUP : "O" Rhesus (D) positive.
7. VDRL : Negative

From these results a definitive diagnosis of malaria causing severe haemolytic anaemia superimposed on a microcytic and macrocytic anaemia was made.

Her treatment was along the following lines:

1. She was transfused with 4 units of compatible packed cells over a period of 7 days. Each unit was transfused slowly and was given with 40 mg of lasix intravenously.
2. Ferrous sulphate tablets : 200mg three times daily.
3. Folic acid tablets : 5mg once daily.

4. Chloroquine tablets : 600mg stat, 300mg after 6 hours, 300mg
once daily for 3 days, then 300mg weekly.
5. Alcopar sachets : 5gm. once daily for 3 days.

She made satisfactory improvement on above treatment. On the 10th day in hospital her haemoglobin concentration was 9.6gm/dl with a PCV of 29%. The stool had no ova and cysts and serum bilirubin had come down to 0.7mg%. Blood slide was negative for malaria parasites and the spleen was no longer palpable on deep inspiration.

She was discharged on ~~haematins~~ and chloroquine and was booked in the antenatal clinic of Coast Province General Hospital for follow-up.

ANTENATAL FOLLOW-UP:

She attended the antenatal clinic on 18.10.1983 at 37 weeks gestation and on 25.10.1983 at 38 weeks gestation. On both occasions she had no complaints, was not anaemic, and her observations of blood pressure, urinalysis and uterine size were within normal limits.

LABOUR AND DELIVERY:

The patient was re-admitted to LGMH on 31.10.1983 at 11.00a.m. with an 8-hour history intermittent abdominal pains. She gave no history of draining liquor or vaginal bleeding.

Her general condition was satisfactory. She had no pallor, jaundice or peripheral oedema. Her blood pressure was 120/80 mmHg, pulse was 84 per minute, and temperature was 36.7°C. Urinalysis was normal.

Uterine size was consistent with a term pregnancy. The lie was longitudinal and the presentation cephalic with 3/5 of the head above the pelvic brim. Fetal heart rate was 142 per minute and regular. She was getting 3 uterine contractions in 10 minutes each

lasting 30 seconds. Liver and spleen were not palpable.

Vaginal examination revealed a normal vulva and a cervix which was fully effaced and 5cm dilated. The pelvis was clinically adequate. Membranes were bulging and artificial rupture of membranes was performed. Clear liquor was drained out slowly and there was no cord prolapse. Position was right occipital anterior and there was no caput formation and minimal moulding.

A diagnosis of active phase of labour was made. Labour progress was charted on the partogram and she was given 100mg of pethilorphan intramuscularly.

She had good progress of labour and at 3.30p.m., 4½ hours after admission, she had the urge to bear down. The head was not palpable abdominally and the cervix was fully dilated. She was transferred to the delivery couch and encouraged to bear down with each contraction.

A left medio-lateral episiotomy was performed when the head crowned. A male baby was then delivered. The baby weighed 2650 grams and had an Apgar score of 10 at 1 minute and 10 at 5 minutes. She was given 1ml. of syntometrine intramuscularly after the birth of the baby. The placenta was then delivered by controlled cord traction. It was complete and weighed 450 grams. Estimated blood loss was 150 mls. The episiotomy was repaired in layers as described in the introduction.

The mother and the baby were discharged in excellent condition 24 hours after delivery. She was discharged on haematinics and chloroquine for 6 weeks.

This patient was, obstetrically - speaking, very young and had hardly entered her womanhood before she got pregnant. Young age, mijikenda tribe and poor socio-economic status were shown to have a bearing on the genesis of anaemia in pregnancy at the Coast (3). All these factors were quite evident in this patient.

Malaria is holoendemic at the Coast. Immunity to malaria develops over the early years of life, but tends to decline under conditions of stress such as pregnancy (1). Malaria in pregnancy may cause premature onset of labour, stillbirths and anaemia. The anaemia is primarily haemolytic, but repeated haemolyses may lead to secondary folic acid deficiency (1,2). Mati and associates (2) showed that the commonest type of anaemia of pregnancy in Nairobi was megaloblastic anaemia. They further showed that nearly half of the cases of megaloblastic anaemia were associated with malaria with strong evidence of haemolysis. These cases were primarily haemolytic anaemia with secondary megaloblastic changes due to folic acid deficiency. At the Coast, with most people having marginal iron deficiency (4,5), the picture is not as straight-forward as that in Nairobi. Thus, we showed that the high prevalence of dimorphic anaemia in pregnancy at the Coast was due to repeated malarial haemolyses causing secondary megaloblastic changes in women who had marginal iron deficiency (3). The patient presented in this paper falls into this category.

Treatment of patients who present with severe anaemia in pregnancy should be prompt and vigorous to avoid these patients going into congestive cardiac failure. Blood transfusion is mandatory, not whole blood but packed cells together with a rapid acting diuretic - e.g. Lasix. Lawson (1) has advocated exchange transfusion in these patients.

To arrest the haemolytic process, anti-malarial treatment should also be instituted. This patient was transfused with 4 units of compatible packed cells over a period of 7 days. She was also given chloroquine, haematinics and alcopar (for the intestinal hookworms reported in her stool sample). She made satisfactory response and was discharged on haematinics and weekly chloroquine as prophylaxis against another attack of malaria.

Until there is adequate improvement in socio-economic status, the ravages of anaemia in pregnancy will continue to be felt in the poor developing countries. For now, chemoprophylaxis seems to be the only feasible way of checking the dangers of anaemia in pregnancy. The type of prophylaxis will depend on the pattern of anaemia in the area concerned. At the coast of Kenya, this should include: Iron, folic acid, anti-malarials and anti-ankylostomiasis.

REFERENCES:

1. Lawson, J. B.

Anaemia in Pregnancy. In: Obstetrics and Gynaecology in the Tropics and Developing countries.

Edited by J. B. Lawson and D. B. Stewart.

1974 Edition, Page 73.

ELBS and Edward Arnold (Publishers) Ltd. 1974

2. Mati, J. K. G., Hatimy, A., and Gebbie, D. A. M.

The Importance of Anaemia of Pregnancy in Nairobi, and the Role of Malaria in the Aetiology of Megaloblastic Anaemia.

J. Trop. Med. Hyg. 74: 1, 1971.

3. Kibunguchy, W.

Anaemia in Pregnancy at Coast Province General Hospital (CPGH), Mombasa: A Descriptive Study.

The Long Obstetric Commentary in this Book.

4. Foy, H. and Kondi, A.

Anaemias in Africans.

Trans. Roy Soc. Trop. Med. Hyg. 46: 327, 1952.

5. Levy, S. B.

Haemoglobin Differences Among Kenyan Tribes.

Am. J. Trop. Med. Hyg. 18:138, 1969.

CASE NO. 12.

* * * * *

CARDIAC GRADE IV DISEASE IN PREGNANCY: SUCCESSFUL

MANAGEMENT AND ELECTIVE VACUUM EXTRACTION - LIVE BABY.

CARDIAC GRADE IV DISEASE IN PREGNANCY : SUCCESSFUL
MANAGEMENT AND ELECTIVE VACUUM EXTRACTION - LIVE BABY

<u>NAME</u> : A.C.N. (Mrs)	<u>L.M.P.</u> : 5.1.1982
<u>UNIT NO.</u> : 259524	<u>E.D.D.</u> : 12.10.1982
<u>AGE</u> : 23 Years	<u>ADMISSION</u> : 31.8.1982
<u>TRIBE</u> : Kalenjin	<u>DELIVERY</u> : 8.10.1982
<u>PARITY</u> : 1 + 0	<u>DISCHARGE</u> : 18.10.1982

PRESENTING HISTORY

Mrs. A.C.N. was referred from Eldoret District Hospital on 31.8.1982 because of deteriorating cardiac disease in pregnancy. She gave a 4-month history of palpitations, weakness, easy fatigability and dyspnoea. All the symptoms were progressively getting worse and at the time of admission she was experiencing palpitations and dyspnoea at rest.

She did not give any history of labour pains, draining of liquor or vaginal bleeding. Maturity by dates was 34 weeks.

HISTORY OF PRESENT PREGNANCY

She attended Eldoret District Hospital for antenatal care. Her first clinic visit was on 15.4.82 at 16 weeks maturity. From her history and cardiovascular examination an impression of cardiac disease in pregnancy was made. She was started on digoxin, lasix and slow-K.

She was subsequently seen 9 more times. In all these times the uterine size, urinalysis and vital signs remained within normal levels. However, her cardiac condition progressively deteriorated necessitating her transfer to Kenyatta National Hospital (KNH).

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at 14 years. She had regular menstrual periods with a cycle of 30 days and a duration of 4 days.

She was para 1 + 0. This delivery was in KNH in 1979 after a closely-supervised full-term pregnancy. The second stage of labour was assisted with vacuum extraction, and a male baby weighing 4000 grams was delivered who is alive and well. The puerperium was uneventful. She did not use any contraception after this delivery.

PAST MEDICAL AND SURGICAL HISTORY

In 1978 the patient was seen in the cardiac clinic of KNH and found to have tight Mitral Stenosis due to Rheumatic heart disease. She also had in association pulmonary hypertension. She was admitted in the medical wards but suffered repeated incidences of cardiac failure while on medical treatment. Because of this it was considered that she could benefit from closed mitral commissurotomy. She underwent the operation that same year but she subsequently developed Mitral incompetence and residual stenosis.

SOCIAL AND FAMILY HISTORY

She was married and worked as a clerk in the post office. Her husband was a school teacher and the couple lived in Eldoret. There was no family history of heart disease, hypertension, diabetes mellitus or multiple pregnancy.

PHYSICAL EXAMINATION

She appeared weak but was well nourished and of average height. She had no pallor, jaundice or cyanosis. She had moderate bilateral pitting leg oedema. The temperature was 36.1°C and urinalysis was normal.

CARDIOVASCULAR AND RESPIRATORY SYSTEMS

The blood pressure was 110/70 mmHg and pulse was 90 per minute regular with good volume. The jugular venous pressure was not elevated. The apex beat was in the 5th intercostal space within the mid-clavicular line. There was no parasternal heave or cardiac thrill. First and second heart sounds were heard; there was a mid-diastolic murmur and a pansystolic murmur which were both best heard in the mitral area. The pansystolic murmur radiated towards the left axilla.

There was a left thoracotomy scar. Good air entry was auscultated bilaterally with no crepitations or rhonchi.

ABDOMINAL EXAMINATION

The uterine size corresponded to 34 weeks gestation. A single fetus in longitudinal lie and cephalic presentation was palpable. Fetal heart rate was 140 per minute regular. The liver and spleen were not palpable and the hepato-jugular reflex was negative.

DIAGNOSIS AND MANAGEMENT

A diagnosis of cardiac grade IV disease in pregnancy was made. The cardiac lesions were mitral stenosis and incompetence and the patient was not in congestive cardiac failure (CCF).

She has admitted to Ward 2 and was managed as follows:-

1. Bed rest in a propped-up position.
2. Digoxin Tablets : 0.25 mg once daily.
3. Lasix Tablets : 40 mg once daily.
4. Slow-K Tablets : 2 once daily.
5. Ferrous Sulphate Tablets : 200 mg three times daily.
6. Folic Acid Tablets : 5 mg once daily.

The patient's condition improved greatly and she remained in a stable condition while in the Ward. She was reviewed daily by the Obstetricians and weekly by the Cardiologists. Several investigations were done and the results are shown in the table below :-

RESULTS OF INVESTIGATIONS

Date and Results Investigations	31.8.1982	8.9.1982	16.9.1982	4.10.1982
Haemoglobin	8.0 gm/dl	9.7 gm/dl	10.3 gm/dl	12.3 gm/dl
PCV	27.1%	33%	33.4%	36%
Blood Group	"A" Rh (D) Positive	-	-	-
VDRL	Negative	-	-	-
Sodium	131 mmol/l	133 mmol/l	138 mmol/l	142 mmol/l
Potassium	4.4 mmol/l	4.6 mmol/l	4.8 mmol/l	4.4 mmol/l
Blood Urea Nitrogen	1.7 mmol/l	2.3 mmol/l	1.9 mmol/l	3.2 mmol/l
Creatinine	57 umol/l	-	-	69 umol/l
MSSU	No Growth	-	No Growth	No Growth
Stool	No Ova and Cysts	-	-	-
Malaria Parasites	Negative	-	-	-
Chest X-Ray	Slight Cardiomegally. Lung Fields Clear	-	-	-
Echo-Cardiogram	-	-	-	Features Consistent with MS and MI.

The patient did not develop any untoward complications except on 20.9.1982, at 37 weeks gestation when she developed persistent vomiting. Her pulse was 72 per minute and her cardiac status was stable. She was reviewed by the cardiologist who recommended that her dose of digoxin be reduced to 0.125 mg daily. This was done and the vomiting gradually ceased. Her condition remained stable until on the 8.10.82 at 39+ weeks gestation when she went into spontaneous labour. She was transferred to labour ward at 12.30 p.m.

MANAGEMENT OF LABOUR

The pulse was 70 per minute regular and the blood pressure was 120/70 mmHg. The lung fields were clear and there was good air entry bilaterally. She was not in CCF.

The uterine size was consistent with a term pregnancy. The lie was longitudinal and the presentation cephalic with 3/5 of the head above the pelvic brim. FHR was 140 per minute and regular. She was getting 3 uterine contractions in 10 minutes each lasting between 20-40 seconds.

Vaginal examination revealed a cervix which was 4 cm dilated, soft and 75% effaced. The pelvis was adequate. Artificial rupture of membranes was performed and clear liquor allowed to drain slowly. There was no cord prolapse. The position was left occipital anterior (L.O.A.) and there was no caput formation or moulding.

A diagnosis of active phase of labour was made. She was nursed in a propped-up position, and half-hourly observations of pulse, contractions and FHR were charted on the partogram. She was given 15 mg of Morphine sulphate intramuscularly for analgesia and was started on oxygen by mask. Digoxin, Lasix and Slow K were continued as before.

She was reviewed 4 hours later. She was still getting 3 contractions in 10 minutes. Fetal head was 2/5 above the pelvic brim. FHR was 148 per minute and regular. The chest was clear and the cardiac status stable. The cervix was 8 cm. dilated and fully effaced. There was no caput formation or moulding.

One hour later, at 7.30 p.m., the patient had the urge to bear down. She was wheeled to the delivery couch for elective vacuum extraction.

ELECTIVE VACUUM EXTRACTION

Still in propped-up position, the patient was put in lithotomy position. The surgeon scrubbed and donned a sterile gown and gloves. Vaginal and perineal toilet was done using savlon solution, then the area was draped with sterile towels. The perineum was infiltrated with 20 cc. of 1% lignocaine. Repeat vaginal examination revealed a fully dilated cervix and a L.O.A. position. A Malmstrom's vacuum extractor was assembled with a 60 mm. cup. Vacuum extraction was then done as described in Case No. 4.

A female baby weighing 2850 grams who had an Apgar Score of 10 at 1 minute and 10 at 5 minutes was delivered easily, 10 minutes later. Ergometrine was not given to the mother as routinely done in normal cases. The placenta was delivered by controlled cord traction; it was complete and weighed 740 grams. 40 mg. of Lasix was given intravenously after the third stage. Inspection revealed no cervical, vaginal or perineal injuries. The episiotomy was then repaired in layers as described in the introduction. Total blood loss was estimated to be 200 mls.

POSTPARTUM CARE

For the first 48 hours of the postpartum period the patient was managed in labour ward. She had 4-hourly observations of her vital signs and was continued on anti-failure medicines as before. She was in addition started on ampiclox capsules (500 mg. 6-hourly for 10 days). Her cardio-respiratory status was evaluated twice daily.

She remained in a stable condition and was transferred to Ward 2 on the third postpartum day. On this same day blood for haemoglobin estimation and a mid-stream specimen of urine for culture were obtained from her and submitted to the laboratory. Results showed a haemoglobin concentration of 12.1 gm/dl., and the urine had no bacterial growth.

While in the ward methods of contraception were discussed with her and her husband. The couple declined to accept tubal ligation but agreed to consider the barrier methods, depo-provera or the Oestrogen-free pill.

The patient was discharged in satisfactory condition on 18.10.1982. She was referred back to Eldoret District Hospital where she was to attend her postnatal and cardiac clinics.

COMMENT

A varying incidence of cardiac disease in pregnancy has been reported in the literature. Ueland (1) in his review found the highest incidence in U.S.A. (1.2-3.7%) and the lowest in Germany (0.12-0.4%). No country-wide survey has been done in Kenya, but studies done at Kenyatta National Hospital give an incidence of between 0.5-0.66% (2,3).

The incidence of Rheumatic heart disease (RHD) has fallen dramatically in the western more affluent countries. And because of newer surgical techniques and better medical care, more girls with congenital heart diseases (CHD) in these countries live to child-bearing age (4). The consequences of this is the reduction of the ration of RHD to CHD from 10:1 a decade ago to 3:1 to 2:1 now (4). In the socially and economically developing countries the incidence of RHD is still very high (2,3,5). In all cases of RHD, however, the mitral vulva is by far the most commonly involved (1,2,3,4,5).

This patient had mitral stenosis and mitral incompetence that occurred as a sequel to mitral commissurotomy in 1978. Ngotho (3) and Batambuze et al (5) found that most of the patients in their series were below 30 years of age and were also of low parity. This patient was 23 years old and was Para 1 + 0.

Heart disease is a debilitating condition which usually deteriorates in pregnancy because of the haemodynamic changes which take place. Although Ueland and associates (6) showed that in patients with heart disease cardiac output and stroke volume do not increase as much as in normal women in response to demands of pregnancy (and light exercise); nonetheless the added load, albeit of lower magnitude, is a big strain to the diseased heart. In this connection, pregnant women with heart disease need meticulous care to avoid additional strain to the already strained heart. Antenatal care aims to avoid anaemia, undue physical activity, excessive weight gain, hypertension, and any intercurrent infection all which will cause an additional burden to the heart.

This patient was managed with bed rest in hospital, haematinics, digoxin and diuretics. Her haemoglobin concentration was checked fortnightly and she was examined physically everyday. On admission her haemoglobin concentration was 8.0 gm/dl. but this was built up to 12.3 gm/dl. at the time of delivery. Her condition remained stable throughout, except the one time at 37 weeks gestation when she had troublesome vomiting. This could have been related to the amount of digoxin that she was receiving because it ceased after reduction of the dose of digoxin. However, there were no other signs of digoxin toxicity.

Ngotho (3) found that most of the patients in his series presented late in pregnancy. This patient, on the other hand, presented first to Eldoret District Hospital at 16 weeks gestation. This is the time when she should have been admitted to hospital and maybe her condition would not have deteriorated to the extent requiring her transfer to KNH. It is the practice in our unit, like in other centres (4), to admit to hospital for the duration of the pregnancy all patients with grade III and IV cardiac disease in pregnancy.

Close co-operation between obstetrician and cardiologist, as was done in this case, has reduced morbidity and mortality from heart disease in pregnancy. Whitfield (4) quotes a maternal mortality rate of 0.5% in western countries; with grade III and IV patients contributing the bulk of the deaths. In KNH, Ngotho (3) found a maternal mortality rate of 3.2% (compared to a rate of 0.7% in the control group). It has been shown that mortality and morbidity from cardiac disease occurs commonly in patients who did not seek medical advice early or those who were first seen in labour (2,4). Pregnancy following heart surgery, as was the case in this patient, was shown by Ueland (1) to be associated with fewer instances of heart failure.

The management of labour in a patient with heart disease involves propping up the patient in a most comfortable position, administration of oxygen continuously or intermittently, and liberal use of analgesia to relieve pain, anxiety and discomfort. Progress of labour should be monitored on the partogram to avoid prolonged labour. Indeed, it has been suggested that cardiac patients have shorter and easier labours, but this is only because of the meticulous care that these patients receive.

The second stage of labour is normally expediated by vacuum extraction or forceps delivery. With the abrupt and rapid haemodynamic changes that occur immediately after the third stage of labour most maternal deaths occur during this period (3,4). Ergometrine with its vasoconstrictive and direct myometrial action is contraindicated. It is also the policy in our unit to give a rapid-acting diuretic (e.g. Frusemide) after the third stage of labour. We also recommend use of prophylactic antibiotics in the early puerperium, although this measure is still controversial (4).

Contraception of cardiac patients is problematic. Whitfield (4) and Batambuze et al (5) are of the opinion that pregnancy is a temporary complication in a heart disease that does not make the heart condition worse. All the same, to avoid caring for a young child while pregnant, family planning is advocated. And because of the intensive and extensive management, economically, socially and emotionally, involved in the care of cardiac patients in pregnancy, small families are encouraged.

This patient declined sterilization which was recommended to her. The only safe methods, which the couple promised to consider, are barrier methods, depo-provera and oestrogen-free pills.

REFERENCES

1. Ueland, K.
Cardiac Surgery and Pregnancy.
Am. J. Obstet. Gynaecol. 92 : 148, 1965.
2. Sequeira, R.F. and Ojiambo, H.P.
The Heart in Pregnancy.
E. Afr. Med.J. 46 : 18, 1969.
3. Ngotho, D.K.
Cardiac Disease in Pregnancy at Kenyatta National
Hospital. A Ten-year Retrospective Study (1970-1979).
M.Med. Thesis, 1982.
4. Whitfield, C.R.
Heart Disease in Pregnancy. In : Intergrated
Obstetrics and Gynaecology for Postgraduates.
Edited by Sir John Dewhurst. Third Edition
Page 279. Blackwell Scientific Publication. 1981.
5. Batambuze, E.W., D'Arbela, A.K., Patel, R.G. et al.
Heart Disease in Pregnancy.
E.Afr. Med. J. 53 : 446, 1976.
6. Ueland, K., Novy, M.J. and Metcalfe, J.
Haemodynamic Responses of Patients with Heart
Disease to Pregnancy and Exercise.
Am. J. Obstet. Gynaecol. 113 : 47, 1972.

CASE NO. 13

* * * *

SEVERE PRE-ECLAMPSIA AND POOR BISHOP'S

SCORE : EMERGENCY CAESAREAN SECTION - LIVE BABY

SEVERE PRE-ECLAMPSIA WITH POOR BISHOP'S
SCORE : EMERGENCY CAESAREAN SECTION - LIVE BABY

<u>NAME</u>	: E.W.M. (Mrs.)	<u>L.M.P.</u>	: 11.1.1982
<u>UNIT NO.</u>	: 514651	<u>E.D.D.</u>	: 18.10.1982
<u>AGE</u>	: 24 Years	<u>ADMISSION</u>	: 13.9.1982
<u>TRIBE</u>	: Kikuyu	<u>MATURITY</u>	: 35 Weeks
<u>PARITY</u>	: 0 + 0	<u>DELIVERY</u>	: 13.9.1982

PRESENTING HISTORY

The patient was referred from Aga Khan Hospital on 13.9.1982 because of financial constraints. She gave a two-week history of generalised swelling of the body, nausea, vomiting and dyspnoea, and a one-day history of frontal headache and pains in the right hypochondrium. She gave no history of labour pains, drainage of liquor or antepartum haemorrhage.

HISTORY OF PRESENT PREGNANCY

She attended Aga Khan Hospital for antenatal care. She was admitted to Aga Khan Hospital on 1.9.1982, with a diagnosis of pre-eclampsia. While in the hospital her blood pressure ranged between 140/90-160/110 mmHg. and proteinuria was between 2+-3+. Urea and uric acid levels were within normal limits. She was treated with bed rest, phenobarbitone tablets (30mg. TDS) and aldomet tablets (500 mg. TDS) without any appreciable control of her condition.

On 13.9.1982 at 35 weeks gestation she complained of frontal headache and pain in the right hypochondrium of one day's duration. Because of these ominous symptoms coupled with the poor response to medical treatment, a decision to terminate the pregnancy was taken. This could not, however, be done at Aga Khan Hospital because of financial constraints.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

Menarche occurred at the age of 14 years. She had regular menstrual periods with a cycle of 30 days and a duration of 5 days. She was a primigravida and had not used any contraceptives. Her last menstrual period was on 11.1.1982.

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

Her formal education ended in form IV. She was married and the couple lived in Kijabe. She was employed as a secretary and her husband was a school teacher. She gave no family history of twins or chronic medical diseases.

PHYSICAL EXAMINATIONGENERAL EXAMINATION

She was clinically drowsy (she had been given 10 mg. of valium intravenously and 20 mg. of hydrallazine intravenously in casualty). Otherwise she had good nutritional status and was of average height. She had puffiness of the face and generalized oedema, but had no pallor, jaundice or cyanosis.

VITAL SIGNS

Blood Pressure : 190/110 mmHg.
Pulse : 78 per minute regular
Temperature : 36°C
Respiration : 24 per minute.

URINALYSIS

Volume : 500 mls.
Proteins : 3+
Sugar : Nil
Ketones : Nil

RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

The uterine size corresponded to 36 weeks gestation. The lie was longitudinal and the presentation cephalic with 5/5 of the head above the pelvic brim. Fetal heart rate was 136 per minute and regular. There were no uterine contractions. Liver and spleen were not palpable.

VAGINAL EXAMINATION

The vulva was normal. The cervix soft, centrally pointing, not effaced, and the internal os was closed (The Bishop's score was 3). The pelvis was clinically adequate.

DIAGNOSIS AND MANAGEMENT

A diagnosis of a primigrava with severe pre-eclampsia at 35 weeks gestation and a Bishop's score of 3 was made. Her immediate management was started along the following lines :-

1. She was nursed in a quiet side-room.
2. Her vital signs were charted half hourly.
3. She was catheterised aseptically and the catheter left in-situ in order to maintain an accurate urine output.
4. Blood specimens were obtained for urgent urea and electrolytes and for grouping and cross-matching.
5. 40 mg. of hydrallazine was mixed in 500 mls. of 5% dextrose; this was titrated against blood pressure readings - with the aim of maintaining diastolic blood pressure around 100 mmHg.

Four hours after admission there was no appreciable change in her condition. A decision to terminate the pregnancy was taken. Because of the *poor Bishop's score it was decided that she would be best delivered abdominally.* She was prepared as described in the introduction.

LOWER UTERINE SEGMENT CAESAREAN SECTION (L.U.S.C.S.)

Routine L.U.S.C.S. under general anaesthesia was performed as described in the introduction. A female baby was delivered who weighed 2190 grams and had an Apgar Score of 6 at 1 minute and 10 at 5 minutes. The baby was estimated to be 36 weeks maturity and had no overt congenital malformations.

Five units of syntocinon was given intravenously after the birth of the baby. The placenta was manually removed; it was complete, weighed 680 grams and had multiple infarcts. The uterus was then sutured in layers as described in the introduction. Both ovaries and tubes appeared grossly normal. The abdomen was then closed in three layers as described in the introduction. The catheter was draining clear urine and was left in-situ. Total blood loss was about 400 mls.

POST-OPERATIVE MANAGEMENT

The patient was managed in a quiet side-room in labour ward during the initial post-operative period. In addition to the routine post-operative care, she was also managed with hydrallazine in titrations as before, and had a strict in-put/output record.

By the second post-operative day her condition was satisfactory. She was afebrile and was passing adequate amounts of urine. Her blood pressure ranged between 140/90-160/100 mmHg. and proteinuria had decreased from 3+ to 2+. She had passed flatus and bowel sounds were present. Intravenous fluids were stopped and she was started on oral sips of water. Her medication was changed to oral - i.e. ampiclox capsules (500 mg. QID for 5 days), hydrallazine tablets (25 mg. TDS) and Phenobarbitone tablets (30 mg. TDS).

On the third post-operative day the catheter was removed and a catheter specimen of urine was taken for culture. Blood specimens were taken for haemoglobin estimation, urea and electrolytes and VDRL. She was transferred from labour ward to ward 2.

RESULTS OF INVESTIGATIONS

	<u>PRE-OPERATIVE</u>	<u>POST-OPERATIVE</u>
1. Urea :	30 mg/dl	25 mg/dl.
2. Sodium :	150 mmol/l.	140 mmol/l.
3. Potassium :	4.2 mmol/l.	4.1 mmol/l.
4. Haemoglobin :	-	11.4 gm/dl
5. Packed Cell Volume :	-	34.7%
6. VDRL :	-	Negative
7. Blood Group :	"A" Rh (D) Negative	-
8. Urine Culture :	-	Negative

On the 5th post-operative day the blood pressure was steady at 120/80 mmHg and proteinuria was "Trace". Hydrallazine tablets were discontinued. Alternate and all stitches were removed on the sixth and seventh post-operative days respectively. The wound was clean and had healed by primary intention. The baby's condition was also satisfactory. She was discharged through the renal clinic.

POSTNATAL VISIT

She attended the postnatal clinic after 6 weeks. Her blood pressure was 120/80 mmHg and urinalysis was normal. The abdomen was soft and the scar well healed. Pelvic examination revealed a completely involuted axial uterus and clear adnexae. She had no desire for contraception.

The baby had received the necessary immunisations and was breast feeding and gaining weight well.

COMMENT

Pre-eclampsia is defined as the development of hypertension with proteinuria, and oedema, or both induced by pregnancy after the 20th week of gestation, and sometimes earlier when there is extensive hydatidiform changes in the chorionic villi (1). The clinical syndrome of hypertensive disease in pregnancy includes pre-eclampsia, eclampsia, chronic hypertension (of whatever origin), superimposed pre-eclampsia and gestational hypertension (1).

The incidence of hypertensive disease in pregnancy is variable. Mati (2) found an incidence of between 1.5-9% in various parts of Kenya. Whenever it occurs, however, hypertensive disease in pregnancy is an important cause of maternal mortality (3,4) and perinatal mortality (5).

The aetiology of pre-eclampsia is not known. It is a disease of young and elderly primigravidae. In multigravidae it frequently occurs in association with hydatidiform mole, multiple pregnancy, diabetes mellitus, hydrops fetalis, or underlying vascular disease (1).

Pre-eclampsia may be classified as mild to moderate or severe. Gant and associates (6) defined severe pre-eclampsia as the presence of one of the following : Blood pressure of equal to or greater than 160/110 mmHg, oliguria (urine output of less than 600 mls. in 24 hours) cyanosis or pulmonary oedema, visual disturbances, epigastric or right hypochondrial pain, or proteinuria of 3+ to 4+ or of over 5 grams in a 24-hour collection of urine. This patient had a blood pressure of 190/110 mmHg and proteinuria of 3+ on admission. She also complained of frontal headache and right hypochondrial pain. From all these considerations she had severe pre-eclampsia.

Management of the pregnancy complicated by pre-eclampsia is based upon considerations of both maternal and fetal well-being. In severe pre-eclampsia both the mother and the fetus are jeopardised; the mother from dangers of eclampsia, cerebral vascular accidents, renal and cardiac failure, and the fetus from intrauterine death (6). Intrauterine death occurs primarily because of decreased uteroplacental perfusion, but could also occur from abruptio placentae.

In severe pre-eclampsia, therefore, maternal and fetal interests are best served by termination of pregnancy regardless of fetal maturity. Luckily, pre-eclampsia has been shown to accelerate fetal lung maturity (1,6). Termination of pregnancy is also indicated when and if eclampsia supervenes or if there is unequivocal evidence of fetal growth retardation or imminent fetal demise (6). Mati (2) also showed that there was poor fetal prognosis if serum urea was 15 mg% or more.

Expeditious termination of pregnancy was decided upon in this patient not only because she had severe pre-eclampsia but also because her serum urea was 30 mg% and conservative medical treatment at Aga Khan Hospital for two weeks had not brought about any amelioration of the condition.

When considering termination of pregnancy the best method is one that will not further aggravate the already precarious condition of the mother or the unborn baby. In practice, the choice lies between caesarean section and induction of labour. In our obstetric unit we are guided by the Bishop's Score (7), gestation, and intercurrent medical and obstetric conditions or complications. With a poor Bishop's Score, as was the case in this patient, caesarean section is decidedly superior to induction of labour.

Prevention of convulsions and control of blood pressure are other measures to be taken in consideration in severe pre-eclampsia (6). Control of blood pressure should not, however, compromise uteroplacental perfusion. In our unit, chlormethiozole (Heminevrin) or Diazepam (Valium) are used in the prevention or control of convulsions. Hydrallazine (Apresoline) in titrations is used to control blood pressure. These measures were instituted in this patient.

Early detection and proper management of mild to moderate pre-eclampsia will largely prevent severe pre-eclampsia (and eclampsia). This is possible only if the patient avails herself for antenatal care early in pregnancy; then it behoves the doctors and the midwives to check for signs and warning signs of this condition (1,4,6). Increased sensitivity for exogenous angiotensin II and the simple non-invasive "roll-over" test are two screening tests for pre-eclampsia which have recently been described (6). Both these tests are not done in our unit.

Management of mild and moderate pre-eclampsia has the aim of preventing severe pre-eclampsia and eclampsia. Admission to hospital is mandatory. Bed rest aided by mild sedation lowers blood pressure and improves uteroplacental blood flow. Salt restriction and use of anti-hypertensives and diuretics are deprecated (1,6). While in hospital weight gain, blood pressure, renal function tests, and tests and procedures to assess fetal growth and fetal well-being are evaluated according to the policy of every centre and unit (6). The overall goal of antepartum care is to obtain a healthy baby who will survive and develop normally, but not at the expense of the mother and her well-being.

This patient was managed conservatively at Aga Khan Hospital for two weeks. Later this was considered extraneous when her condition deteriorated with development of frontal headache and pain in the right hypochondrium. At delivery, although the liquor was clear, the placenta had multiple infarcts - a sign of its compromised state.

REFERENCES

1. Pritchard, J.A. and Macdonald, P.C.
Hypertensive Disorders in Pregnancy. In: Williams
Obstetrics. 16th Edition Page 665.
Appleton-Century-Crofts/New York. 1980.
2. Mati, J.K.G.
Pregnancy Hypertension. M.D. Thesis, 1975.
3. Makokha, A.E.
Maternal Mortality in Kenyatta National Hospital,
1972-1977. E.Afr. Med. J. 57 : 451, 1980.
4. Lawson, J.B.
Pre-eclampsia and Eclampsia. In: Obstetrics and
Gynaecology in the Tropics and Developing Countries.
Page 120. ELBS and Edward Arnold (Publishers) Ltd.
1974.
5. Johnstone, F.D. and Ochiel, S.O.
Perinatal Mortality at Kenyatta National Hospital.
E.Afr. Med. J. 57 : 119, 1980.
6. Gant, N.F. Morley, R.J., Cunningham, F.G. and Whalley, P.J.
Clinical Management of Pregnancy - Induced Hypertension.
Clin. Obstet. Gynaecol. 21 (2) : 397, 1978.
7. Bishop, E.H.
Pelvic Scoring for Elective Induction.
Obstet. Gynaecol. 24 : 266, 1964.

CASE NO. 14.

* * * * *

RHESUS DISEASE : EMERGENCY CAESAREAN SECTION AT

35+ WEEKS GESTATION - EARLY NEONATAL DEATH.

RHESUS DISEASE : EMERGENCY CAESAREAN SECTION AT
35+ WEEKS GESTATION - EARLY NEONATAL DEATH

<u>NAME</u> : M.W.M. (Mrs)	<u>L.M.P.</u> : 25.2.1982
<u>UNIT NO.:</u> 513394	<u>E.D.D.</u> : 3.12.1982
<u>AGE</u> : 32 Years	<u>ADMISSION</u> : 21.10.1982
<u>TRIBE</u> : Kikuyu	<u>DELIVERY</u> : 30.10.1982
<u>PARITY</u> : 7 + 0	<u>MATURITY</u> : 35+ Weeks

PRESENTING HISTORY

The patient was admitted from the antenatal clinic on 21.10.1982 for amniotic fluid studies because of deteriorating indirect coombs test titres. She did not give any history of labour pains, drainage of liquor or vaginal bleeding.

ANTENATAL CARE

She was booked in our antenatal clinic because of two previous scars and a bad obstetric history due to Rhesus incompatibility. Her first clinic attendance was on 30.8.1982 at 27+ weeks gestation. Her height was 5ft. 2in. and her blood pressure was 120/80 mmHg. Urinalysis was normal and the uterin size corresponded to 26 weeks gestation. Blood specimens were taken from her for routine antenatal investigations and indirect coombs test, and her husband's blood was taken for grouping and Rhesus typing.

She made three further visits to the clinic. Her last visit was on 21.10.1982 at 34 weeks maturity. Her antibody titres at 27+ weeks maturity was 1/64 and at 34 weeks it had deteriorated to 1/1024. Because of this, she was admitted to Ward 3 for spectrophotometry and surfactant test.

RESULTS OF INVESTIGATIONS

Haemoglobin	: 13.4 gm/dl.
Haematocrit	: 38.1%
VDRL	: Negative
Blood Group	: "AB" Rh (D) Negative
Rh-Genotype	: $\bar{d}\bar{c}e/\bar{d}\bar{c}e$

RESULTS Cont'd

Indirect Coombs Test : Positive
 Antibody Titres : 1/64 (on 30.8.1982, at 27+ weeks gestation)
 : 1/1024 (on 21.10.1982, at 34 weeks gestation)
 Husband's Blood Group : "O" Rh (D) Positive
 Rh-Genotype : $D\bar{c}E/D\bar{c}e$ (R_2R_0)

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 16 years. Her menstrual periods were regular- the cycle was 30 days and the duration 4-5 days. She was Para 7 + 0. Her obstetric history is summarized below:-

YEAR	PLACE	MATURITY	DURATION OF LABOUR	DELIVERY	WEIGHT	SEX	FATE	PUERPERIUM
1970	P.M.H	37 Weeks	6 hours	F.D.	5¼ lb.	F	Died after 8 months	Uneventful Anti-D not given.
1972	P.M.H	Term	8 hours	S.V.D.	7½ lb.	F	A/W	" " "
1974	P.M.H	Term	4 hours	S.V.D.	7¼ lb.	M	Jaundiced. Late NND	" " "
1976	K.N.H	Term	8 hours	S.V.D.	7½ lb.	F	Exchange Transfusion A/W	" " "
1978	K.N.H	Term	8 Hours	S.V.D.	2700gm.	M	MSB	" " "
1979	K.N.H	37 weeks	12 Hours	Emergency C/S	2400gm.	F	Jaundiced. Early NND.	" " "
1980	K.N.H	36 weeks	-	Elective C/S	2100gm.	M	Exchange Transfusion A/W	" " "

KEY:

P.M.H - Pumwani Maternity Hospital

K.N.H. - Kenyatta National Hospital

F.D. - Forceps Delivery

S.V.D. - Spontaneous Vertex Delivery

C/S - Caesarean Section

M - Male

F - Female

A/W - Alive and Well

MSB - Macerated Still-Birth

NND - Neonatal Death

MEDICAL AND SURGICAL HISTORY

This was non-contributory. She had never had blood transfusion.

SOCIAL AND FAMILY HISTORY

Her formal education ended in Form II. She was a married housewife and the couple lived in Timboroa. Her husband was a businessman. There was no family history of twins or chronic medical diseases.

PHYSICAL EXAMINATION

The patient appeared in good general condition. She had no pallor, jaundice, cyanosis, or peripheral oedema. Her vital signs, respiratory and cardiovascular systems were essentially normal. Urinalysis was normal.

ABDOMINAL EXAMINATION

The abdomen was symmetrically distended and had a midline subumbilical scar. Uterine size was consistent with *34 weeks gestation*. *A single fetus* in longitudinal lie and cephalic presentation was palpable. Fetal heart rate was 140 per minute and regular. She was not having any contractions.

The liver and spleen were not palpable.

VAGINAL EXAMINATION

This was not done.

DIAGNOSIS AND MANAGEMENT

A diagnosis of a grandmultipara with two caesarean section scars and Rhesus isoimmunization was made. She was admitted for amniotic fluid studies.

Amniocentesis was done on 30.10.1982 - the procedure is described in the introduction. Xanthochromic liquor was obtained suprapubically and submitted to the laboratory for bilirubin spectrophotometry and surfactant test

RESULTS

Surfactant Test : 1:1 Negative $\frac{1}{2}$; 1:2 Negative.

Spectrophotometry : Optical density difference of 0.45. This according to Liley's prediction curves indicates a fetus in grave condition who needs immediate delivery then exchange transfusion, or intrauterine transfusion.

RESULTS OF THE

She was thus prepared for emergency caesarean section as described in the introduction. Two units of compatible Group 'O' Rh (D) Negative blood were made available for exchange transfusion. The paediatric registrar on duty at the time was appraised of the problem at hand.

EMERGENCY CAESAREAN SECTION

Routine lower uterine segment caesarean section under general anaesthesia was performed as described in the introduction. A female baby in poor condition was delivered and, after clamping and cutting the cord, was handed over to the paediatric registrar who was in attendance.

After giving 0.5 mg. of intravenous ergometrine the placenta was manually removed. It was complete and weighed 500 grms. Cord blood was now taken for haemogram, serum bilirubin, direct coombs test, and grouping and Rhesus typing.

Both ovaries and tubes appeared grossly normal. The uterus then abdomen were closed in layers. Total blood loss was about 500 mls.

THE BABY

The baby weighed 2100 grams and had an Apgar score of 5 at 1 minutes and 6 at 5 minutes. The baby was appropriate for gestational age and had no overt congenital malformations. The baby was, however, clinically jaundiced and anaemic, and the liver was palpable 4 cm. below the costal margin. A diagnosis of a premature baby with congestive cardiac failure due to Rhesus disease was made.

After initial resuscitation in theatre, the baby was quickly rushed to nursery for exchange transfusion. This was done using group 'O' Rh (D) negative blood. The baby had two cardio-pulmonary arrests during the procedure which were successfully controlled by a calcium gluconate, sodium bicarbonate and adrenaline. After exchange transfusion blood was taken from the baby for haemogram and serum bilirubin, and then was managed by phototherapy and intravenous 10% dextrose.

RESULTS OF THE BABY'S INVESTIGATIONS

	<u>CORD BLOOD</u>	<u>AFTER EXCHANGE TRANS.</u>
Blood Group	: 'A' Rh (D) Positive	-
Direct Coombs Test	: Positive	-
Haemoglobin	: 10.7 gm/dl.	12.5 gm/dl.
Haematocrit	: 30%	33.5%
Bilirubin : Total	: 8.5 mg%	5.8 mg%
Direct	: 2.0 mg%	1.0 mg%
Indirect	: 6.5 mg%	4.8 mg%

The baby's condition remained poor. She was weak and still deeply jaundiced. Repeat exchange transfusion was done on 2.11.1982, but the baby suffered an irreversible cardio-pulmonary arrest during the procedure and died.

POST-OPERATIVE CARE

The mother received routine post-operative care as described in the introduction. Post-operative haemoglobin done on the third day was 12.7 gm/dl. She was not given anti-D immune globulins.

She made uneventful recovery and was discharged in good condition on the seventh post-operative day after removal of all stitches.

POSTNATAL REVIEW AND LATER EVENTS

The patient was seen in the postnatal clinic after 6 weeks. She was well and had no complaints. The abdominal scar was well healed, and the abdomen was soft and not tender. Pelvic examination revealed a completely involuted axial uterus and clean adnexae.

Because of her bad obstetric history and bleak obstetric future, interval tubal ligation was strongly recommended to her but she declined to accept the recommendation.

She subsequently became pregnant in 1983, but the fetus died in utero 30 weeks gestation. She underwent hysterotomy and bilateral tubal ligation on 9.11.1983. A macerated still-birth weighing 1010 grams was delivered.

COMMENT:

The patient presented in this paper was a 32 year old para 7 + 0 lady who had two previous uterine scars and a bad obstetric history due to Rhesus (Rh) isoimmunization. In discussing this case, therefore, her two obstetric conditions will be handled separately.

TWO PREVIOUS CAESAREAN SECTION SCARS:

The dictum in vogue now is : "Twice a caesarean, always a caesarean". Patients with two previous uterine scars do not fulfill the criteria laid down by Walton (1) for trial of scar and are sectioned electively.

In the absence of her other more pressing obstetric condition, her delivery this time would have been a planned one after a positive surfactant test.

RHESUS ISOIMMUNIZATION:

This is one of the important causes of bad obstetric history. The essential underlying pathology in this condition is an active haemolysis of fetal red cells before, at or shortly after birth, and the three conditions of hydrops fetalis, icterus gravis neonatorum and haemolytic anaemia in the new-born are now recognized to differ only in degree and to be related to the same disease process.

Because of the stringent precautions taken in grouping and crossmatching of blood before transfusion, Rh-isoimmunization now commonly, if not exclusively, occurs when an Rh-negative woman is pregnant with Rh-positive fetus. Fetal red cells cross to the maternal circulation and, being foreign, induce production of antibodies. These can then cross the placenta and cause haemolysis of fetal red cells of that Rh-positive fetus or, as it commonly occurs, the red cells of subsequent Rh-positive fetuses - with the likelihood and severity of Rh-disease increasing with higher parities.

The patient under discussion classically exemplifies this trend. She was Para 7 + 0. Her first delivery was in 1970; the baby died 8 months later. This death was not related to Rh-incompatibility. Her second delivery was in 1972 to a baby who is alive and well. Her third delivery was in 1974 to a baby who developed jaundice and succumbed in the late neonatal period. From then onwards her obstetric history progressively soured, and the only babies who survived - in 1976 and 1980 - were those who had exchange transfusion. Maturity at delivery also progressively decreased from 1979; with the aim of preventing intrauterine death. Earlier delivery could have possibly prevented the fetus dying in utero in 1978.

Whitfield (2) in reviewing the literature so far showed that there are four factors which will determine whether or not an "at risk" Rh-negative woman becomes Rh-immunized - these are:-

- (1) Her in-born ability to respond to Rh-antigenic stimulus; about two-thirds of Rh-negative women are responsive.
- (2) ABO incompatibility between the fetus and the mother. This reduces the incidence of Rh-immunization to about one-tenth.
- (3) Variations in the strength of the Rh-antigenic stimulus, depending on the Rh-genotype of fetal red cells.
- (4) The volume of fetal blood entering the maternal circulation, with 0.25 mls representing the critical sensitizing volume; and with the likelihood and severity of sensitization increasing with greater volumes.

Woodrow and Finn (3) showed that labour is a very important event in the induction of primary Rh-immunization. After an abortion the risk of Rh-immunization is between 3-5%. With a full-term delivery this risk is about 12%; but is somewhat higher in caesarean section deliveries, manual removal of the placenta, pregnancies complicated by hypertension and antepartum haemorrhage, and in pregnancies where external cephalic version or amniocentesis are done (2).

Since the independent and remarkable studies by Freda and his associates from 1960 (4) and Finn and his colleagues also from 1960 (5) Rh-immune globulins (anti-D IgG) have revolutionized the management of Rh-disease. It is now standard practice in virtually all centres to give anti-D to all Rh-negative non-immunized women after they deliver an Rh-positive infant or after an abortion or ectopic pregnancy of two months maturity or above. In centres where an estimation of the amount of fetal blood that has entered the maternal circulation can be done (using the Kleinhauer acid-elution technique) a precise dose of anti-D is given. In other centres, the recommended dose of anti-D is 300 micrograms given within 72 hours of delivery, and about half of this dose after an abortion or an ectopic pregnancy.

This patient was not given anti-D after her initial deliveries. From her history it appears that she became sensitized after her second delivery and the sensitization became worse with subsequent deliveries.

The risk of the current fetus being affected by Rh-disease was certainly real. The indirect coombs test was positive at 27+ weeks gestation and the titres were very high. Amniotic fluid bilirubin concentration as determined by spectrophotometry, which is a better predictor of fetal well-being and outcome (6), was not done at this time because of the limitations in our centre in handling Rh-disease in early gestations. In early gestations, intrauterine transfusion (7) or plasmapheresis (8) are the recommended modes of management - neither of which are done in our centre. The only alternative open in severely affected fetuses in this unit, as was done in this case, is premature delivery after 34 weeks gestation followed immediately by exchange transfusion.

Rh-disease is difficult to treat and the best way to deal with it is prevention. Health education is important to mobilize public awareness in the problems inherent in an Rh-negative woman marrying an Rh-positive man. Women who are Rh-negative are advised to inform their doctors of this fact whenever they are pregnant, have an abortion or undergo laparotomy for ectopic pregnancy.

REFERENCES:

1. Walton, S. M..
The Antenatal and Intrapartum Management of Patients with
Previous Caesarean Section Scars.
E. Afr. Med. J. 55 : 1, 1978.
2. Whitfield, R. C.
Feto-Maternal Blood Group Incompatibility. In : Intergrated
Obstetrics and Gynaecology for Postgraduates.
Edited by Sir John Dewhurst.
Third Edition, Page 307.
Blackwell Scientific Publication. 1981.
3. Woodrow, J. C. and Finn, R.
Brit. J. Haematol. 12 : 297, 1966.
4. Fred, V. J. Gorman, J. G. and Pollack, W.
Suppression of Primary Rh-Immune Response with
Passive Rh-IgG Immunoglobulin.
New Eng. J. Med. 277. 1022, 1967.
5. Finn, R., Clarke, C. A., and Donohoe, W. T. A.
Experimental Studies on the Prevention of
Rh-Haemolytic Disease.
Brit. Med. J. I : 1486, 1961.
6. Liley, A. W.
Liquor Amnii Analysis in the Management of Pregnancy
Complicated by Rhesus Sensitization.
Am. J. Obstet. Gynaecol. 82 : 1359, 1961.

7. Queenan, J.T., and Wyatt, R.H.

Intrauterine Transfusion of Fetus for Severe
Erythroblastosis Fetalis.

Am. J. Obstet. Gynecol. 92 : 375, 1965.

8. Pole, J.R.G., Barr, W. and Willoghby, M.L.N.

Continuous - Flow Exchange Plasmapheresis in Severe
Rhesus Isoimmunization.

Lancet 1 : 1051, 1974.

PREVIOUS UTERINE SCAR : SCAR DEHISCENCEIN LABOUR - UNEVENTIFUL OUTCOME

<u>NAME</u> : E.N.M. (Miss)	<u>L.M.P.</u> : 5.4.1984
<u>UNIT NO.:</u> 650761	<u>E.D.D</u> : 12.1.1985
<u>AGE</u> : 24 years	<u>ADMISSION</u> : 25.10.1984
<u>TRIBE</u> : Meru	<u>DELIVERY</u> : 29.12.1984
<u>PARITY</u> : 1+0	<u>DISCHARGE</u> : 9.1.1985

PRESENTING HISTORY:

Miss E.N.M. was admitted to the labour ward from her hostel on 25.10.1984 with a history of intermittent abdominal pains for 2 hours. She did not give any history of draining liquor or vaginal bleeding. Maturity by dates was 28+ weeks.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

Menarche occurred at 13½ years. She had regular menstrual periods occurring every 30 days and lasting for 4 days. She had never used any of the modern contraceptives.

She was Para 1+0. This delivery was in 1981 at Thika District Hospital and it was by emergency caesarean section due to obstructed labour. A male fresh stillbirth was delivered who weighed 3800grams. She developed puerperal sepsis which was contained by antibiotics.

HISTORY OF PRESENT PREGNANCY:

She was booked in our antenatal clinic because of one previous scar. Her first clinic attendance was on 20.8.1984 at 19 weeks maturity. Her height was 5ft. 3in. Routine antenatal investigations were done. She was subsequently reviewed 4 more times in the clinic. Observations of blood pressure, urinalysis and uterine size were within normal limits during all the antenatal visits.

ANTENATAL INVESTIGATIONS:

Haemoglobin : 13.6gm/dl
Haematocrit : 41.1%
Blood Group : "O" Rh (D) Positive
VDRL : Negative

PAST MEDICAL AND SURGICAL HISTORY:

She gave no relevant past medical and surgical history.

FAMILY AND SOCIAL HISTORY:

She was single and was a student nurse in Medical Training Centre. She neither smoked nor consumed alcoholic drinks. There was no family history of twins or chronic medical diseases.

PHYSICAL EXAMINATION

Her general condition was satisfactory. She had no pallor, jaundice or leg oedema. Her blood pressure was 110/70mmHg., pulse was 84/min. The cardiovascular, respiratory and central nervous systems were essentially normal.

ABDOMINAL EXAMINATION:

The abdomen was uniformly distended. She had a midline sub-umbilical scar. A single fetus in longitudinal lie and cephalic presentation was palpable. Uterine size was consistent with 30 weeks gestation. Fetal heart rate was 140 per minute and regular. She was getting 2 uterine contractions in 10 minutes each lasting about 15 seconds.

VAGINAL EXAMINATION:

The vulva and vagina were normal. The cervix was 50% effaced and 2cm. dilated. The membranes were intact and she was not having any drainage of liquor.

DIAGNOSIS AND MANAGEMENT

A diagnosis of premature onset of labour in a patient with one previous caesarean section scar was made. She was given 100mg of pethidine stat and was started on 2.5mg of ventolin in 500mls. of 5% dextrose drip. The infusion rate was 10 drop per minute for 30 minutes and this was escalated by 10 drop every 30 minutes until 40 drops per minute at which rate the contractions ceased. The maternal pulse was observed every 15 minutes and at no time did it go above 120 beats per minute.

She was maintained on the ventolin infusion for a further 6 hours. She had no recurrence of uterine contractions and the observations of pulse and blood pressure were within satisfactory levels. After this she was transferred to the maternity ward on oral ventolin (4mg 8-hourly).

Her stay in the ward was characterised by occasional contractions which were always controlled by ventolin infusion. Because of a previous scar radiological pelvimetry was done on 11.12.1984 at 36 weeks gestation. This showed a true conjugate of 10.3cm, midcavity of 11.2cm. and outlet of 11.7cm. Due to a true conjugate of less than 10.5cm, the plan was to deliver her by elective caesarean section after a positive surfactant test at 38 weeks gestation. Amniocentesis for surfactant test was not, however, done because on 29.12.1984 at 9.20a.m. she went into spontaneous labour.

She was transferred to labour ward. Her general condition was good and she was getting 2 uterine contractions every 10 minutes each lasting between 20-40 seconds. She was prepared for emergency caesarean section but this could not be done until 1.30p.m. because of other emergency operations. In the meantime she was monitored as per partogram.

At 1.15p.m. she was getting 3 contractions in 10 minutes each lasting 20-30 seconds. Her pulse rose to 110 beats per minute and she started experiencing vaginal bleeding. With these added signs no delay was taken.

EMERGENCY CEASAREAN SECTION:

In theatre she was catheterised aseptically and clean urine obtained. The catheter was left in place. Abdominal toilet was done and the area draped. Anaesthesia was induced smoothly using sodium thiopentone and scoline and maintained by oxygen, nitrous oxide and Halothane.

The old scar was excised and the abdomen opened in layers. Dense adhesions were encountered on entering the abdomen. These were partially separated using blunt finger dissection in order to expose the lower uterine segment. The peritonemu was reflected and this exposed a 3cm. dehiscence of the previous uterine scar. The area around the dehiscence was oedematous. Using curved dissecting scissors the dehiscence was continued laterally on both sides. The membranes were then ruptured and a male baby delivered cephalic. The baby weighed 2750grams and had an Apgar score of 8 at 1 minute and 10 at 5 minutes. 0.5mg of ergometrine was given intravenously and the placenta delivered by cord traction. It was complete and weighed 650 grams.

The uterus was now repaired in anatomical layers as described in the introduction. Both tubes and ovaries appeared healthy and normal. After a correct swabs and instruments count the abdomen was closed in layers.

Vulvogaginal toilet was now done. The catheter was draining clear urine. It was inflated and left in place for continous bladder drainage. Total blood loss was about 1600mls and the patient was transfused with two units of whole blood.

POST-OPERATIVE CARE:

Routine post-operative care was accorded to the patient as described in the introduction. In addition she had continuous bladder drainage for 10 days. She made uneventful recovery. She was mobilized from bed and started on oral sips of water from the second postoperative day. On the third day haemoglobin estimation was done and this showed a haemoglobin concentration of 11.3gm/dl. Catheter specimen of urine was taken on the 5th and 10th post-operative days and in both occasions no bacteria were grown on culture.

Alternate and all abdominal stitches were removed on the 6th and 7th post-operative days respectively. The wound was clean. The urethral catheter was removed on the 10th day. She was kept in hospital for 2 more days and did not develop any incontinence of urine. The mother and her baby were then discharged in good condition on the 12th post-operative day.

POSTNATAL REVIEW:

She attended the postnatal clinic on 15.12.1985. Her L.M.P. had been on 9.2.1985. She was well and had no complaints. Her blood pressure was 110/70mmHg. and urinalysis was normal. The abdomen was soft and the scar well healed. The uterus was completely involuted and was retroverted.

The baby had received the necessary immunisations and was breastfeeding and gaining weight satisfactorily.

She wanted to use natural methods of contraception and this was explained to her in details.

COMMENT:

Dehiscence of a previous uterine scar is different from rupture of the scar. In dehiscence, the separation does not involve the whole of the previous uterine scar, the fetal membranes are intact, and bleeding is absent or only minimal. In contrast, rupture refers, at the minimum, to complete separation of the previous scar with rupture of the fetal membranes, and bleeding is often massive (1). The fetus is more often than not extruded, in part or in whole, into the peritoneal cavity after rupture of the uterus. The fetus and the mother, therefore, fare that much better in dehiscence than in rupture of the scar (1,2). The separation of the previous scar in this case conformed to that of dehiscence and the prognosis to the mother and the baby was, as expected, good.

Ruptured uterus is an infrequent obstetric emergency in the western more developed countries, and then, it frequently occurs in a scarred uterus (1). In contrast, ruptured uterus is still a major obstetric emergency in developing countries (3,4,5,6). This is mainly due to inadequate antenatal and intrapartum care, and to poor communication.

Although obstructed labour is still considered to be the main cause of ruptured uterus in developing countries, rupture of previous caesarean section scar is acquiring unparalleled significance and has emerged as the leading aetiologic factor in some areas (3,4,5). For example, in a 10-year review of ruptured uterus seen at Kenyatta National Hospital, Webala (3) found that spontaneous uterine rupture occurred in 42.7% of the cases while rupture of a scarred uterus occurred in 54.9% of the patients. In this series, as in Walton's study (5), no distinction was made between scar dehiscence and frank rupture. It was the contention of Lawson and Ajabor (4) that complete rupture of a

previous scar is usually proceeded by formation of a "window" in the scar.

Certain conditions are known to lead to "suspect scars" which are liable to dehiscence or rupture in subsequent pregnancies. Leading amongst this is a classical scar. In an extensive review of the literature, Lavin and associates (7) showed that not only is a classical scar more likely to rupture, but also if it does the rupture is more likely to be complete with grave consequences to the fetus and, to a lesser extent, to the mother. They also found that the classical scar can rupture at any time before and during labour, unlike a lower uterine scar which rarely ruptures before labour.

Puerperal sepsis, as had occurred after the first section in this patient, is claimed by some (6,8) and refuted by others (2,7) in leading to a weaker scar. Certainly, proper approximation of the uterine layers is an important prerequisite to a stronger scar (9). In the words of Pedowitz and Schwartz (9), "most dehiscences are conceived in the operating room when the uterus is repaired and they develop during the puerperium. The ensuing pregnancy merely accentuates the pre-existing defect".

Elective caesarean sections, previous caesarean sections, increased intrauterine volumes are other instances which may leave a weaker scar (6,7).

An indication that the scar had, at least, dehisced in this patient was the sudden elevation of the maternal pulse and the development of vaginal bleeding. Walton (5) and Armon (6) emphasized the diagnostic value of the premonitory value of these signs.

Rise of caesarean section rate is a matter of concern to obstetricians all over the world. In Kenyatta National Hospital the rate has reached 17.8% - the majority being repeat sections.(10).

The modern trend is to reverse this undue rise in caesarean birth rate. Morewood and co-workers (2) and Lavin and associates (7) have shown that vaginal delivery after caesarean section is relatively safe. In Lavin and associates (7) extensive review, an incidence of uterine rupture of 1.7% was recorded. The perinatal mortality was 0.93% and trial of labour succeeded in 66.7% of the cases.

All the workers, however, stress the importance of proper selection of patients for trial of scar. In our unit, we are guided by the criteria laid down by Walton (5).

This patient had radiological pelvimetry at 36 weeks gestation and the true conjugate was found to be 10.3cm. She was not, therefore, to be given a trial of scar. She went into spontaneous labour before surfactant test could be done. She sustained scar dehiscence while awaiting for caesarean section. After the operation, she had continuous bladder drainage for 10 days. This was a purely prophylactic measure in case she had bladder injury.

REFERENCES:

1. Pritchard, J. A., Macdonald, P. C., and Gant, N. F.
Rupture of the Uterus. In: Williams Obstetrics. 17th Edition
Page 698.
Appleton - Century - Crofts/Norwalk, Connecticut. 1985.
2. Morewood, G. A., O'Sullivan, M. J., and McConney, J.
Vaginal Delivery After Caesarean Section.
Obstet. Gynaecol. 45: 589, 1973.
3. Webala, G. S. R.
Review of Ruptured Uterus seen at Kenyatta National Hospital.
M.Med. Thesis, University of Nairobi, 1979.
4. Lawson, J. B., and Ajabor, L. A.
Ruptured Caesarean Section Scar.
J. Obstet. Gynaecol. Br. Commonw. 75:1296, 1968.
5. Walton, S. M.
The Antenatal and Intrapartum Management of Patients with
Caesarean Section Scars.
E. Afr. Med. J. 55: 1, 1978.
6. Armon, P. J.
Rupture of the Uterus in Malawi and Tanzania.
E. Afr. Med. J. 54:462, 1977.
7. Lavin, J. P., Stephens, R. J., and Miodovnik, M.
Vaginal Delivery in Patients with a Prior Caesarean Section.
Obstet. Gynaecol. 59: 135, 1982.
8. Wilson, A.
Labour and Delivery After Caesarean Section.
Am. J. Obstet. Gynaecol. 62:1225, 1951.

9. Pedowitz, P., and Schwartz, R. M.

The True Incidence of Silent Rupture of Caesarean Section Scar.
A Prospective Analysis of 403 cases.

Am. J. Obstet. Gynaecol. 74: 1071, 1957.

10. Karanja, J. G.

A Review of Caesarean Section Deliveries at the Kenyatta
National Hospital in 1980.

M.Med. Thesis, University of Nairobi, 1982.

LONG OBSTETRIC COMMENTARY

* * * * *

ANAEMIA IN PREGNANCY AT COAST

PROVINCE GENERAL HOSPITAL (CPGH),

MOMBASA : A DESCRIPTIVE STUDY

ANAEMIA IN PREGNANCY AT COAST PROVINCE

GENERAL HOSPITAL (CPGH), MOMBASA:

A DESCRIPTIVE STUDY.

INTRUCTION:

Nutritional anaemia is defined by W.H.O. as, "A condition in which the haemoglobin concentration of blood is below the accepted normal value, due to a deficiency of one or more nutrients essential for erythropoiesis, regardless of the cause of the deficiency" (1). The materials essential for erythropoiesis, deficiencies of which are responsible for anaemia in pregnancy anywhere in the world, are, broadly iron and folic acid, and occasionally vitamin B12 (2).

The importance of anaemia as a leading cause of morbidity and mortality at the coastal regions of Kenya has been well documented (3-8). Malaria (9) and hookworm infection (10) being endemic in these areas, would undoubtedly play a major role in the aetiology of anaemia in pregnancy. This study was undertaken to evaluate the part played by these two parasites plus other determinants of anaemia in pregnancy at the coast.

OBJECTIVES:

This study had the following objectives:

1. To define the incidence of anaemia in pregnancy at CPGH.
2. To define the individual importance of the different types of nutritional anaemias - e.g. - microcytic hypochromic anaemia, macrocytic anaemia, dimorphic anaemia, haemolytic anaemia, etc.
3. To define the determinants or possible determinants of the anaemia.

4. To look at the management of the patients and the consequences of the anaemia to the patients and their pregnancies.
5. To advance possible solutions regarding future care of pregnant women in this area vis-a-vis anaemia in pregnancy.

MATERIALS AND METHODS:

This study was done at Lady Grigg Maternity Hospital (LGMH), the maternity unit of CPGH. LGMH is reputed to be the second busiest maternity hospital in Kenya - second only to Pumwani maternity hospital. It serves patients mainly from Mombasa district, and referrals from district hospitals and health centres in Coast Province.

Mombasa has a hot and humid climate with an annual rainfall ranging from 40 to 50 inches. It is the second biggest town in Kenya and its principal port. Mombasa is a cosmopolitan town and almost all the tribes of Kenya are represented there.

This study took 10 weeks from the 14th September, 1983 to 23rd November, 1983. During this period all women who attended LGMH with a haemoglobin concentration of less than 9.0gm/dl. were included in this study. Each of these patients was assessed and investigated as follows:

1. Gave answers to the questions detailed in the proforma (Index 1).
2. Had a thorough physical examination with special attention to Pallor, Jaundice, Oedema, Blood pressure, Temperature, Respiratory system, Cardiovascular system and Abdominal system.
3. 2cc. of venous blood were taken in a sequestrine bottle and sent to the Laboratory of CPGH for haemoglobin concentration, peripheral blood film, sickling test plus or minus haemoglobin concentration.

- 3.1. Haemoglobin concentration was done using the Coulter Machine
 - 3.2. Peripheral blood films were stained with standard Leishman's stains and then examined for morphology of red and white blood cells.
 - 3.3. Sickling test was done using freshly prepared sodium metabisulphite. Haemoglobin electrophoresis was done only on specimens with positive sickling test.
 - 3.4. Haematocrit was done using the microhaematocrit centrifuge method.
4. 5cc of venous blood was taken in a plain bottle and sent to the Laboratory for total bilirubin estimation using the Lathe and Ruthven method.
 5. Thick blood smears, two for each patient, were stained with field's stains and examined for malaria parasites.
 6. A Stool specimen was collected in plastic stool containers and analysed for ova and cysts using the formol - ether concentration method.
 7. Finally the management of these patients was scrutinised, and the outcome of the pregnancies complicated by anaemia was looked into.

DEFINITION:

For purposes of this study, anaemia in pregnancy was defined as:

A PREGNANT WOMAN WITH A HAEMOGLOBIN CONCENTRATION OF LESS THAN 9.0 GM/DL.

R E S U L T S1. INCIDENCE OF ANAEMIA IN PREGNANCY IN CPGH:

During the 10 weeks of study, 142 patients were admitted to LGMH with a haemoglobin concentration of less than 9.0gm/dl. Because of occasional lack of specimen bottles and other constraints, 118 patients were studied in detail. All these 118 patients were interviewed and examined by the author who at the same time took the necessary specimens from them.

In the same period, there were 1670 deliveries in the Obstetric Unit. The incidence of anaemia in pregnancy was, therefore, 8.5 per 100 deliveries. }

2. POINT PREVALENCE OF DISEASES IN ANTENATAL WARDS:

On 19.10. 1983 (the mid point of the study period) all patients in the Antenatal wards were scrutinised and their principal diagnoses are shown in TABLE 1.

Thus, about two out of every five beds in the Antenatal wards were occupied by patients with anaemia in pregnancy.

TABLE 1:

POINT PREVALENCE OF DISEASES IN ANTENATAL WARDS:

DIAGNOSIS	NO.	%
1. ANAEMIA IN PREGNANCY	38	43.7
2. HYPERTENSIVE DISEASE IN PREGNANCY	12	13.8
3. BAD OBSTETRIC HISTORY	10	11.5
4. MALARIA IN PREGNANCY	5	5.7
5. PREVIOUS UTERINE SCAR(S)	4	4.6
6. FALSE/LATENT LABOUR	4	4.6
7. MULTIPLE PREGNANCY	3	3.4
8. ANTEPARTUM HAEMORRHAGE	3	3.4
9. CARDIAC DISEASE IN PREGNANCY	2	2.3
10. POST-DATISM	2	2.3
11. MEDICAL DISEASE	2	2.3
12. INTRA UTERINE DEATH	1	1.1
13. BREECH PRESENTATION	1	1.1
TOTAL	87	100

3. HAEMOGLOBIN, P C V AND M C H C CHARACTERISTICS:

3.1 HAEMOGLOBIN CONCENTRATION

118 patients were studied in detail. Their haemoglobin concentrations ranged from 2.2gm/dl. to 8.9gm/dl., with a mean of 5.7gm/dl. The haemoglobin concentrations were further grouped into 4 arbitrary classes and the results are shown in TABLE 2.

As can be seen, 28.8% of the patients studied were either "severely" or "very severely" anaemic. These were patients who needed urgent and prompt attention. 80.5% of the patients had haemoglobin concentration of less than 7.0gm/dl.

3.2 PACKED CELL VOLUME (PCV):

This ranged from 6% to 31% with further breakdown shown in TABLE 3.

3.3 M C H C

This was calculated from the haemoglobin concentration and the PCV using the standard formula:
$$MCHC = \frac{HB \times 100}{PCV}$$

The results obtained were put into three categories - i.e. - below 32gm%, 32-36gm% and above 36gm%. This was an attempt to classify the anaemias into hypochromic microcytic, normochromic normocytic, and normochromic macrocytic respectively. It should be pointed out here that the results of the MCHC were, more often than not, at complete variance with the peripheral blood pictures. Possible reasons for this discrepancy will be mentioned in the discussion.

The results of the MCHC are shown in TABLE 4.

TABLE 2

HAEMOGLOBIN CONCENTRATION

HB. CONCENTRATION	CLINICAL PICTURE	NO.	%
LESS THAN 3.0gm/dl.	VERY SEVERE ANAEMIA	6	5.1
3.0 - 4.9 gm/dl.	SEVERE ANAEMIA	28	23.7
5.0 - 6.9 gm/dl.	MODERATE ANAEMIA	61	51.7
7.0 - 8.9 gm/dl.	MILD ANAEMIA	23	19.5
TOTAL		118	100

TABLE 3

P C V

P C V RANGE	NO.	%
0 - 9%	9	7.6
10 - 19%	64	54.3
20 - 29%	43	36.4
30% AND ABOVE	2	1.7
TOTAL	118	100

TABLE 4

M C H C

M C H C	NO.	%
BELOW 32 gm%	58	49.2
32 - 36 gm%	32	27.1
ABOVE 36gm%	28	23.7
TOTAL	118	100

4. SOME POSSIBLE DETERMINANTS OF ANAEMIA IN PREGNANCY IN CPGH:

4.1. AGE DISTRIBUTION:

TABLE 5 shows the age distribution of the 118 patients with anaemia in pregnancy when compared to all the mothers who delivered in LGMH during the period of this study.

More than half of the patients with anaemia in pregnancy were aged 20 years or less, while 36% of the mothers who delivered during the same period were aged 20 years or less. This difference is statistically significant ($Z = 3.3 : P < 0.01$). Thus, anaemia in pregnancy is predominantly a disease of younger women.

4.2. PARITY DISTRIBUTION

This is shown in TABLE 6 with comparison figures drawn from the total number of mothers who delivered during the same period.

33.1% of anaemic mothers were primigravidae compared to a slightly lower figure of 28.5% all the mothers. The difference, however, was not statistically significant. The rest of the parity groups were fairly well comparable.

TABLE 5

AGE DISTRIBUTION:

AGE	ANAEMIC PATIENTS		ALL MOTHERS	
	NO.	%	NO.	%
15 YEARS AND BELOW	2	1.7	21	1.3
16 - 20 YEARS	59	50.0	580	34.7
21 - 25 YEARS	33	28.0	627	37.5
26 - 30 YEARS	16	13.6	339	20.3
31 - 35 YEARS	5	4.2	77	4.6
36 YEARS AND ABOVE	3	2.5	26	1.6
TOTAL	118	100	1670	100

*STATISTICALLY SIGNIFICANT DIFFERENCE
($P < 0.01$)

TABLE 6

PARITY DISTRIBUTION: (ABORTION IGNORED)

PARITY	ANAEMIC PATIENTS		ALL MOTHERS	
	NO.	%	NO.	%
0 + 0	39	33.1	475	28.5
1 + 0	26	22.0	355	21.3
2 + 0	18	15.3	298	17.8
3 + 0	14	11.9	184	11.0
4 + 0	7	5.9	127	7.6
5 + 0	4	3.4	89	5.3
6 + 0 AND ABOVE	10	8.5	142	8.8
TOTAL	118	100	1670	100

4.3 TRIBAL DISTRIBUTION:

This is shown in TABLE 7; again drawing comparisons between all the mothers delivered during that period.

The Mijikenda tribes, nine in total, are grouped together because they share very similar social and cultural values and beliefs. Not only do they live in extreme poverty but they also still ardently believe in traditional norms of doing things; pertinantly here, traditional medical care. They will only, therefore, seek modern medical care if progressive symptoms have shown the futility of the traditional medicines. It is hence not surprising that although the Mijikenda tribes are indigenious at the Coast, only 24.2% of them delivered at LGMH; at the same time they consituted 62.7% of all the anaemic patients. This difference is highly statistically significant ($Z = 8.4 : P < 0.001$).

4.4 ANTENATAL CARE AND LEVEL OF EDUCATION:

These variables are shown in TABLE 8 (a + b).

83.9% of the patients studied had no formal or only rudimentary (STD. 1 - 4) education. Therefore, although 94.9% had some form of antenatal care, their level of assimilating what is required of them is questionalbe. Furthermore, because of the perennial shortages and the ever-increasing over-crowding, the care offered in most of the antenatal clinics is, to say the least, inadequate.

TABLE 7

TRIBAL DISTRIBUTION:

TRIBE	ANAEMIC PATIENTS		ALL MOTHERS		
	NO.	%	NO.	%	
MIJIKENDA	74	62.7	403	24.2	*
TAITA	12	10.2	156	9.3	
KAMBA	10	8.5	303	18.2	
LUO	10	8.5	332	19.9	
LUHYA	5	4.2	201	12.0	
KIKUYU	3	2.5	126	7.5	
OTHERS	4	3.4	149	8.9	
TOTAL	118	100	1670	100	

* THE DIFFERENCE IS HIGHLY STATISTICALLY SIGNIFICANT ($Z = 8.4$: $P < 0.001$)

TABLE 8(a): LEVEL OF EDUCATION:

LEVEL OF EDUCATION	NO.	%
NONE	54	45.8
LOWER PRIMARY (STD. 1 - 4)	45	38.1
UPPER PRIMARY (STD. 5 - 7)	6	5.1
LOWER SECONDARY (FORM 1 - 2)	7	5.9
UPPER SECONDARY (FORM 3 - 4)	6	5.1
TOTAL	118	100

TABLE 8(b) : ANTENATAL CARE

ANTENATAL CARE	NO.	%
SOME CARE	112	94.9
NO CARE	6	5.1
TOTAL	118	100

4.5. MARITAL STATUS AND OCCUPATION:

Of the 118 patients studied, 106 (89.8%) of them were married. 9 were single and 3 were divorced. The significance of this in the aetiology of anaemia in pregnancy is not clear, but could be related to the sudden responsibility required of these young women in running a home and raising a family. This, however, is only conjectural.

The majority of the patients studied were grouped under that ubiquitous occupation of "house-wife" (108 = 91.5%). 3 were doing salaried work, 3 were peasant farmers, 2 were self-employed and 2 were casual workers.

The occupations of their husbands or fathers (for those who were not married) is shown in TABLE 9. The divisions are arbitrary; nevertheless, it is hoped that they give a rough picture of the family income.

Only 31.3% of these patients' supporters did reasonably-paying work (moderate and high-salaried work). The income of the rest was precarious.

4.6 AVERAGE DAILY DIET

The patients studied were each asked by the author what they "normally" eat for breakfast, lunch and supper. The responses given were then categorised into 4 groups - i.e. - MAINLY CARBOHYDRATES, CARBOHYDRATES AND SOME GREEN VEGETABLES, CARBOHYDRATES AND SOME PROTEINS, and BALANCED DIET. The results obtained are given in TABLE 10. These categories are arbitrary. 64.4% of the cases in this study had a diet composed of mainly carbohydrates and carbohydrates and some green vegetables. This was considered an inadequate diet. 35.6% ate what was considered an adequate diet - i.e. - a diet composed of carbohydrates and some proteins, and a balanced diet.

TABLE 9

HUSBANDS'/FATHERS' OCCUPATION

OCCUPATION	NO.	%
1. NONE	6	5.1
2. CASUAL WORK	16	13.6
3. SMALL BUSINESS (e.g. Hawker, Fisherman) Magician, Peasant Farmer, Mason, etc.)	30	25.4
4. LOW-SALARIED (e.g. Cook, Attendant, waiter, watchman etc.)	29	24.6
5. MODERATE - SALARIED (e.g. Seaman, clerk, Mechanic etc.)	18	15.3
6. HIGH-SALARIED (e.g. Teacher, Accountant, Salesman etc.)	19	16.0
TOTAL	118	100

TABLE 10

AVERAGE DAILY DIET

DIET	NO.	%
MAINLY CARBOHYDRATES	10	8.5
CARBOHYDRATES AND SOME GREENS	66	55.9
CARBOHYDRATES AND SOME PROTEINS	21	17.8
BALANCED DIET	21	17.8
total	118	100

5. PHYSICAL EXAMINATION

The results obtained are summarised in TABLE 11. Clinically, all patients studied were pale, with varying degrees of pallor. 38.1% of the patients were clinically jaundiced and 43.2% had varying grades of splenomegaly. From these clinical findings, haemolysis seems to be an important cause of anaemia in pregnancy. This haemolysis is presumed to be caused by malaria.

11 patients were in congestive cardiac failure (CCF) or in imminent CCF. These patients were treated promptly and vigorously.

6. LABORATORY RESULTS:

These are given in TABLE 12.

63.6% of the patients had positive smears for malaria parasites. 73.7% had serum bilirubin levels of over 0.8mg%. These results further strengthen the impression of the importance of malarial haemolysis in the causation of anaemia in pregnancy in this area.

43.2% of the patients had Hookworm ova in stool, and 18.6% had ova of *Trichuris trichura*.

16 patients had positive sickling tests; all except one had HBAS.

Dimorphic picture was the commonest peripheral blood picture (70 patients), followed by Iron deficiency anaemia picture (43 patients). The difference between these two was statistically different ($Z = 3.6 : P < 0.001$).

The picture of dimorphic anaemia shows both features of Iron deficiency anaemia (Hypochromia and microcytosis) and features of macrocytic anaemia (macrocytosis, normochromia, varying degrees of anisocytosis and poikilocytosis, plus or minus hypersegmented neutrophils. Almost all these patients showed, in addition, features of haemolysis (polychromasia)

TABLE 11: PHYSICAL EXAMINATION:

SIGN	PALLOR		JAUNDICE		PYREXIA		SPLENOMEGALY		HEPATOMEGALY		CCF OR IMMINEENT CCF	
	+ VE	- VE	+VE	-VE	+ VE	- VE	+ VE	- VE	+ VE	- VE	+ VE	- VE
NO.	118	0	45	73	15	105	51	67	24	94	11	107
%	100	0	38.1	61.9	12.7	87.3	43.2	56.8	20.3	79.7	9.3	90.7

TABLE 12. LABORATORY RESULTS

TEST	MPs		SERUM BILIRUBIN		PERIPHERAL BLOOD PICTURE				STOOL EXAMINATION				SICKLING TEST	
	+VE	-VE	0.8mg%	0.8mg%	I.D.A.	D.P.	M.P.	H.P.	H.W.		T.T.		+ VE	-VE
NO.	75	43	31	87	43	70	2	3	+VE	-VE	+VE	-VE	HBAS	HBSS
%	63.6	36.4	26.3	73.7	36.4	59.3	1.7	2.3	43.2	57.8	18.6	81.4	12.7	0.8

← * →

KEY: MPs = MALARIA PARASITES
 H.W. = HOOKWORMS
 T.T. = TRICHURIS TRICHURA
 I.D.A. = IRON DEFICIENCY ANAEMIA PICTURE

D.P. = DIMORPHIC ANAEMIA PICTURE
 M.P. = MACROCYTIC PICTURE
 H.P. = HAEMOLYTIC PICTURE
 * = STATISTICALLY SIGNIFICANT DIFFERENCE

MATERNAL AND FETAL OUTCOME

There was one maternal death which, most likely, was due to anaemia in pregnancy. This was a 19- year old patient who had just delivered a set of twins at home then collapsed. She was rushed to hospital but before any resuscitatory measures could be instituted her weakened heart stopped beating.

Relevant history from accompanying relatives was that she was married and had had antenatal care in a municipal council clinic. Her labour had been short and uneventful and she was delivered by a traditional midwife. She had not bled much postpartum.

On examination, there was paper-white pallor, tinge of jaundice and grade 1 splenomegaly. The uterus was well contracted. Relatives declined to have post mortem done on the deceased.

The rest of the patients were managed with blood transfusion (102 patients; a total of 255 pints) ferrous sulphate, folic acid and chloroquine (all patients). Alcopar was only given to patients with hookworm ova in stool.

All the studied patients spent a total of 1356 days in hospital (Range: 3 - 51 day; Average: 11.5 days).

Of the 118 patients studied, only 56 eventually delivered in LGMH. There were 4 stillbirths (One was macerated, and 3 were fresh), and 52 babies were born alive - 12 of these died in the first week of life. The perinatal mortality rate of this group was, therefore, 285.7 per 1,000. This compares to a perinatal mortality of the unit during the period of study of 172 per 1,000.

Out of the 56 babies delivered in LGMH, 25 were below 2,500 grams and 31 were above or equal to 2,500 grams. The low birth weight rate was thus 44.6%.

DISCUSSIONA. INCIDENCE AND PREVALENCE OF ANAEMIA IN PREGNANCY IN CPGH:

An incidence of anaemia in pregnancy of 8.5 per 100 deliveries was recorded in this study. Anaemia in pregnancy was the leading reason for admission to the antenatal wards - with a figure similar to that recorded by Mtimavalye et al in Dar-es-Salaam (12). These figures in themselves bring out the undisputed importance of anaemia in pregnancy in this region; but remembering that only about 4 -5% of patients in East Africa seek medical attention (13), the true prevalence of anaemia in pregnancy in this region must be a colossal, staggering and frightening problem.

These results concur well with the observations of Lawson (2) and with the WHO Division of Family Health Report of 1979 (14). This report states, inter alia ... "At any point in time every sixth woman aged 15 to 45 years living in a developing country, excluding China, is pregnant, compared to one in seventeen such women in developed countries. From the information collected it would seem that about half the non-pregnant women and nearly two thirds of the pregnant women have haemoglobin concentration below those laid down by WHO as indicative of anaemia; making a total of some 230 million "anaemic women."

Watson and Murray in 1969 (15) studied 187 women attending antenatal clinic at Kenyatta National Hospital (KNH) for the first time, and found that 9% of them had haemoglobin concentration of less than 10gm%. Mati and associates in 1971 (16) showed that one out of every 23 admissions to the Obstetric Unit of KNH had a haemoglobin concentration of less than 10gm%. More recently, Fomulu (17) recorded an incidence of 5.4% in the same unit. Turner, 1962 (6) reviewed medical records of CPGH of 1960 and found that 21% of the admissions had severe anaemia with a haemoglobin concentration of less than 7.4gm%. Macgregor in 1961 (5) in Mombasa found an incidence of 29.6% with a haemoglobin concentration of less than 9gm%.

It would appear, therefore, that anaemia is more prevalent in CPGH than in KNH, and, on a more encouraging note, things seem to be improving since the early days of Turner and Macgregor.

B. DETERMINANTS OF ANAEMIA IN PREGNANCY IN CPGH:

1. AGE:

Anaemia in pregnancy in this area is a disease of relatively young women (more than half of the patients with anaemia in pregnancy were aged 20 years or less as compared to 36% of the mothers who delivered in LGMH during the period of this study). This determinant per se could be an indirect reflection of the importance of malaria as the main cause of anaemia in pregnancy in this area (2, 16).

2. PARITY:

Anaemia in pregnancy in this region does not show any predilection to any parity group. This finding contrasts with that of Ong, 1974 (18) who showed that high parity was a major contributing factor in the aetiology of anaemia in pregnancy due to a repeated drainage of iron reserves in the body.

3. TRIBAL DISTRIBUTION:

This was the strongest single determinant of anaemia in pregnancy at CPGH. 62.7% of the patients with anaemia came from the Mijikenda tribes - a conglomeration of nine tribes indigenous at the Coast who have similar social and cultural values and beliefs. This compares to 37.3% of all the other tribes, although these tribes contributed 75.8% of all the mothers who delivered during the period of study.

This observation is most likely a surrogate variable to poor socio-economic status.

4. SOCIO-ECONOMIC FACTORS:

Lack of adequate formal education (83.9% of patients with anaemia in pregnancy had nor or only rudimentary education), poor socio-economic status (68.7% of the patients' supporters had no means of income or only marginal means of income), and poor diet (64.4% of the patients with anaemia in pregnancy ate a diet composed of mainly carbohydrates or carbohydrates with some greens) all seem to work in concert to create an atmosphere conducive to the genesis of anaemia in pregnancy. Their individual importance is, however, difficult to gauge.

Levy in his study (8) noted that diet may vary amonth the tribes studied but could not be correlated specifically with haemoglobin values, and no dietary difference was noted among anaemic and non-anaemic members of the same tribe. Latham et al (II) showed that many of the roadworkers in Kwale District of Coast Province had evidence of undernutrition as judged by anthropometry.

The position of poverty in the aetiology of anaemia can be looked at in the broader sence of diseases in developing countries. Maurice King (19) pointed out that the main determinants of the pattern of medical care in developing countries is poverty, rather than a warm climate.

5. MALARIA:

Malaria is holoendemic at the Coastal region of Kenya (9). People living in these areas are re-infected repeatedly throughout their lives. If they survive their first few years of life they develop a steadily increasing immunity (2.9). This acquired immunity (called premunition) is nevertheless precarious and tends to decline under conditions of stress such as pregnancy. This breakdown in immunity is more marked in first pregnancies for reasons which are as yet obscure (2). *The decline in immunity occurs also in parous women but with less severity in higher parity group (2).*

In this study, 63.6% of the patients had positive thick blood smears for malaria parasites. Other evidence of the importance of malaria as the major cause of anaemia in pregnancy in this area are:

1. Evidence of haemolysis (38.1% of the patients were clinically jaundiced and 73.7% had serum bilirubin of 0.8mg% or more), and
2. Splenomegaly in 43.2% of the patients studied.

In pregnancy, malaria may cause the following complications:

Premature onset of labour, stillbirths and anaemia; apart from the other known complications of malaria. Anaemia is primarily of haemolytic type, but repeated haemolyses may lead to secondary folic acid deficiency and thence megaloblastic anaemia (2, 16, 20).

Finally, it has been observed that malaria disturbs iron metabolism in the body (21).

6. INTESTINAL HELMINTHS:

Most of the work done at the coast of East Africa has demonstrated that the commonest type of anaemia is iron deficiency anaemia (3, 5, 6, 7, 8, 22, 23, 24). The central thesis from these studies has been that this anaemia is caused by hookworm infestation.

That hookworm cause chronic loss of blood from the gut is an undisputable fact; the amount of blood loss has been estimated to be in the region of 0.03-0.05 mls. per worm per day, with *Ankylostoma duodenale* causing somewhat more blood loss than *Necator americanus* (2, 22, 25). What has, however, not been established with the same certainty is the significant worm load. Working in Msambweni and using radio-isotope studies, Foy and Kondi (22) demonstrated that hookworm loads greater than 1000 worms were associated with significant iron deficiency.

Lyrise and Roche (26) in a review of literature found that a relationship exists between hookworm load of over 2,000 eggs per gram of faeces and iron deficiency anaemia. To resolve this controversy Lawson (2) emphasized the point that the hookworm load that would cause iron deficiency anaemia would, to a large extent depend on iron stores in the body. If the iron stores are precarious then even a small worm load would precipitate iron deficiency anaemia.

Miller, (10) found that the prevalence of hookworm infestation in parts of East Africa varies seasonally. The highest prevalence is in rainy seasons with 16 - 85% parasitization. Other workers have recorded different prevalence values: Levy (8), 35%; Latham et al, 69%; and Waruingi et al, 51%. In this study the prevalence was 43.2%.

Trichuris trichura was the second commonest intestinal herminth isolated in this study (18.6%). This worm also causes chronic blood loss from the gut, although the amount is about 30 times less than that caused by hookworm (25).

7. HAEMOGLOBINOPATHIES:

Kasili (27) working in Western Kenya found that the commonest cause of anaemia there was sickle cell disease. This was not the finding in this study of the patients studied, 15 had HBAS and only one had HBSS.

C. TYPES OF ANAEMIA (FROM PERIPHERAL BLOOD PICTURE):

This section will be discussed with some caution and reservations simply because a peripheral blood film is a poor index of the type of anaemia (28).

All the same, it is rather surprising that the results we obtained in this study are at complete variance with the findings of earlier workers (3, 4, 5, 6, 7, 8, 22,23,24), who all showed that the commonest type of anaemia is dimorphic anaemia (59.3%) followed by iron deficiency anaemia (36.4%), haemolytic anaemia, and lastly macrocytic anaemia.

1. DIMORPHIC ANAEMIA:

This type of anaemia shows both features of iron deficiency anaemia and macrocytic anaemia. It is exceedingly difficult to make a diagnosis of dimorphic anaemia from a peripheral blood film. Apart from a peripheral film being a poor index of the type of anaemia, ingestion of haematinics can modify a macrocytic picture, iron deficiency picture or haemolytic picture to that of dimorphic anaemia (28).

All constraints aside, however, if this observation is true, it will perhaps not be so surprising considering the many and varied factors involved in the pathogenesis of anaemia in pregnancy in this area. In my "CENTRAL THESIS" I will also try to logically justify this finding.

2. IRON DEFICIENCY ANAEMIA

This is assumed to be caused independently or interdependently, by hookworm infestation, poor dietary contents of iron, sweating, and failure to absorb iron from the gut due to a variety of reasons some of which are related to the high contents of phytates in the diet (29).

3. HAEMOLYTIC AND MACROCYTIC ANAEMIA:

It is interesting that only 5 patients in this study showed evidence of pure haemolytic and pure macrocytic anaemia. In an area holoendemic for malaria, this figure would have been expected to be higher. In the study done by Mati and associates in 1971 (16) it was found that the commonest type of anaemia of pregnancy in Nairobi was Megaloblastic anaemia followed by iron deficiency anaemia, dimorphic anaemia and haemolytic anaemia in that order.

They also showed that nearly half of the cases of megaloblastic anaemia were associated with malaria with strong evidence of haemolysis. These cases were primarily haemolytic anaemia with secondary megaloblastic changes due to consumption of folic acid.

Maybe the low incidence of macrocytic anaemia in this study could be explained by the findings of Foster (7). Foster studied 216 cases of severe anaemia in Mombasa in 1962 - 1963. Of these, 43 had megaloblastic anaemia from bone marrow studies - 40 were females and 3 males. He showed that megaloblastic anaemia had seasonal variations with the highest incidence in the months of November through to April, thereafter the incidence fell progressively until August, and the lowest incidence was in August, September and October, then started rising. The highest incidence corresponded to the dry season with low rains and therefore no vegetables. This study was in September, October and part of November - Foster's season of low incidence of megaloblastic anaemia.

In my "CENTRAL THESIS" I will bring in another aspect to account for the low recorded incidence of macrocytic anaemia in this study.

D. MATERNAL AND FETAL OUTCOME

There was one maternal death most certainly caused by anaemia in pregnancy. Mtimavalye et al (12) found that anaemia in pregnancy was the third leading cause of maternal mortality in Dar-es-Salaam. That no mother died once she had arrived in LGMH even in CCF is highly commendable. Due credit, must, therefore, go to the doctors, nurses and all the medical staff who worked tirelessly and diligently to make this possible.

Maternal morbidity was difficult to gauge. Anaemia in pregnancy however, exerts a considerable strain on this hospital in terms of bed occupancy (Roughly two out of every five beds in antenatal wards are occupied by patients with anaemia in pregnancy), blood consumption (the 118 patients with anaemia in pregnancy used a total of 255 pints of blood), and hospital stay (the average stay of each anaemic patient was 11.5 days) This, of course, does not include medical, investigational and other related amenities.

Fetal outcome was as expected with high fetal and neonatal wastage (the perinatal mortality of this group was 285.7 per 1000 compared to the unit's perinatal mortality of 172 per 1000 recorded during the period of study). Most of the babies with low birth weight were premature.

E. "CENTRAL THESIS":

I will discuss this part by drawing on the findings from earlier studies done in this area then relating them to what is known about anaemia in pregnancy and finally and logically try to justify our findings in this study.

Studies done at the Coast from as early as 1935 to as late as 1980 are all in agreement that the commonest type of anaemia in this area is iron deficiency anaemia (4 - 8, 22 - 24). Most of these studies, except the one by Waruingi et al (24) were conducted on the general population - i.e. - they were not specific for pregnant women.

Malaria is known to cause haemolysis and if this goes unchecked could lead to folic acid depletion; transforming a haemolytic type of anaemia to a megaloblastic type.

Malaria is holoendemic at the coast, and because of the known phenomenon of decline in immunity during pregnancy, malaria was expected, and was eventually shown, to be an important determinant of anaemia in pregnancy in this area.

From the two facts outlined above, I propose that most women enter pregnancy with marginal or borderline anaemia mainly due to iron deficiency. Once pregnant and with the breakdown of immunity, malarial haemolysis and consequent folic acid depletion then supervene transforming a predominantly iron deficiency anaemia into a dimorphic type picture. This, in my view, is the basic reason why the majority of the patients in this study exhibited a dimorphic type of anaemia.

F. RECOMMENDATIONS:

This study has brought out three pertinent aspects of anaemia in pregnancy in this area - viz:

1. The high prevalence of the condition, and more so in the younger members of the community who are married and are, therefore, expected to shoulder substantial responsibilities in running their own homes.
2. The severity of the condition
3. The multiplicity of its aetiological factors.

To combat this menace the approach must, therefore, be a multi-pronged attack. The old cliché of prevention being better than cure will repeatedly be emphasized in the following recommendations:-

1. There should be an increased awareness that anaemia in pregnancy is prevalent at the Coast and its magnitude is colossal. Anaemia in pregnancy must, therefore, be looked for in all patients. In this connection, it is encouraging to note that the majority of patients admitted to LGMH had had some form of ANC.

These antenatal clinics should be strengthened so that they are in a position to do haemoglobin concentration on all patients and not on only those who are clinically pale, as is the common practice. This has its short-comings, of course: over-crowding, shortage of staff, shortage of equipment, shortage of money. But in peripheral clinics a simple method like the use of Talquist papers or Spencer haemoglobinometer could be adopted.

Improvement of socio-economic conditions: This is the ultimate goal. Being a slow process, it would be quite a while before its benefits can be realised.

Health and Nutritional education: This should be given the emphasis it deserves.

Public Health measures, like personal hygiene, wearing of shoes and use of latrine should be emphasized. Other measures like control of mosquitoes also take rather a long time to accomplish.

Family Planning: We have shown in this study that anaemia in pregnancy is a problem of young women of relatively low parity. Family Planning would be pertinent here in postponing the age at which the first child is born and subsequently in spacing of the children.

Chemoprophylaxis: For now, chemoprophylaxis, although of short-term value, seems to be the only feasible way of checking the ravages of anaemia in pregnancy.

- 6.1. Iron and Folic Acid: These should be taken from as early in pregnancy as possible and then throughout pregnancy and the puerperium. Because this population is composed of women with no or only marginal educational status, it is our contention that a combined tablet taken once a day could greater improve compliance.
- 6.2 Anti-malarials: Should also be taken throughout pregnancy and the puerperium. This period is short and there should be no fear of loss of premunition (2,9). Reports of chloroquine-resistant malaria should be appreciated by medical personel and appropriate alternatives used.
- 6.3 Antihelminthics: Should be given to all pregnant women as early in pregnancy as possible, and then repeated towards the end of pregnancy. In this connection, it is noteworthy that alcopar (Bephenium hydroxymaphthoate) is inferior to vermox (Mebendarole) in the treatment of *Necator americanus*, the commoner and more ubiquitous worm in this area (30).
- 6.4 Fortification of commonly eaten foods by iron and folic acid. This has been tried with varying degrees of success in other countries (14). This is recommended because certainly anaemia in pregnancy is a reflection of low haematinic stores in the whole population of this area.

APPENDIX (PROFORMA)

MANAGEMENT

ANAEMIA IN PREGNANCY AT CPGH, MOMBASA

NAME

HOSP. NO.

STUDY NO.

GENERAL INFORMATION:

1. AGE 2. TRIBE 3. PARITY
4. OCCUPATION 5. EDUCATION
6. MARITAL STATUS
7. HUSBAND'S/FATHER'S OCCUPATION
8. AVERAGE DAILY DIET

PHYSICAL EXAMINATION:

1. PALLOR 2. JAUNDICE 3. OEDEMA
4. TEMPERATURE 5. CHEST 6. SPLENOMEGALY
7. HEPATOMEGALY 8. PATIENT IN CCF?

INVESTIGATIONS:

1. HB 2. PCV 3. MCHC
4. PERIPHERAL FILM
.....
.....
5. SICKLING TEST
HB. ELECTROPHORESIS
6. SERUM BILIRUBIN
7. STOOL EXAMINATION

MANAGEMENT AND OUTCOME :

1. MANAGEMENT

.....

2. OUTCOME (PATIENT AND PREGNANCY)

.....

ACKNOWLEDGEMENT :

1. I am indebted to Professor J.K.G. Mati for granting me permission to travel to Mombasa to do this study and for making it possible to do the PCVs at the Star Laboratory.
2. My sincere thanks also go to Dr. G.S.R. Webala and Dr. J. Kirima for their invaluable assistance and guidance.
3. Lastly, my warmest regards go to the other doctors of LGMH, the Nursing Staff of LGMH, and the Laboratory Staff of LPGH for their exemplary readiness to assist. I owe the success of this study to them.

REFERENCES

1. Control of Nutritional Anaemia with Special Reference to Iron Deficiency.
Wld. Hlth. Org. Tech. Rep. Ser. No. 580, 1975
2. Lawson, J.B.
Anaemia in Pregnancy. In: Obstetrics and Gynaecology in the Tropics and Developing Countries.
Edited by J.B. Lawson and D. B. Stewart
1974 Edition, Page 73
ELBS and Edward Arnold (Publishers) Ltd. 1974
3. Plum, D.
Observations of Ankylostomiasis and Anaemia in Kenya with Special Reference to Digo and Embu District.
E. Afr. Med. J. 12: 162, 1935
4. Foy, H., and Kondi, A.
Anaemia in Africans.
Trans. Roy. Soc. Trop. Med. Hyg. 46:327, 1952.
5. Macgregor: Quoted by Scott, J.M.
Anaemia in Pregnancy
Postrad. Med. 38: 202, 1962.
6. Turner, P.P.
The Pattern of Diseases seen by Medical Admissions to the Coast Province General Hospital in 1960.
E. Afr. Med. J. 39: 121, 1962

7. Foster, R.M.

The Seasonal Incidence of Megaloblastic Anaemia
at Mombasa •

E. Afr. Med. J. 45: 673, 1968

8. Levy, S. B.

Haemoglobin Differences Among Kenyan Tribes •

Am. J. Trop. Med. Hyg. 18: 138. 1969

9. Roberts, J.M.D.

Malraia.in: Health and Disease in Kenya, Page 305.

et Editors: Vogel, L.C. et al.

East African Literature Bureau. 1974

*10. Miller, T. A.

*Studies on the Incidence of Hookworm infection in
East Africa •*

E. Afr. Med. J. 47: 354, 1970

11. Latham, M.C. Stephenson, L.S., Elliott, T.C., et al.

Nutritional status, Parasitic Infection and Health of
Roadworkers in 4 areas of Kenya: Part I Kwale District -
Coastal Lowlands.

E. Afr. Med. J. 60: 2, 1983.

*12. Mtimavalye, L.A.R., Lisasi, D., and Ntuyabaliwe, W.K.

Maternal Mortality in Dar-es-Salaam, Tanzania 1974 - 1977

E. Afr. Med. J. 57: 111, 1980

13. Nordberg, E. M.
The True Disease Pattern in East Africa, Part 1.
E. Afr. Med. J. 60: 446, 1983
14. World Health Organization Division of Family Health
The Prevalence of Nutritional Anaemia in Women in
Developing Countries .
Report FHE/79.3. 1979. Geneva
15. Watson, W.C, and Murray, E.S.
Serum Iron and Haemoglobin levels in Pregnant East
African Women of Mixed Tribal Origin .
J. Obstet. Gynaecol. Br. Comm. 76: 366, 1969.
16. Mati, J.K.G., Hatimy, A., and Gebbie, D.A.M.
The Importance of Anaemia of Pregnancy in Nairobi,
and the Role of Malaria in the Aetiology of Megaloblastic
Anaemia.
J. Trop. Med. Hyg. 74: 1, 1971
17. Fomulu, J. N.
A 2 year Retrospective Controlled Survey of Maternal and
Fetal Prognosis in Anaemia of Pregnancy at Kenyatta National
Hospital.
M.Med Thesis, University of Nairobi, 1981
18. Ong, H.C.
Anaemia in Pregnancy in an Aboriginal Population
J. Trop. Med. Hyg. 77: 22, 1974

19. King, Maurice
Medical care in Developing Countries.
Oxford University Press. 1972
20. Hamilton, P.J.S., Gebbie, D.A.M., Hutt, M.S.R. et al.
Anaemia in Pregnancy Associated with
"Big Spleen Disease"
Br. Med. J. 2: 548, 1966
21. Usanga, E.A.
Preliminary Report: Iron Metabolic Changes in
Plasmodium Falciparum Malaria.
E. Afr. Med. J. 60: 612, 1983
22. Foy, H., and Kondi, A.
Hookworm in the Aetiology of Tropical Iron Deficiency Anaemia.
Trans. Roy. Soc. Trop. Med. Hyg. 54: 419, 1960
23. Blackman, V.
Some Observations of the severe Anaemia of Dar-es-Salaam.
E. Afr. Med. J. 39: 235, 1962
24. Waruingi, M.M.R., Webala, G.S.R. and Wanjala, S.H.M.
Survey on Anaemia in Pregnancy at Coast Province
General Hospital, Mombasa (1979 - 1980).
(Unpublished Data).

C

CASE NO. 1

* * * *

INCOMPLETE ABORTION : EVACUATION OF THE UTERUS

INCOMPLETE ABORTION : EVACUATION OF THE UTERUS

<u>NAME</u>	: G. W. G. (Mrs.)	<u>L.M.P.</u>	: 1.9.1982
<u>UNIT NO.</u>	: 530277	<u>ADMISSION</u>	: 7.12.1982
<u>AGE</u>	: 28 years	<u>AMENORRHOEA</u>	: 14 weeks
<u>TRIBE</u>	: Kikuyu	<u>EVACUATION</u>	: 8.12.1982
<u>PARITY</u>	: 2+0		

PRESENTING HISTORY:

The patient was admitted to ward 6 through casualty on 7.12.1982 with a one-day history of profuse vaginal bleeding and lower abdominal pains. Her last menstrual period was on 1.9.1982; therefore, the period of amenorrhoea was 14 weeks.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

Menarche occurred at 16 years. She had regular menstrual periods. The cycle was 26 days and the duration 5 days.

She was par 2+0. Her first delivery was in 1971 and second in 1973. Both were full-term vaginal deliveries. She had used an intrauterine contraceptive device since her last delivery until Mid 1982.

PAST MEDICAL AND SURGICAL HISTORY:

This was not relevant.

FAMILY AND SOCIAL HISTORY:

She was a married house-wife. Her husband was a shop-keeper in Muranga town. There was no family history of chronic medical diseases.

PHYSICAL EXAMINATION

Her general condition was satisfactory. She was not pale and had no jaundice cyanosis or peripheral oedema. Her vital signs were within normal limits.

Cardiovascular, respiratory and central nervous systems were essentially normal. Abdominal examination revealed a fundal height of 14 weeks. The abdomen was soft and slightly tender.

VAGINAL EXAMINATION:

The vulva was normal. The cervix was 2cm. dilated and products of conception could be felt through the os. The uterus was 14 weeks size and the adnexae were free.

A diagnosis of incomplete abortion was made. She was prepared for evacuation of the uterus under general anaesthesia as described in the introduction.

EVACUATION OF THE UTERUS:

General anaesthesia was induced and maintained as described in the introduction. The patient was placed in lithotomy position. The vulva, vagina and perineum was swabbed with hibitane solution then the area was draped and she was catheterised.

Examination under anaesthesia confirmed the findings described above. Bulky products of conception were now digitally removed. An Auvard's speculum was then inserted into the vagina to expose the cervix whose anterior lip was held with a volsellum forceps. Gentle sharp curettage was then carried out until the uterus was empty. Ergometrine 0.5mg. was given intravenously. Total blood loss was about 200mls.

POST-OPERATIVE CARE:

Routine post-operative observations were taken. She was started on tetracycline capsules (500mg 6-hourly for 7 days). Six hours after the evacuation she was fully awake and was up and about. She was discharged to continue her medication at home.

COMMENT:

Aggarwal and Mati (1) reported that the leading indication for admission to the acute gynaecological ward in Kenyatta National Hospital was abortions, the majority of these being incomplete abortions. They also showed that the number was increasing over the years. Incomplete abortion is a clinical category of abortions where some products of conception, usually the fetus, have been expelled and others, commonly the placenta and/or the membranes are retained in utero (2). The uterus is then not well contracted and haemorrhage can be quite severe. Another important complication of incomplete abortion is sepsis. The organisms involved are *Escherichia coli*, anaerobic streptococci, haemolytic streptococci, staphylococci, *Clostridia welchii* and *Clostridium tetani* (2).

In the acute stage, sepsis can head to endotoxic shock and maternal mortality (3,4). According to Makokha (4), 43.4% of the maternal mortality at Kenyatta National Hospital during the period 1972-1977 were due to sepsis, and half of these were post-abortal. Even in developed countries, septic abortion is a major cause of maternal mortality (2).

Long term complications of septic abortion are chronic pelvic inflammatory disease leading to secondary infertility and ectopic pregnancy, and pelvic abscess (3). Habitual abortions and premature deliveries may also follow incomplete abortion especially if the abortion was induced (2).

To avoid these debilitating sequelae of incomplete abortion, this condition should be treated vigorously. The treatment involves aseptic evacuation of the uterus as was done in this case. In our unit, evacuation of the uterus is then followed by a course of broad-spectrum antibiotics.

REFERENCES:

1. Aggarwal, V. P., and Mati, J. K. G.

Review of Abortions at Kenyatta National Hospital, Nairobi
E. Afr. Med. J. 57: 138, 1980.

2. Pritchard, J. A., Macdonald, P. C., and Gant, N. F.

Abortion. In : Williams Obstetrics. 17th Edition, Page 467.
Appleton - Century - Crofts/Norwalk Connecticut. 1985.

3. Palmer, S. J.

Abortions in Africa.

An IPPF Regional Workshop, Nairobi. Kenya. 1978

4. Makokha, E. A.

Maternal Mortality at Kenyatta National Hospital 1972-1977.
E. Afr. Med. J. 57: 451, 1980.

CASE NO. 2

* * * *

RIGHT BARTHOLIN'S GLAND ABSCESS : MARSUPIALIZATION

RIGHT BARTHOLIN'S GLAND ABSCESS : MARSUPIALIZATION

<u>NAME</u>	: M.W.M. (Miss)	<u>PARITY</u>	: 1 + 0
<u>UNIT NO.</u>	: 531006	<u>L.M.P.</u>	: 24.11.1982
<u>AGE</u>	: 20 years	<u>ADMISSION</u>	: 11.12.1982
<u>TRIBE</u>	: Kikuyu	<u>OPERATION</u>	: 13.12.1982

PRESENTING HISTORY

The patient presented in casualty on 11.12.1982 with a two-day history of a painful vulval swelling. She gave no history of vaginal bleeding. Her last menstrual period was on 24.11.1982.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at 15 years. Her menstrual periods were regular occurring every 28 days for 3 days. She was para 1 + 0. This delivery was in 1981 but the baby died one month later due to protracted diarrhoea and vomiting. She had never used any contraceptives.

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

She was single and unemployed. She lived with her mother in Nairobi.

PHYSICAL EXAMINATION

Her general condition was fair. She had no pallor, jaundice, peripheral oedema or lymphadenopathy. Her blood pressure was 110/60 mmHg., pulse was 84 per minute, and temperature was 36.4°C.

The cardiovascular, respiratory and abdominal systems were essentially normal. Vulval inspection revealed an inflamed, tender and cystic swelling on the right postero-lateral aspect of the vulva. The swelling measured about 4cm. by 3 cm. in size and distended the right labia majus and minus.

A diagnosis of a right Bartholin's gland abscess was made. She was to be treated by Marsupialization under general anaesthesia.

MARSUPIALIZATION

The vulva was shaved and she was premedicated with 0.6 mg. of atropine sulphate. General anaesthesia was induced and maintained as described in the introduction.

The patient was placed in lithotomy position. The vulva, vagina and perineum were cleaned with savlon solution and the area draped with sterile towels. Vulval examination confirmed the findings described above. The cervix was firm and closed, and the uterus was normal size. Both adnexae were free.

A curved incision along the whole length of the abscess was made with a scalpel through the labial skin just outside the hymenal ring. The incision was deepened into the abscess cavity and foul-smelling pus drained out. Some of the pus was collected on a serum swab for culture. A finger was inserted into the abscess cavity to break up the loculi and ascertain that all the pus had drained out. The abscess cavity was then irrigated with warm saline.

The walls of the abscess were now everted and stitched to the incised vulval skin with interrupted, sutures of No.00 chromic catgut on an atraumatic needle. There was minimal bleeding. A sufratulle gauze was left in-situ.

POST-OPERATIVE CARE

Her vital signs were observed half-hourly until she was fully awake. She was given tetracycline capsules; 500 mg. 6-hourly for seven days. The sufratulle gauze was removed after 24 hours. She was advised on perineal toilet with warm saline solution twice daily and to keep the perineum clean and dry. She was then discharged for follow up in the gynaecology clinic after 6 weeks. She did not, however, turn up for review in the clinic.

PUS SWAB (AEROBIC CULTURE)

This did not grow any bacteria on culture.

COMMENT

The Bartholin's glands, also known as the major vestibular glands, are a pair of compound racemose glands situated on either side of the vaginal orifice. They secrete a mucoid alkaline fluid during sexual excitation for lubrication. The duct on either side opens in the vestibule between the labia minus and the hymenal ring.

The lesions of these glands are either inflammatory or neoplastic; the former extremely common, the latter rare (1). Inflammatory conditions cause blockage of the duct, usually near its opening, with consequent accumulation of fluid in the duct and the gland. Although such blockage often results from infection, scarring due to trauma may also be an aetiological factor. In repair of a medio-lateral episiotomy or perineal tear and in posterior colporrhaphy sutures may injure or even ligate the duct (2).

Historically, gonococcus has been incriminated as the commonest organism causing acute Bartholinitis and Bartholin's gland abscess because this is one of the areas in the genital tract specifically affected by this organism. Studies, however, have shown that this is not so. Oliphant and associated (2) isolated *N. gonorrhoeae* in only 3.5% of their patients, while in Lee et al's study (3) this figure was 11.8%. The commonest organisms from both these studies were Gram negative bacilli. The pus swab from this patient did not grow any bacteria on culture; but this may be because anaerobic culture and culture for *N. gonorrhoeae* were not done.

The treatment of acute Bartholinitis in its initial stage is antibiotics, analgesics and bed rest. But once an abscess has formed then surgery is mandatory. Simple incision and drainage has very high recurrence rates (2). Marsupialization, first described by Jacobson (4), is a technically simple procedure which has low recurrence rates. The objective of this operation is to create a new meatus for the secretions of the Bartholin's gland.

Oliphant and associates (2) listed the following advantages of Marsupialization:-

- (i) Mucous secretion is maintained.
- (ii) The procedure is technically simple with minimal blood loss and no injury to surrounding tissue.
- (iii) Has no or minimal post-operative discomfort and morbidity, therefore, hospital stay is short.

As was done in this patient, marsupialization is the operation of choice in our unit. This is then followed by a course of broad-spectrum antibiotics.

REFERENCES

1. Novak, E.R., Jones, G.S. and Jones Jr., H.W.
Diseases of the Vestibular Glands. In : Novak's
Textbook of Gynaecology.
Ninth Edition, Page 184.
The Williams and Wilkins Company. 1975.
2. Oliphant, M.M., Usaf, M.C. and Anderson, G.V.
Management of Bartholin - Duct Cysts and Abscesses.
Obstet. Gynaecol. 16 : 476, 1960.
3. Lee, Y., Rankin, J.S., Alper, S. et al
Microbiological Investigation of Bartholin's Gland
Abscesses and Cysts.
Am. J. Obstet. Gynaecol. 129 : 150, 1977.
4. Jacobson, P.
Marsupialization of Vulvovaginal (Bartholin) Cysts.
Am. J. Obstet. Gynaecol. 79 : 73, 1960.

CASE NO. 3

* * * *

CONCEPTION WITH AN INTRA-UTERINE DEVICE IN-SITU:

RIGHT TUBAL PREGNANCY - LAPARATOMY AND RIGHT

SALPINGECTOMY

CONCEPTION WITH AN INTRAUTERINE DEVICE IN-SITU :RIGHT TUBAL PREGNANCY - LAPARATOMY ANDRIGHT SALPINGECTOMY

<u>NAME</u>	: T.N.M. (Miss)	<u>L.M.P.</u>	: 25.11.1982
<u>UNIT NO.</u>	: 492036	<u>ADMISSION</u>	: 19.2.1983
<u>AGE</u>	: 23 years	<u>AMENORRHOEA</u>	: 12+ Weeks
<u>TRIBE</u>	: Kikuyu	<u>OPERATION</u>	: 20.2.1983
<u>PARITY</u>	: 2 + 0	<u>DISCHARGE</u>	: 27.2.1983

PRESENTING HISTORY

The patient was admitted through casualty to the gynaecological emergency ward on 19.2.1983. She gave a two-month history of vaginal spotting and lower abdominal pains. Her last normal menstrual period was on 25.11.1982; therefore, the period of amenorrhoea was 12+ weeks.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 14 years. She had regular menstrual periods coming every 30 days and lasting for 4 days.

She was para 2 + 0. Both her deliveries, in 1978 and 1980, were uncomplicated vaginal deliveries. After her last delivery, she started using an intrauterine contraceptive device which was removed on 29th January 1983, because of the symptoms mentioned above.

PAST MEDICAL AND SURGICAL HISTORY

She had bronchial asthma for which she was attending the medical clinic.

FAMILY AND SOCIAL HISTORY

She was divorced and lived with her children in Ngong town. She owned a small business in this town.

PHYSICAL EXAMINATION

Her general condition was satisfactory. She had no pallor, oedema or jaundice. Her vital signs were within normal levels.

The chest was clear and the cardiovascular system was normal. The abdomen was not distended. There was slight tenderness and guarding in the hypogastrium. There were no palpable abdominal masses and shifting dullness and fluid thrill signs were negative.

VAGINAL EXAMINATION

The vulva was normal. The cervix was firm and closed. The uterus was normal size and was pushed to the left by a soft very tender right adnexal mass. The mass measured about 6 cm. by 6 cm. Excitation sign was positive, more so on moving the cervix to the right.

An impression of a right tubo-ovarian mass was made. A decision to do a laparotomy was taken and the patient was appropriately prepared as described in the introduction. Two units of compatible blood were booked and made ready.

LAPARATOMY AND RIGHT SALPINGECTOMY

She was premedicated with 0.6 mg of atropine sulphate and 50 mg of pethidine intramuscularly half an hour before the operation. In theatre general anaesthesia was induced and maintained as described in the introduction. She was then catheterised aseptically.

Examination under anaesthesia confirmed the pelvic findings described above. The abdomen was now swabbed with hibitane solution followed by spirit and the area draped with sterile towels. Through a mid-line subumbilical incision the abdomen was opened in layers as described in the introduction.

There were no pelvic adhesions. The uterus was normal size. There was a round slightly bleeding ectopic gestation occupying the ampullary region of the right fallopian tube. The left tube and both ovaries appeared healthy and normal. There was haemoperitoneum of clotted blood estimated to be 300 mls.

Using two curved artery forceps the proximal end of the right tube was clamped and divided. The mesosalpinx was now clamped in a series of bites parallel to the tube and cut between the clamps until the fimbrial end. The tube with the ectopic gestation was removed and submitted to the laboratory for histopathology. The mesosalpinx and the tube were now transfixed with No.1 chromic catgut.

Blood clots were evacuated from the peritoneal cavity. After ascertaining that haemostasis had been achieved, the abdomen was closed in layers as described in the introduction. Total blood loss was about 500 mls.

POST-OPERATIVE CARE

The patient made uneventful recovery from anaesthesia. She received routine post-operative care as described in the introduction. Post-operative haemoglobin concentration was 11.5 gm/dl. She was discharged in good condition on 27.2.1983 after removal of all stitches.

HISTOLOGY REPORT (NO.1152):

Histology shows extensive haemorrhage with necrosis and degenerating chorionic villi with the fallopian tube. These features are those of tubal pregnancy.

FOLLOW-UP

She was seen in the gynaecology clinic on 24.3.1983. She had no complaints and was not anaemic. The abdominal scar was well healed and the abdomen was soft and not tender. Pelvic examination revealed an anteverted freely mobile uterus and clear non-tender adnexae.

She was again seen on 4.8.1983 with an amenorrhoea of 9 weeks. Pelvic examination and ultrasonography confirmed an intrauterine pregnancy. She was hence referred to the antenatal clinic for follow-up.

COMMENT

Presented in this paper is a 23 year old para 2 + 0 lady who conceived with an intrauterine contraceptive device (IUCD) in-situ. The ovum implanted in the ampulla of the right tube. About one month after her last normal menstrual period she developed vaginal spotting and lower abdominal pains. These symptoms persisted for two months before the definitive diagnosis was made. In the meantime the IUCD was removed, thinking it was the cause of her symptoms, without any relief.

In some tropical countries, ruptured tubal pregnancy is the commonest surgical emergency among women.(1). In Kenyatta National Hospital, Makokha (2) found that ectopic pregnancy was an important cause of maternal mortality; with a rate similar to those in the western more affluent countries (3,4).

There are certain factors which are known to predispose to ectopic gestation. Leading among these is pelvic inflammatory disease (PID) caused by either gonorrhoea, puerperal or post abortal sepsis, tuberculosis, or appendicitis (1,3,4). Treatment of PID on the other hand may mean that pregnancy could subsequently occur in tubes which would otherwise have been totally blocked (1,4). Other predisposing factors include operations on the tubes or any other pelvic surgery, endometriosis, late fertilization, transperitoneal migration of the ovum, and presence of an IUCD.

At laparotomy, the pelvic cavity of this patient was clear without any evidence of PID. The left tube appeared healthy and normal. It is probable, therefore, that conception with an IUCD in-situ predisposed to the ectopic pregnancy in this case.

Lehfeldt et al (5) in estimation of the probable number of fertilized ova among women wearing IUCDs, suggested that the devices reduces uterine implantation by about 99.5%. tubal implantation by 95% and ovarian implantation not at all. These workers concluded that IUCDs do not cause ectopic pregnancy in general or ovarian pregnancy in particular.

This patient had a slowly leaking ectopic pregnancy - the so-called "chronic ectopic". The diagnosis of a slowly leaking ectopic pregnancy is puzzling and is frequently missed, often being mistaken for a chronic pelvic abscess or an adnexal tumour (1). Here the symptoms differ from the sudden, dramatic and crippling symptoms of an acute ruptured ectopic pregnancy. The most constant features, as were exhibited in this case, are chronic pelvic pain and irregular uterine bleeding (1). Pelvic tenderness is not very marked and a mass may or may not be palpable (1). This patient had a tender right adnexal mass.

Once the diagnosis of ectopic pregnancy is made surgery is the treatment of choice. This should not be delayed especially in the life-threatening acute ruptured variety. Stewart (1) succinctly summarised the management of ectopic pregnancy : "open quickly, clamp quickly, transfuse quickly, remove the tube and get out quickly.

Whether salpingectomy or salpingo-oophrectomy should be done is still controversial (4). In our unit, salpingectomy is the surgical treatment that is almost exclusively employed. In areas with shortage of blood, auto-transfusion is life saving (1).

REFERENCES

1. Stewart, D.B.
Extra-Uterine Pregnancy. In : Obstetrics and Gynaecology
in the Tropics and Developing Countries.
Edited By J.B. Lawson and D.B. Stewart.
1974 Edition, Page 371.
ELBS and Edward Arnold (Publishers) Ltd.
2. Makokha, A.E.
Maternal Mortality - Kenyatta National Hospital 1972-1977.
E.Afr. Med.J. 57 :451, 1980.
3. Breen, J.L.
A 21-Year Survey of 654 Ectopic Pregnancies.
Am. J. Obstet. Gynaecol. 106 : 1004, 1970.
4. Scott, J.S.
Ectopic Pregnancy. In : Intergrated Obstetrics and
Gyanecology for Postgraduates. Edited by Sir John
Dewhurst. Third Edition, Page 222.
Blackwell Scientific Publications. 1981.
5. Lehfeldt, H., Tietze, C. and Gorstein, F.
Ovarian Pregnancy and the Intrauterine Device.
Am. J. Obstet. Gynaecol. 108 : 1005, 1970.

CASE NO. 4.

* * * * *

TORTION OF RIGHT SEROUS CYSTADENOMA AND LEFT DERMOID CYST:

BILATERAL OOPHORECTOMY.

TORSION OF RIGHT SEROUS CYSTADENOMA AND
LEFT DERMOID CYST : BILATERAL OOPHORECTOMY

<u>NAME</u> : B.T.M. (Mrs.)	<u>L.M.P.</u> : 22.12.1984
<u>UNIT NO.:</u> 661093	<u>ADMISSION</u> : 27.12.1984
<u>AGE</u> : 26 years	<u>OPERATION</u> : 3.2.1985
<u>TRIBE</u> : Luhya	<u>DISCHARGE</u> : 11.2.1985
<u>PARITY</u> : 2+1	

PRESENTING HISTORY:

The patient was admitted to the non-emergency gynaecological ward on 27.12.1984 as a referral from the gynaecology clinic. She gave a 6-month history of progressive abdominal swelling, dull abdominal pains and low backache.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

Menarche occurred at the age of 14½ years. She had regular menstrual periods - the cycle was 26-28 days and the duration 3 days. Her last menstrual periods was on 22.12.1984

She was Para 2+1. Both deliveries were full-term spontaneous vaginal deliveries and the children were alive and well. Her last delivery was in 1983. The abortion was in 1981 at 4 months gestation. Evacuation of the uterus was not done. She had never used any modern methods of contraception.

PAST MEDICAL AND SURGICAL HISTORY:

This was non-contributory.

FAMILY AND SOCIAL HISTORY:

She was a married housewife who neither smoked nor consumed alcohol. The couple and their children lived in an estate in Nairobi. There was no relevant family history.

PHYSICAL EXAMINATION

She was in a satisfactory general condition. She had no pallor, jaundice, oedema or peripheral Lymphadenopathy. The vital signs were within normal levels. Her cardiovascular, respiratory and central nervous systems were essentially normal.

ABDOMINAL EXAMINATION:

The abdomen was uniformly distended with a tense non-tender mass which corresponded to a 30-weeks uterine pregnancy. The mass was smooth, cystic, mobile, dull to percussion, and arose from the pelvis. The liver and spleen were not palpable.

PELVIC EXAMINATION:

The vulva and vagina were normal. The cervix was firm, parous and closed. The uterus was normal size, anteverted and mobile. The mass described above had its origin from the right adnexa. The left adnexa had a soft non-tender mass measuring about 8 cm. in diameter.

DIAGNOSIS AND MANAGEMENT

A diagnosis of bilateral ovarian cysts was entertained. Several investigations were done and the results are shown below

RESULTS OF THE INVESTIGATIONS:

Haemoglobin : 10.7 gm/dl
Haematocrit : 29.2%
Sodium : 132 mmol/l
Potassium : 4.7 mmol/l
B.U.N : 6.6 mmol/l
M.S.S.U. : No Bacterial growth on culture.
Pap Smear : Class I
Ultrasound : There is a large cystic mass arising from the pelvis
This is most likely an ovarian cyst.

A laparotomy was planned for her but due to various constraints this could not be done as soon as planned. On the night of 2nd-3rd February, 1985 she complained of sudden onset of acute lower abdominal pains. This was associated with nausea and vomiting. On examination, she was found to be in a distressed condition. Her pulse was 110 per minute and temperature was 37.5°C. The abdominal mass was now 34 weeks size, tense and tender. An impression of torsion of the pedicle was made. She was given 100mg of intramuscular pethidine for analgesia and an intravenous drip of 5% dextrose was set up. Blood for grouping and crossmatching was taken then she was prepared for emergency laparotomy as described in the introduction.

LAPARATOMY:

In theatre general anaesthesia was induced and maintained as described in the introduction. The bladder was catheterised aseptically. Examination under anaesthesia confirmed the findings described above.

The abdomen was now cleaned with hibitane and draped. Through a right paramedian incision the abdomen was opened in layers as described in the introduction. A huge right ovarian cyst was found which measured about 30cm. in diameter and which was freely mobile. It had a long pedicle which had twisted three times. The surface of the cyst was smooth and the fluid underneath was serous. There was an oval mass in the left ovary measuring about 8cm. in its biggest diameter. It had cystic and firm areas. Both tubes appeared healthy and the uterus was normal size.

Without untwisting the pedicle of the right ovarian cyst, the cyst was delivered through the abdominal incision. The pedicle was then doubly clamped with two curved artery forceps then cut between the forceps. The proximal stump of the pedicle was then transfixed with No.2 chromic catgut.

The left ovarian mass was now lifted from the pelvis. The infundibulo-pelvic ligament together with the ovarian ligament were doubly clamped with Koch clamps. Both ligaments were then divided between the clamps and transfixed with No.2 chromic catgut. The ovarian mass was removed and on bisecting it

yellow greasy material oozed out. There were also hairs and what looked like cartilage in the cyst. An operative diagnosis of right serous cyst and left dermoid cyst was made. Both specimens were submitted to the laboratory for histological examination.

After ensuring haemostasis the abdomen was closed in layers. Total blood loss was about 300mls.

POST-OPERATIVE CARE:

The patient's vital signs were observed half-hourly until she was fully recovered from anaesthesia. She was maintained on intravenous fluids for the first 24 post-operative hours. Pethidine 100mg was given every 6 hours for analgesia for 48 hours.

Recovery from anaesthesia was smooth and uneventful. On the second post-operative day she had passed flatus and bowel sounds were established. She was thus started on oral sips of water and was mobilized from bed. Post-operative haemoglobin estimation done on the third day showed a haemoglobin concentration of 8.9gm/dl. Because of this, she was transfused with two units of compatible blood. Alternate and all abdominal stitches were removed on the sixth and seventh post-operative days respectively. The wound was clean and well healed. She was then discharged to be reviewed in the gynaecology clinic in 6-weeks time.

GYNAECOLOGICAL REVIEW:

She attended the clinic on 28.3.1985. She complained of weakness, insomnia and hot flushes. Examination showed mild pallor. Her vital signs were within normal limits. The abdomen was soft and the scar well healed. Pelvic examination revealed a uterus which was normal size and clear adnexae.

The nature of her disease, the operation which was done and the consequences thereof were explained to her in detail. She was given haematinics and diazepam and will be reviewed again in 3 months.

HISTOLOGY REPORT - NO. 1390.

Two specimens received. One shows partially infarcted unilocular cyst whose histology is in keeping with serous cystadenoma of the ovary. The second specimen is a bisected mass containing whitish gelatinous material and hair. Histology shows ovarian tissue containing hair, cartilage, bone and smooth muscles. This is a benign cystic teratoma.

COMMENT:

This patient presented with two of the most common tumours of the ovary i.e. serous cystadenoma and benign cystic teratoma (dermoid cyst). From literature, serous cystadenoma^{is} said to comprise 20-40% of all benign ovarian neoplasms and dermoid cysts constitute 10-15% of ovarian tumours (1,2). In Kenyatta National Hospital, Ojwang (3) found that 45.1% and 21.1% of all ovarian tumours were serous cystadenomas and dermoid cysts respectively. While Grech and Lewis (4) studying ovarian tumours in Ugandan Africans found that the commonest tumours were dermoid cysts (23.2%), and serous cystadenomas occurred in only 9.2% of the 387 cases that they analysed.

As was exemplified in this case, benign tumours of the ovary commonly present with a cystic pelvic or abdominal mass and/or abdominal pains (1,2,3). Most of these cystic masses are, however, physiological rather than pathological especially if they are small and are found in a woman who is in the reproductive period of her life (1,2). The two commonest nonneoplastic cysts of the ovary are Follicular cysts and corpus luteum cysts (1,2). These are important differential diagnoses of benign neoplastic ovarian cysts. Marked ascites may simulate a large ovarian cyst. Percussion is important to differentiate between the two. An ovarian cyst is characteristically dull to percussion anteriorly and resonant in the flanks. The reverse is the case with ascites. Other conditions which may mimic an ovarian cyst, or vice versa, are pregnancy, tuberculous peritonitis, uterine fibroids and obesity (1,2). Ultrasound, as was done in this case, and laparoscopy may be indicated in doubtful cases.

Once the diagnosis of "Ovarian cyst" has been made the next question will be whether or not to operate. If one suspects that one is dealing with a nonneoplastic cyst, then a period of expectant observation is justified because the majority of the functional cysts regress spontaneously (1,2). Benign neoplastic cysts rarely regress spontaneously; in fact they tend to increase in size. This, together with the ever-present risk of torsion of the pedicle as well as the more serious risk of malignant change negate procrastination (1,2).

In this patient, both cysts were of considerable size; with the serous cystadenoma corresponding to 30 weeks gestational size of a uterus and the dermoid cyst measuring about 8cm. in diameter. She also gave a 6-month history of progressive abdominal swelling. Clinically, therefore, both cysts in this case were thought to be pathological and she was scheduled for operation. While waiting for the elective surgery the larger of the two cysts underwent torsion of its pedicle. Torsion of the pedicle is the commonest complication of an ovarian cyst (1,2). As occurred in this case, this complication is associated with severe pain, nausea and vomiting, tense rigidity in the lower abdomen, tachycardia and moderate pyrexia. All these features are consistent with acute appendicitis, and not infrequently this is the preoperative diagnosis (2). In this patient, the diagnosis of torsion of the pedicle was strongly suspected. As was done in this case, once the diagnosis of torsion of the pedicle is made then surgery should not be delayed to avoid the cyst becoming gangrenous. During surgery for torsion of an ovarian cyst, care must be taken not to untwist the pedicle before clamping it in order to prevent toxic matter entering the circulation.

Other complications of ovarian cysts include: Rupture of the cyst, suppuration, haemorrhage into the cyst, and malignant change (1,2). Malignant change is said to complicate about 25% of serous cysts and less than 3% of dermoid cysts (1,2). Benign serous cysts exhibit a wide spectrum of gross external appearance - from simple unilocular cysts to multilocular cysts with papillomatous or solid ingrowths. Clinically, the latter are not unlike malignant tumours. Surgery for unilocular cystomas, as was the case in this patient, involves unilateral cystectomy or oophorectomy with conservation of the uterus and the uninvolved ovary (2). In the presence of extensive papillomatous growths and in the case of any neoplastic cyst occurring in a postmenopausal woman, the safer and wiser operation is total hysterectomy and bilateral salpingo-oophorectomy (2). In this patient the other ovary could not be preserved because it had a dermoid cyst.

Histogenetically, serous cystadenomas arise from the surface epithelium of the ovary (2). The origin of dermoid cysts is still controversial. Benign cystic teratomas are composed of mature histologic structures of ectodermal, mesodermal and endodermal origin. Using cytogenetic and biochemical studies, Linder and associates (5) convincingly showed that benign cystic teratomas are parthenogenic tumours that arise from a single germ cell after the first meiotic division.

Sometimes a cystic teratoma contains tissues from specialized glands. Considerable amounts of thyroid tissue (struma ovarii) may occur causing thyrotoxicosis or thyroid malignant degeneration. Another example is argentaffinoma causing the carcinoid syndrome which is characterised by flushing, cyanosis and abdominal cramps due to high levels of circulating serotonin.

REFERENCES:

1. Mattingly, R.F.

Adnexal Tumours. In : Te Linde's

Operative Gynaecology.

5th Edition, Page 809.

J. B. Lippincott Company. 1977.

2. Novak, E. R., Jones, G.S., and Jones Jr., H. W.

Benign Tumours of the Ovary. In: Novak's Textbook of Gynaecology.

9th Edition, Page 444.

The Williams and Wilkins Company. 1975.

3. Ojwang, S. B. O.

Ovarian Tumours and Tuboovarian Masses at the Kenyatta National Hospital.

M.Med. Thesis, University of Nairobi. 1974.

4. Grech, E. S., and Lewis, M. G.

Ovarian Tumours in Ugandan Africans.

E. Afr. Med. J. 44 : 487, 1967.

5. Linder, D. McCaw, B. K., and Hecht, F.

Parthenogenetic Origin of Benign Ovarian Teratomas.

New. Eng. J. Med. 292 : 63, 1975.

CASE NO. 5

* * * *

SCHISTOSOMIASIS OF THE CERVIX : MEDICAL TREATMENT

SCHISTOSOMIASIS OF THE CERVIX : MEDICAL TREATMENT

<u>NAME</u>	: Z.Z.A (Mrs.)	<u>PARITY</u>	: 0 + 0
<u>UNIT NO.</u>	: 508672	<u>L.M.P.</u>	: 2.8.1982
<u>AGE</u>	: 16 Years	<u>ADMISSION</u>	: 3.8.1982
<u>TRIBE</u>	: Pokomo	<u>DISCHARGE</u>	: 14.8.1982

PRESENTING HISTORY

This patient was referred from Garissa Provincial Hospital on 3.8.1982 because of a suspicion of cervical carcinoma. She gave a two-year history of abdominal pains, and a two-month history of a sensation of a vaginal mass.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at 14 years. She menstruated regularly for 3 days every month. Her last menstrual period was on 2.8.1982. She was nulliparous and had not used any contraceptives.

PAST MEDICAL AND SURGICAL HISTORY

She did not give any relevant past medical and surgical history.

SOCIAL AND FAMILY HISTORY

She was married. Her husband was a hawker. The couple lived along the banks of Tana River. There was no family history of chronic medical diseases.

PHYSICAL EXAMINATION

She was a young lady of satisfactory general condition. She had no pallor, jaundice, peripheral oedema or lymphadenopathy.

Her cardiovascular, respiratory and central nervous systems were essentially normal. The abdomen was soft with no ascitis or hepato-splenomegally.

VAGINAL EXAMINATION

The vulva and vagina appeared healthy and normal. Speculum examination revealed the cervix which had multiple pale polypoidal growths all around it. Each of these growths was about 2-3 cms. long and about 0.3 cm. in diameter, and they were firm on touch. The uterus was axial and normal size, and the parametria were clear on bimanual examination.

An impression of chronic granulomatous cervicitis was made. Using an artery forceps one of the cervical growths was twisted and removed then submitted to the laboratory for histopathology. While awaiting the results of the histology several investigations were done.

RESULTS OF THE INVESTIGATIONS

Haemoglobin : 12.9 gm/dl.
 Haematocrit : 40.5%
 B.U.N. : 4.6 Mmol/l.
 Stool : No ova or cysts seen.
 Urine : No ova of *S. haematobium* seen.
 Cervical Biopsy (No.1315/82) : Friable fragments received. Microscopy reveals marked pseudo-epitheliomatous hyperplasia. Numerous schistosome ova and adult worms seen. Features are consistent with schistosomal infestation of the cervix. No evidence of malignancy.

After receiving the histology report the patient was commenced on oxaminiquin (vansil) tablets (1.5 mg per Kg. body weight in two divided doses). She was then referred back to Garissa hospital for follow-up

COMMENT

Schistosomiasis may produce a variety of lesions in any part of the female genital tract, from the vulva to the ovary. These may simulate cancer, venereal diseases or tuberculosis and so demand accurate diagnosis(1,2)

The main species which infect man are schistosome haematobium, *S. mansoni* and *S. japonicum*. *S. haematobium* and *S. mansoni* are endemic in Kenya with *S. haematobium* being far more prevalent and widely distributed (3). This patient lived along Tana River, one of the highly endemic areas in Kenya (3).

The adult worms of the *S. haematobium* species lives in the venous plexus around the bladder and *S. mansoni* in the mesenteric veins. There is anastomosis between vaginal and vesical plexus and between vaginal and haemorrhoidal plexus. By this means ova or worms get lodged in the vagina. The uterine plexus anastomoses with ovarian plexus above and the vaginal plexus below. Through these anastomotic channels the ova or worms can spread to the uterus and adnexae. In the pre-pubertal age group genital schistosomiasis is mainly confined to the vulva and lower part of the vagina, while in the adult the commonest sites of involvement are the cervix, vulva, vagina, ovaries, fallopian tubes and corpus uteri in that order (1,2,4,5).

Cervical schistosomiasis causes multiple papillomatous sessile or pedunculated growths which ulcerate easily leading to purulent discharge and contact bleeding (1,2). Other symptoms are those of pelvic inflammatory disease, infertility, and those of urinary and intestinal schistosomiasis (1). This patient presented with a two-year history of lower abdominal pains and a two-month history of a sensation of a mass in the vagina. She did not give any history of vaginal discharge or contact bleeding. With this history and the pelvic findings as were shown in this patient, definitive diagnosis can only be made by histopathological findings.

That urinary and genital schistosomiasis are precancerous is still very much controversial. In Egypt, where extensive work has been done in this regard, schistosomiasis has been strongly associated with carcinoma of the bladder, vulva, vagina and cervix (1,2). In other areas the position is still equivocal (4).

The management of genital schistosomiasis involves administration of anti-schistosomal drugs. This eradicates active schistosomiasis. Chronic ulceration of the cervix usually requires cauterization. This patient received anti-schistosomal treatment but was not cauterized. It would have been advisable to review her later - say six to twelve months after the treatment, but this was not feasible because of the distance from Garissa to Nairobi.

This case emphasizes the importance of cervical biopsy before commencing treatment in any patient who presents with a cervical growth. It is also interesting as a differential diagnosis of cervical lesion.

Medical treatment of schistosomiasis in patients who come from endemic areas perhaps serves only a limited and short-term purpose. The ultimate goal is the eradication of the spread of schistosomiasis; as detailed by Magdi (2).

REFERENCES

1. Youssef, A.F., Fayad, M.M. and Shafeek, M.A.
Bilharziasis of the Cervix Uteri.
Obstet. Gynaecol. Brit. Commonw. 77 : 847, 1970.
2. Magdi, I.
Bilharziasis (Schistosomiasis) of the Female Genital Tract. In : Obstetrics and Gynaecology in the Tropics and Developing Countries. Edited by J.B. Lawson and D.B. Stewart.
1974 Edition, Page 416.
ELBS and Deward Arnold (Publishers) Ltd.,
3. Highton, R.B.
Schistosomiasis. In : Health and Disease in Kenya.
Editors : Vogel, L.C. et al.
East African Literature Bureau. 1974. Page 347.
Nairobi. Dar-es-salaam. Kampala.
4. Van Raalte, J.A., Venkataramaiah, N.R. and Shaba, J.K.
Bilharziasis of the Female Genital Tract in Tanzania.
E. Afr. Med. J. 58 : 543, 1981.
5. Njagi, P.E.N.
Schistosomiasis of the Female Genital Tract.
M.Med. Thesis, University of Nairobi, 1979.

CASE NO. 6

* * * *

RUPTURED TUBO-OVARIAN ABSCESS:

LAPARATOMY AND LEFT SALPING-OOPHORECTOMY

RUPTURED TUBO-OVARIAN ABSCESS : LAPARATOMY
AND LEFT SALPINGO-OOPHRECTOMY

<u>NAME</u> : F.B.L. (Miss)	<u>PARITY</u> : 0 + 0
<u>UNIT NO.:</u> 539940	<u>L.M.P.</u> : 23.1.1983
<u>AGE</u> : 20 Years	<u>ADMISSION</u> : 2.2.1983
<u>TRIBE</u> : Mganda	<u>OPERATION</u> : 2.2.1983

PRESENTING HISTORY

The patient was admitted to the gynaecological emergency ward on 2.2.1983 with a history of severe abdominal pains for two days. The pains initially started in the left iliac fossa but had now spread to the whole abdomen. There was no history of vaginal bleeding and her last menstrual period was on 23.1.1983 for four days.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 13 years. She menstruated regularly for 4 days after every 24 days. She was nulliparous and had not used any contraceptives. She gave no history of sexually transmitted diseases.

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

FAMILY AND SOCIAL HISTORY

She was single, unemployed and lived with friends in Pumwani Majengo - a slum area of Nairobi.

PHYSICAL EXAMINATION

Her general condition was poor. She was sick-looking, weak, febrile and dehydrated. She, however, had no pallor, cyanosis, jaundice or peripheral oedema.

VITAL SIGNS

Blood Pressure	: 100/80 mmHg
Pulse Rate	: 120 per minute regular with small volume
Temperature	: 38.5°C
Respiration	: 22 per minute.

CARDIOVASCULAR AND RESPIRATORY SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was not distended. There was generalized abdominal tenderness, guarding, rigidity and rebound tenderness. The liver and spleen were not palpable.

Paracentesis was negative.

VAGINAL EXAMINATION

The vulva was normal. The cervix was firm nulliparous and closed. The pouch of Douglas was full and very tender. There was bilateral adnexal tenderness and the excitation sign was positive bilaterally. It was impossible to define pelvic organs because of the exquisite tenderness.

An impression of a pelvic abscess with a differential diagnosis of a ruptured ectopic pregnancy was made. The patient was quickly prepared for emergency laparotomy as described in the introduction. Intravenous 5% dextrose was started and a blood specimen was taken for urgent grouping and crossmatching. She was premedicated as described in the introduction.

LAPARATOMY AND LEFT SALPINGO-OOPHERECTOMY

In theatre general anaesthesia was induced and maintained as described in the introduction. She was then catheterised aseptically. Examination under anaesthesia revealed a nulliparous closed cervix, normal - sized uterus and a left adnexal soft boggy mass measuring about 4 cm. in diameter. The pouch of Douglas was full.

The abdomen was swabbed with hibitane solution then draped. Through a midline subumbilical incision the abdomen was opened in layers. The pelvic cavity had dense moderate adhesions. The uterus was normal size. There was a left tubo-ovarian abscess which had ruptured releasing about 600 mls. of pus in the peritoneal cavity, mainly in the pouch of Douglas. The right tube was thickened and blocked terminally, but the right ovary appeared grossly normal.

Using a syringe and needle some of the peritoneal pus was aspirated. After expelling air from the syringe, the needle was bent double on itself. This was submitted to the laboratory for anaerobic culture. The left tube was now doubly clamped with curved artery forceps near its cornual end and divided. The mesosalpinx was then doubly clamped parallel to the tube and cut between the clamps. The infundibulo-pelvic ligament was also doubly clamped and divided. The tubo-ovarian abscess was now removed in-toto and sent for histopathology.

The infundibulo-pelvic ligament was transfixed with No.2 chromic catgut and the mesosalpinx together with the stamp of the tube were ligated with No.1 chromic catgut. Haemostasis was achieved.

The pelvic adhesions were gently released by blunt finger dissection.. Peritoneal wash-out was now done using 500 mg of Rifocin in warm saline. A corrugated drain was left in-situ and passed out of the peritoneal cavity through an incision in the left iliac fossa. It was secured to the skin with a silk stitch and a safety pin. The abdomen was then closed in layers as described in the introduction.

POST-OPERATIVE CARE

Recovery from anaesthesia was uneventful. She received intravenous fluids for 48 hours. She was given intravenous ampicillin (one gram 6-hourly) and metronidazole (500 mg 6-hourly) for 48 hours. After this she was continued on oral ampicillin (500 mg 6-hourly) and Flagyl (400 mg 6-hourly) for seven days. Intramuscular pethidine (100 mg 6-hourly) was given for 48 hours for analgesia.

By the second post-operative day her general condition was satisfactory. She was afebrile, not pale and had bowel sounds. Intravenous fluids were discontinued and she was started on oral sips of water and was gradually mobilized from bed. The drain was shortened and eventually removed on the fourth day.

Her post-operative haemoglobin concentration was 10.5 gm/dl. and the W.B.C. count was $8.3 \times 10^9/L$. She made steady and satisfactory recovery. Alternate and all abdominal stitches were removed on the sixth and seventh post-operative days respectively. She was then discharged to be reviewed in the gynaecology clinic after 6 weeks.

PUS CULTURE (Anaerobic Isolate)

Bacteroides species isolated. Sensitive to Metronidazole
(among other drugs).

HISTOLOGY (NO. 787/83)

Histology shows a thickened fallopian tube with necrotic material in the lumen. There is transmural acute inflammatory cell infiltrate of the tube. The ovary shows acute and chronic inflammatory cell infiltrate.

These features are in keeping with tubo-ovarian abscess.

GYNAECOLOGICAL FOLLOW-UP

She was seen in the clinic on 23.4.1983. Her general condition was good. The abdomen was soft, non-tender, and the scar was well healed. Pelvic examination revealed a retroverted normal-sized uterus and clean adnexae.

COMMENT

Acute and chronic pelvic inflammatory disease (P.I.D.) is one of the three leading causes of admission to Kenyatta National Hospital (1). A similar situation is found in most parts of the tropics (2). This is partly due to poor care and hygiene during and following delivery and abortion, and partly due to the high prevalence of venereal diseases (2). Gonorrhoea, puerperal sepsis and post-abortal sepsis are the commonest causes of P.I.D. (3). The other causes are appendicitis and tuberculosis, and the use of the intrauterine contraceptive device is a known predisposing factor (3).

All these conditions properly and adequately treated in their acute stages should prevent their disabling complications. Unfortunately, chemotherapy is seldom used in the right way, at the right stage of the disease, and in the right dosage; chronic pelvic infection then becomes an inevitable sequelae (2,3). Once the chronic stage is reached, other organisms, mainly anaerobes then invade the diseased pelvic organs (2,3,4). If the disease is left unchecked large pyosalpinges and tubo-ovarian and pelvic abscesses will develop.

This patient was admitted with a left tubo-ovarian abscess. She was nulliparous and denied any history of sexually transmitted diseases. But from her socio-economic background, the initial infection can be assumed to be gonococcal or post-abortal.

Once the diagnosis of tubo-ovarian or pelvic abscess is made then surgery is the treatment of choice (5). Initially, if the patient's condition is not very bad, this can be proceeded by a course of parenteral broad-spectrum antimicrobials - for 24 to 48 hours (2,3). But if the patient is critically ill or if the abscess has ruptured, as had occurred in this case, then temporizing is uncalled for (3,5).

Although most authorities recommend radical surgery to avoid recurrences (2,3), the extent of the surgery should nevertheless be individualised. Mickal and associates (5) found that drainage and antibiotics alone had very high mortality rate. They performed total hysterectomy and bilateral salpingo-oophrectomy for the majority of their patients, but in a few cases they did the quick and more conservative unilateral salpingo-oophrectomy. This latter operation was reserved for the critically ill patients, for the young patients, and for the patients of low parity who desired more children. This patient who critically ill, was young and was nulliparous; thus the decision to do unilateral salpingo-oophrectomy.

At the stage of chronic P.I.D. with abscess formation, polymicrobial is the status quo. These patients should, therefore be treated with broad-spectrum antimicrobials. Fomulu (4) found that Tetracyclines alone or in combination with Metronidazole or Gentamycin was the suitable treatment at this stage. This patient was treated with ampicillin and Metronidazole and did very well. The anaerobic pus culture taken during the operation grew bacteroides sensitive to Metronidazole.

Chronic pelvic infection is an important cause of chronic pelvic pain, with dyspareunia and secondary dysmenorrhoea, of infertility due to tubal obstruction, and of menstrual upsets usually in the form of menorrhagia and polymenorrhoea (3). These patients overcrowd out-patient and gynaecological clinics, while others present with diverse psychosomatic disorders. The immediate problem is the proper management of pelvic infection at whatever stage it presents. The ultimate goal is prevention, by better obstetric care and by control of the social and epidemiological factors which favour the spread of infections especially venereal diseases.

REFERENCES

1. Khehar, B.S.

Pelvic Inflammatory Disease. A review of current Practice.

E.Afr. Med. J. 57 : 72, 1980.

2. Rendle-Short, C.W. and Stewart, D.B.

Pelvic Inflammatory Disease. In : Obstetrics and Gyanecology in the Tropics and Developing Countries. Edited by J.B. Lawson and D.B. Stewart. 1974 Edition, Page 398.

ELBS and Edward Arnold (Publishers) Ltd.

3. Whitfield, C.R.

Pelvic Infection. In: Intergrated Obstetrics and Gyanecology for Postgraduates.

Edited by Sir John Dewhurst. Third Edition, Page 526. Blackwell Scientific Publications. 1981.

4. Fomulu, J.N.

Bacteriological Sensitivity Patterns in Septic Abortion, Post-abortal Sepsis, and Pelvic Abscesses at Kenyatta National Hospital.

M.Med. Thesis, University of Nairobi, 1981.

5. Mickal, A., Sellmann, A.H. and Beebe, J.L.

Ruptured Tubo-Ovarian Abscess.

Am. J. Obstet. Gynecol. 100 : 432, 1968.

REFERENCES

1. Khehar, B.S.

Pelvic Inflammatory Disease. A review of current Practice.

E.Afr. Med. J. 57 : 72, 1980.

2. Rendle-Short, C.W. and Stewart, D.B.

Pelvic Inflammatory Disease. In Obstetrics and Gynecology in the Tropics and Developing Countries.

Edited by J.B. Lawson and D.B. Stewart. 1974 Edition, Page 398.

ELBS and Edward Arnold (Publishers) Ltd.

3. Whitfield, C.R.

Pelvic Infection. In: Integrated Obstetrics and Gynecology for Postgraduates.

Edited by Sir John Dewhurst. Third Edition, Page 526.

Blackwell Scientific Publications. 1981.

4. Fomulu, J.N.

Bacteriological Sensitivity Patterns in Septic Abortion, Post-abortal Sepsis, and Pelvic Abscesses at Kenyatta National Hospital.

M.Med. Thesis, University of Nairobi, 1981.

5. Mickal, A., Sellmann, A.H. and Beebe, J.L.

Ruptured Tubo-Ovarian Abscess.

Am. J. Obstet. Gynecol. 100 : 432, 1968.

CASE NO. 7

* * * *

VESICO-VAGINAL FISTULA : SUCCESSFUL REPAIR

VESICO-VAGINAL FISTULA : SUCCESSFUL REPAIR

<u>NAME</u>	: L.C.S. (Miss)	<u>L.M.P.</u>	: 23.4.1982
<u>UNIT NO.</u>	: 417451	<u>ADMISSION</u>	: 3.5.1982
<u>AGE</u>	: 23 Years	<u>REPAIR</u>	: 10.6.1982
<u>TRIBE</u>	: Kalenjin	<u>DISCHARGE</u>	: 2.7.1982
<u>PARITY</u>	: 1 + 0		

PRESENTING HISTORY

The patient was admitted to ward 4 on 3.5.1982 with a history of incontinence of urine since her last delivery in 1980.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 16 years. She menstruated regularly; the cycle was 26 days and the duration 3 days. Her last menstrual period was on 23.4.1982.

She was para 1+0. This delivery was in 1980 at Nakuru General Hospital. She was in labour for about 48 hours after which a difficult vacuum extraction was done and a female fresh still birth weighing 6 Kg. was delivered. Incontinence of urine developed 5 days after delivery. She was then referred to Kenyatta National Hospital where a diagnosis of a large circumferential vesico-vaginal fistula was made. She underwent repair on 6.3.1981 but 8 days later she was noticed to be leaking urine although much less than before. Post-operative examination under anaesthesia (E.U.A.) showed a small residual fistula in the left angle of the vaginal vault.

PAST MEDICAL AND SURGICAL HISTORY

This was not relevant.

SOCIAL AND FAMILY HISTORY

She was single and lived with her parents in Eldoret. Her formal education ended in form IV and she was undergoing a secretarial training when she became pregnant in 1979.

PHYSICAL EXAMINATION

She was an obese lady whose general condition was good. She was not clinically anaemic or jaundiced. Her vital signs were within normal limits and her respiratory, cardiovascular and abdominal systems were essentially normal.

VAGINAL EXAMINATION

There was slight excoriation of the vulval and perineal skin. Urine was observed leaking per vaginam. On speculum examination the vagina and cervix looked healthy and normal. The urine was leaking from a fistula high on the anterior vaginal wall. Bimanual examination revealed a normal sized uterus which was axial. Both adnexae was free and non-tender. The vagina was of good capacity and there was minimum fibrosis at the site of the fistula.

DIAGNOSIS AND MANAGEMENT

A diagnosis of residual vesico-vaginal fistula (V.V.F.) was made. She was admitted for work-up before pre-operative E.U.A. and subsequent repair.

RESULTS OF INVESTIGATIONS

Haemoglobin : 14.7 gm/dl.
Haematocrit : 42.8%
Urea : 15 mg%
Sodium : 144 mmol/l.
Potassium : 4.6 mmol/l.
M.S.S.U. : No growth obtained on culture.
Pap Smear : Class I.

PRE-OPERATIVE E.U.A.

This was done on 21.5.1982. She was prepared and premedicated as described in the introduction. Anaesthesia was induced with thiopentone sodium and maintained with oxygen and nitrous oxide.

The patient was placed in lithotomy position. The vulva and vagina were cleaned with 1% hibitane solution and the area draped. Examination showed a high V.V.F. at the vault. The V.V.F. was about 1 cm. in diameter and there was a lot of free tissue around with minimum fibrosis. The vagina was about 2½ cm. long and was of good capacity.

Methylene blue dye was instilled through the urethral catheter and it was visualized leaking through the fistula. No other fistulae were seen. A decision was taken to repair the fistula vaginally in lithotomy position.

REPAIR OF THE V.V.F.

The repair was done on 10.6.1982. Two units of compatible group "A" (Rh) D positive blood were obtained. In theatre anaesthesia was induced and maintained as described in the introduction.

The patient was placed in lithotomy position. The vulva and vagina were cleaned with 1% hibitane solution and the area draped. The labia were retracted and fixed wide open with stitches to the thighs. The bladder was catheterised with a Nelaton's catheter which was left in place.

Inspection confirmed the findings at E.U.A. Saucerization was done by paring and excising the avascular margins of the fistula obliquely, stopping short of the bladder mucosa. The area was kept dry intermittent suction and mopping with a swab soaked in 1:1000 adrenaline. Good dissection was achieved. The fistula was now repaired in three layers: The bladder wall using two layers of interrupted No.2 "0" extra-chromic catgut, the vaginal skin using interrupted No.2 "0" chromic catgut. Haemostasis was achieved.

Methylene blue dye was instilled into the bladder and inspection of the repaired areas showed no leakage. The Nelaton's catheter was now stitched in place with a silk stitch to the labia majora.

POST-OPERATIVE CARE

Recovery from anaesthesia was uneventful. Intravenous fluids comprising normal saline and 5% dextrose were given alternately - 500 mls 4-hourly for the first 24 hours. Thereafter she was asked to take plenty of oral fluids. Analgesia was provided with 100 mg. of intramuscular pethidine 6-hourly for the first 24 hours. The catheter was connected to a urine bag which was emptied 4-hourly to ensure adequate urine output and that the catheter was not blocked. Continuous bladder drainage was maintained for 14 days. She was given septin (2 tablets twice daily) for 14 days.

The patient was reviewed daily. She was continent of urine and the catheter was not blocked at any time. Her recovery was uneventful. Post-operative haemoglobin was 12.5 gm/dl. and catheter specimen of urine on three occasions did not grow any bacteria on culture.

POST-OPERATIVE E.U.A.

This was done on 1.7.1982, the 22nd day after repair. The E.U.A. revealed an intact repair site with no leakage of methylene blue instilled in the bladder. This was, therefore, considered a successful fistula repair.

She was discharged on 2.7.1982 with strong advice to avoid sexual intercourse for at least 3 months. She was given an appointment to be reviewed in the gynaecology clinic in 3 months.

FOLLOW-UP

She was seen in the clinic on 28.9.1982. She had no leakage and her general condition was good. She was discharged from the clinic and told that her next delivery must be by elective caesarean section.

COMMENT

Acquired vesico-vaginal and allied fistulae are still a common occurrence in gynaecological practice in developing countries (1,2,3). The true incidence is difficult to assess, but Gunaratne and Mati (3) reviewed 245 cases dealt with in five years in Kenyatta National Hospital. Unrelieved obstructed labour is the usual cause of V.V.F. in developing countries (1,2,3). This has been shown to occur commonly in young women of low parity who have received no or minimum antenatal and intrapartum care. Other causes of genital fistulae in developing countries include direct trauma during operative vaginal deliveries, rupture of the uterus, caesarean section, abdominal or vaginal hysterectomy, Manchester repair or colporrhaphy, radiation and infections - for example lymphogranuloma venereum (1). In contrast, fistulae in developed countries result from pelvic surgery or following irradiation (4).

During labour, the bladder is displaced upwards in the abdomen; the bladder base and the urethra being compressed by the presenting part and the posterior surface of the symphysis pubis. Unrelieved obstructed labour causes the soft tissues to be devitalised by ischaemia. These tissues then slough off to create the fistula (1). This patient had obstructed labour and delivery was achieved by a difficult vacuum extraction. The baby who was delivered weighed 6 Kg. (a big size by any standards!) and was a fresh still birth - the usual outcome (2,3). That this patient developed a large circumferential fistula could be related to the fact that she had a difficult vacuum extraction in the presence of already devitalized tissues.

VVF is preventable, but only if the maternity services are improved as a short term measure and childhood malnutrition eliminated as a long term measure (5). For cases which arrive in hospital already in obstructed labour, this should be relieved immediately by the most appropriate method for the particular case.

Continuous bladder drainage is then recommended for a period of upto ten days (1). This, coupled with antibiotics, has been shown to effect closure of some fistulae and to reduce the size of others (1). These prophylactic measures were not accorded to this patient.

If the patient is still incontinent of urine despite these measures she then needs surgical repair of the fistula. An interim period of at least three months is advocated to improve the nutritional status of the patient, treat any intercurrent illnesses, and to allow for complete revitalization of the tissues (1,2). Planning for the repair then follows. In our unit preliminary E.U.A., as was done in this patient, is performed to ascertain size, site and number of fistula(e), laxity of surrounding tissues, presence of fibrosis and fixity to nearby structures, and the best position for repair.

The patient presented had a small residual fistula at the vault of the vagina. The surrounding tissues were lax and there was minimum fibrosis. The lithotomy position was chosen as the best position for repair. The principles of repair are adequate exposure of the fistula, wide excision of the avascular margins of the fistula and accurate closure without tension. Because of previous surgery in the area in this case, saucerization was chosen as the best technique for repair.

Successful VVF repair does not depend only on the size and type of the VVF or on the experience of the surgeon, but more so on meticulous post-operative care (1,2,3,). As was demonstrated in this case, these patients need adequate hydration, continuous bladder drainage for 14 days, prophylactic antibiotics, and daily review by the doctors. After this, if there is no leakage of urine then the patient should abstain from sexual intercourse for at least 3 months and her next delivery must be by elective caesarean section.

REFERENCES

1. Lawson, J.B.
Injuries of the Urinary Tract.
In: Obstetrics and Gynaecology in the Tropics and
Developing Countries. Edited by : J.B. Lawson and
D.B. Stewart 1974 Edition, page 481.
ELBS and Edward Arnold (Publishers) Ltd.
2. Grech, E.S.
Urinary - Vaginal Fistulae in Developing Countries.
Thesis for Master of Surgery, Makerere University, 1972.
3. Gunaratne, M. and Mati, J.K.G.
Acquired Fistulae of the Female Lower Genital Tract.
A Comprehensive Five-year Review. J. Obstet.
Gynaecol. East Central Afr. 1 : 11, 1982.
4. Chassar Moir, C.
The Vesico-Vaginal Fistula. 2nd Edition.
Balliere, Tindal and Cassell. London. 1967.
5. Gebbie, D.A.M.
Vesico-Vaginal Fistula. In : Health and Diseases
in Kenya. Editors : Vogel, L.C. et al.
Page 497. East African Literature Bureau. 1974.

CASE NO. 8

* * * *

MULTIPLE UTERINE FIBROIDS:

TOTAL ABDOMINAL HYSTERECTOMY

MULTIPLE UTERINE FIBROIDS :
TOTAL ABDOMINAL HYSTERECTOMY

<u>NAME</u> : G.W.W. (Miss.)	<u>PARITY</u> : 0 + 0
<u>UNIT NO.</u> : 452707	<u>L.M.P.</u> : 30.3.1982
<u>AGE</u> : 35 Years	<u>ADMISSION</u> : 13.9.1982
<u>TRIBE</u> : Kikuyu	<u>OPERATION</u> : 29.9.1982

PRESENTING HISTORY

Miss. G.W.W. was referred from the gynaecology clinic to the non-emergency gynaecological ward on 13.9.1982 for myomectomy or failing which, for total abdominal hysterectomy. She gave a two-year history of progressive abdominal swelling, menorrhagia and primary infertility.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 15 years. Her menstrual periods were regular but very heavy. The menstrual cycle was 30 days and the duration 7-8 days. She was nulliparous and had never used any contraceptives. She gave no history of sexually transmitted diseases.

She had been followed up in the gynaecology clinic since December 1981, because of the above-mentioned symptoms. While in the clinic the following investigations were done:-

RESULTS OF THE INVESTIGATIONS

Pap Smear : Class I.

Hysterosalpingogram : Uterine cavity is dilated near the internal os and a filling defect is also seen consistent with a fibroid. Both uterine tubes are not demonstrated.

PAST MEDICAL AND SURGICAL HISTORY

This was not relevant.

SOCIAL AND FAMILY HISTORY

She was single and worked as Prison's Warden at Langata Women's Prison.

PHYSICAL EXAMINATION

She was in a satisfactory general condition. She had no pallor, jaundice, cyanosis or peripheral oedema. Her vital signs were within normal limits. Her cardiovascular, respiratory and central nervous systems were all essentially normal.

ABDOMINAL EXAMINATION

The abdomen was enlarged with multiple, firm, non-tender masses arising from the pelvis which were equivalent to 20 weeks gestation. There was no ascities, and liver and spleen were not palpable.

PELVIC EXAMINATION

The vulva and vagina were normal. The cervix was nulliparous, firm and closed. The uterus was enlarged to 20 weeks size and was firm, irregular and mobile. The pouch of Douglas and both adnexae were free and not tender.

DIAGNOSIS AND MANAGEMENT

A diagnosis of multiple uterine fibroids was made. Myomectomy was decided upon as the treatment of choice because she was anxious to have children. If this could not, technically or otherwise, be done then total abdominal hysterectomy would be performed. The patient was informed of the decision and she gave her consent.

PRE-OPERATIVE RESULTS OF INVESTIGATIONS

Haemoglobin	: 11.5 gm/dl.
Haematocrit	: 35.8%
M.S.S.U.	: No bacterial growth on culture.
Urea	: 15 mg/dl.
Sodium	: 145 Mmol/l.
Potassium	: 4.4 Mmol/l.

TOTAL ABDOMINAL HYSTERECTOMY

Because of shortage of blood the operation was delayed until on 29.9.1982. On this day two units of compatible blood were obtained for her. She was prepared and premedicated as described in the introduction.

In theatre, general anaesthesia was induced and maintained as described in the introduction. She was catheterised aseptically and the catheter left in-situ. Examination under anaesthesia confirmed the earlier findings. The vagina was now thoroughly swabbed with hibitane solution then painted with Bonney's blue solution.

Abdominal toilet was then done and after draping the abdomen was opened in layers through a midline sub-umbilical incision. The pelvis was found to have flimsy adhesions. The uterus had numerous fibroids. Both tubes were thickened and blocked terminally but the ovaries appeared healthy and normal.

Because of these pelvic findings it was considered futile to attempt myomectomy then tuboplasty. A decision was taken to proceed straight away with hysterectomy. Using two tagged abdominal packs the intestines were pushed well away from the operating area. The uterus was then delivered through the abdominal incision. The right round ligament was now doubly clamped and divided. The distal stamp was ligated with No.1 chromic catgut. This procedure was repeated on the left side. This opened the two leaves of the broad ligament. The anterior leaf was incised and the bladder bluntly separated from the uterus and pushed down.

The tube and the ovarian ligament of both sides were doubly clamped, divided and transfixed with No.2 chromic catgut. The posterior leaf of the broad ligament was then incised and dissected bluntly downwards with a swab on a finger. The uterine vessels of both sides were now doubly clamped using angled Kochers and straight clamps and then excised with a scalpel. The vessels were then doubly transfixed with No.2 chromic catgut. The cardinal ligaments on either sides were then clamped, divided and ligated.

Amputation across the vaginal vault, as close to the cervix as possible, was now done. The four quadrants of the vaginal vault were held with straight clamps. The vault was then closed with figure - of - eight sutures. Haemostasis was achieved. The pelvic peritoneum was closed over the vaginal vault with continuous No.0 chromic catgut, carefully burying the round and cardinal ligaments and suspending the vault.

Inspection of the abdominal viscera revealed no abnormalities. The abdomen was closed in layers as described in the introduction. Total blood loss was about 500 mls. She was transfused with 2 units of whole blood.

Before being sent for histopathology the uterus and some of the larger fibroids were opened. The uterine cavity had a few submucous fibroids but looked, otherwise, healthy and normal. The fibroids were firm, had the whorl-like arrangements of the muscle, and were pinkish-white and glistening in colour.

POST-OPERATIVE CARE

The patient's vital signs were observed half-hourly until she was fully awake. She made uneventful recovery from anaesthesia. After blood transfusion she was kept on intravenous fluids until bowel movements were established. She was given 100 mg. of intramuscular pethidine six-hourly for 48 hours.

She made satisfactory and smooth recovery. Post-operative haemoglobin concentration was 14.2 gm/dl. Alternate and all abdominal stitches were removed on the sixth and seventh post-operative days respectively. She was then discharged to be reviewed in the clinic after six weeks.

HISTOLOGY REPORT

The fibroids show typical features of leiomyomata. The endometrium is proliferative type and the endocervix exhibits non-specific inflammation.

GYNAECOLOGIC REVIEW

She attended the gynaecology clinic after six weeks. She was well and had no complaints. Her abdomen was soft and the scar had healed well. The vaginal vault was intact.

She was explained about the operation and advised to adopt children if she so desired. She was then discharged from the clinic.

COMMENT

Uterine fibroids are the commonest tumours of the uterus in particular and female pelvis in general (1,2,3). Wanjala (4) showed that two-thirds of all the hysterectomies done at Kenyatta National Hospital were due to fibroids. Fibroids are benign tumours of smooth muscles with a variable amount of fibrous tissue, and are therefore more accurately described as fibroleiomyoma (1,2).

The true incidence of uterine fibroids is by and large unknown because many are symptomless and remain undiagnosed. Novak, Jones and Jones Jr. (1) estimated that about 20% of women over the age of 35 years have fibroids, while at postmortem examination an incidence of 50% is frequently quoted (3).

Fibroids are more common in the later half of the reproductive life, in black women where they tend to occur earlier, and in nulliparous or relatively infertile women (1,2,3). Their growth is said to be oestrogen dependant, although this view is contested by others (2).

In our environment, as was exemplified by this patient, there is a strong association between fibroids, infertility and pelvic inflammatory disease (4). The exact mechanism of this association is largely unknown and remains in the realms of the riddle of "the hen and the egg".

The symptoms of uterine fibroids depend on their number, size, location and presence or absence of complications. The common symptoms include abdominal swelling, menorrhagia and/or other menstrual upsets, infertility, pressure symptoms, vaginal discharge, and pain (1,2). This patient had abdominal swelling, infertility and menorrhagia.

Uterine fibroids have a number of complications, none of which occurred in this patient. These are :

- (i) various types of degeneration; hyaline, cystic, red, fatty, calcaneous and malignant. Red degeneration occurs commonly in pregnancy, and malignant or sarcomatous degeneration is a rarity - occurring in about 0.3-0.5% of the cases (1,2,3).

- (ii) Infection and necrosis.
- (iii) Impaction; which may cause urinary retention.
- (iv) Intra-peritoneal haemorrhage following a rupture of a vein on the tumour surface.
- (v) Torsion of a pedunculated fibroid.
- (vi) During pregnancy fibroids may cause abortion or premature labour, undergo red degeneration, cause obstruction of labour or postpartum haemorrhage due to uterine atony.

Small symptomless fibroids need no treatment apart from close and expectant follow-up. Large fibroids and those with symptoms need treatment. In practical terms the choice lies between hysterectomy and myomectomy. Myomectomy is reserved for young patients who desire children and where other causes of infertility have been carefully ruled out. At laparotomy this patient was found to have thickened and blocked tubes and it was considered far-fetched desperation to attempt myomectomy and tuboplasty although she desired to have children. Both ovaries appeared healthy and were preserved.

REFERENCES

1. Novak, E.R., Jones, G.S. and Jones Jr., H.W.
Myoma of the Uterus. In : Novak's Textbook of
Gynaecology. Ninth Edition, Page 361.
The Williams and Wilkins Company. 1975.
2. Jeffcoate, Sir Norman
Myoma; Fibromyoma. In : Principles of Gynaecology.
Fourth Edition, Page 413.
Butterworths. London and Boston. 1975.
3. Mattingly, R.F.
Myomata Uteri. In : Te Linde's Operative Gynaecology.
Fifth Edition, Page 187.
J.B. Lippincott Company. 1977.
4. Wanjala, S.M.H.
M.Med. Thesis, University of Nairobi, 1980.



CASE NO. 9.

* * * * *

PRIMARY INFERTILITY : INVESTIGATIONS AND

TUBAL SURGERY.



PRIMARY INFERTILITY : INVESTIGATIONS AND
TUBAL SURGERY

<u>NAME</u>	: H.N.N. (Mrs.)	<u>PARITY</u>	: 0+0
<u>UNIT NO.</u>	: 577855	<u>L.M.P.</u>	: 11.12.1984
<u>AGE</u>	: 30 years	<u>ADMISSION</u>	: 6.1.1985
<u>TRIBE</u>	: Kikuyu	<u>SURGERY</u>	: 4.2.1985

PRESENTING HISTORY:

This patient was admitted to the non-acute gynaecological ward on 6.1.1985. She was referred from the gynaecology clinic for tubal surgery because of primary infertility caused by tubal factors.

PAST MEDICAL AND SURGICAL HISTORY:

She did not give any relevant past medical and surgical history.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

Her menarche occurred at 13 years. She had regular menstrual periods; the cycle was 28-30 days, the duration 5-6 days and the flow moderate.

She had been followed up in the gynaecology clinic since 13.10.1983 because of inability to conceive since she married in 1981. The couple lived together and their sex-life was reported to be normal.

Physical examination on that first day in the clinic revealed normal systemic findings. Several investigations were then ordered and the results are shown below:

Haemoglobin	:	13.2gm/dl.
Haematocrit	:	39.7%
Pap Smear	:	Class I
Hysterosalpingogram	:	Uterine cavity is normal. Both tubes outlined and show terminal loculations possibly due to adhesions.
Semenalysis	:	Volume - 1.5 mls. Count - 79 million/mm ³ . Appearance - Majority are normal.

Fertility - 80% actively mil

- Laparascopy : Fimbrial occlusion noted bilaterally with no hydrosalpinx. Dye flowed easily under pressure. Flimsy peritubular adhesions present. Uterus and both ovaries clinically normal with a corpus luteum noted on the left ovary. Tubal surgery recommended.
- Endometrial Histology : Moderate pale curettings show secretory phase endometrium.
- TB Culture : Mycobacterium tuberculosis not isolated.

After obtaining all these results the patient was referred to the gynaecology ward for tubal surgery.

PHYSICAL EXAMINATION

Her general condition was good. She was afebrile and was not clinically anaemic. The vital signs were within normal limits.

RESPIRATORY AND CARDIOVASCULAR SYSTEMS:

Both were essentially normal.

ABDOMINAL EXAMINATION:

The abdomen was soft and non-tender. There were no abnormal masses. The liver and spleen were not palpable.

VAGINAL EXAMINATION:

The vulva and vagina were normal. The cervix was nulliparous and closed. The uterus was normal size, anteverted with moderate mobility. Both adnexae were free and not tender.

DIAGNOSIS AND MANAGEMENT

A diagnosis of primary infertility due to tubal factors was made.

Blood samples were taken for haemogram and urea and electrolytes, and a mid-stream specimen of urine (M.S.S.U) was taken for culture and sensitivity.

RESULTS OF THE INVESTIGATIONS:

Haemoglobin : 15.7gm/dl
 Sodium : 135 mmol/l
 Potassium : 4.3 mmol/l
 B.U.N. : 3.6 mmol/l
 M.S.S.U. : No growth on culture.

Because of various constraints the operation was not done until 4.2.1985. With two units of compatible blood ready for her, she was prepared and premedicated as outlined in the introduction.

LAPARATOMY : SALPINGOSTOMY AND SALPINGOLYSIS:

In theatre general anaesthesia was induced and maintained as outlined in the introduction. She was then catheterised aseptically and the catheter left in place. Examination under anaesthesia confirmed the findings stated above.

Abdominal toilet was now done and the area draped with sterile towels. Through a Pfannenstiel incision the abdomen was opened in layers. The uterus was normal size. Both tubes were found to be blocked terminally and the left tube had a terminal hydrosalpinx. There were flimsy peritubular adhesions mainly anteriorly. Both ovaries were, however, normal.

The peritubular adhesions were gently lysed with scissors until both tubes were freed from the surrounding structures. The fimbrial end of the right tube was now opened, the edges everted and the mucosa stitched to the peritoneum with interrupted No. 6"0" nylon sutures. This procedure, termed cuff salpingostomy, was repeated on the right tube. Any bleeding points were carefully understitched with figures-of-eight sutures until haemostasis was achieved.

Passing a probe revealed that both tubes were now patent. This was confirmed by hydrotubation.

Peritoneal wash-out was now done using warm normal saline. The abdomen was then closed in layers as described in the introduction. Total blood loss was estimated to be about 400mls.

POST-OPERATIVE CARE:

The patient's vital signs were observed half-hourly until she was fully awake from anaesthesia, then they were charted 4-hourly. She was maintained on intravenous fluids for 24 hours, and was started on intramuscular ampiclox which was changed to oral ampiclox once she started taking oral fluids. She was given pethidine for analgesia for the first 48 post-operative hours.

Her post-operative recovery was uneventful. She remained afebrile throughout. Her post-operative haemoglobin concentration was 13.4gm/dl with a haematocrit of 38.9%. The sub-cuticular skin suture was removed on the 7th post-operative day. The wound was clean and had healed by primary intention. She was then discharged to be followed up in the gynaecology clinic after 6 weeks.

FOLLOW UP:

She was reviewed in the clinic on 18.3.1985. She was well and had no complaints. She had menstruated normally on 8.3.1985. The abdominal wound was well healed. She was advised about having sex during the fertile days of her cycle and will be reviewed again after 6 months.

COMMENT:

It is ironical in a country with one of the highest birth rates in the world like Kenya that infertility would pose such a major gynaecological problem. But this is the case; for example it has been estimated that about two-thirds of the gynaecology clinic time in Kenyatta National Hospital (KNH) is spent on seeing cases of infertility (1).

Causes of infertility are many, but these can be broadly classified into: Male factors, cervical factors, tubal factors, defects of ovulation, and defects in implantation (2). In developing countries, the commonest cause of infertility is tubal blockage caused by pelvic inflammatory disease (1,3,4). The three leading causes of Pelvic inflammatory disease (PID) are gonorrhoea, post-abortal sepsis and puerperal sepsis (4). Mati and associates in 1973 (1) showed that 73.1% of women with primary infertility had tubal occlusion. In 1981 the situation was no better (3).

As was stressed by Mathews et al (3) routine infertility investigations should involve both partners. The minimal investigation in the male, after history and physical examination, should be examination of a semen specimen. In this case semen analysis was considered normal.

In the female, investigations should include tests to assess patency of the tubes and tests for ovulation. In our unit hysterosalpingography and/or laparoscopy are used to demonstrate the patency of the tubes, and premenstrual endometrial curettage is used to document ovulation. In this patient, ovulation was presumed from the regularity of her periods and confirmed by seeing a corpus luteum at laparoscopy and finding secretory endometrium on histology of the endometrium. Hysterosalpingogram (HSG) demonstrated tubal pathology which was confirmed at laparoscopy - the much more accurate investigation (5).

Mati and associates (1) suggested the following criteria for selection of cases that might benefit from tubal surgery:

1. Minimal involvement of tubes with no masses.
2. Few peritubular adhesions showing kinking of tubes.

This patient satisfied the above criteria and tubal surgery was recommended for her. This was carried out with restoration of the patency of the tubes. Success at tubal surgery is reported to be 25-30% (2). With badly damaged tubes, however, the success is very poor (1, 3, 4). The only hope in these cases is in-vitro fertilization.

The management of an infertile couple presents a challenging problem always, a disappointing one often and a rewarding one sometimes. Prevention of PID offers the only long term solution in this country (3). This should be directed towards prevention and adequate treatment of sexually transmitted diseases, improvements of obstetric care and prevention of abortions especially septic abortions.

REFERENCES:

1. Mati, J. K. G., Anderson, G.E., Carty, M. J. et al.
A second Look into the Problem of Primary Infertility in Kenya.
E. Afr. Med. J. 50 : 94, 1973.
2. Dewhurst, Sir John
Infertility. In : Intergrated Obstetrics and Gynaecology for Postgraduate
3rd Edition, Page 550.
Edited by Sir John Dewhurst.
Blackwell Scientific Publications. 1981.
3. Mathews, T., Mati, J. K. G. and Fomulu, J. N.
A study of Infertility in Kenya : Results of Investigation of the
Infertile Couple in Nairobi.
E. Afr. Med. J. 58 : 288, 1981.
4. Chatfeild, W. R., Suter, P. E. N., Bremner, A. D., et al.
The Investigation and Management of Infertility in East Africa. A
Prospective Study of 200 cases.
E. Afr. Med. J. 47 : 212, 1970.
5. El-Minawi, M. F., Abdel-Had, M., Ibrahim, A. A., et al
Comparative Evaluation of Laparoscopy and Hysterosalpingography in
Infertile Patients.
Obstet. Gynecol. 51 : 29, 1978.

CASE NO. 10

* * * *

GRANDMULTIPARITY : LAPAROSCOPIC FALOPE

RING TUBAL LIGATION

GRANDMULTIPARITY : LAPAROSCOPIC FALOPERING TUBAL LIGATION

<u>NAME</u>	: R.G.K. (MRS.)	<u>PARITY</u>	: 6+0
<u>UNIT NO.:</u>	479338	<u>L.M.P.</u>	: 29.6.1982
<u>AGE</u>	: 36 Years	<u>ADMISSION</u>	: 22.7.1982
<u>TRIBE</u>	: Kikuyu	<u>DISCHARGE</u>	: 22.7.1982

PRESENTING HISTORY:

The patient was admitted to the Laparoscopic ward on 22.7.1982 for tubal ligation because the couple did not desire to have more children.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

Menarche occurred at 16 years. She had regular menstrual periods coming every 25 days and lasting for 4 days.

She was Para 6+0. All her deliveries of 5 girls and 1 boy were full-term spontaneous vaginal deliveries and the children were alive and well. Her last delivery was on 22.2.1982. She used an intrauterine contraceptive device shortly after this delivery until the time she had tubal ligation.

She was reviewed in the T.L. (Tubal Ligation) clinic on 25.6.1982 where the couple requested for permanent sterilization. Adequate explanation was given about the operation and the fact that it was irreversible/ and the couple signed an informed consent. Blood for haemogram estimation was taken and a cervical smear for cervical cytology obtained.

RESULTS OF THE INVESTIGATIONS:

Haemoglobin	: 12.8gm/dl
Haematocrit	: 36.8%
Pap smear	: Class I

SOCIAL AND FAMILY HISTORY:

She was a married housewife. The couple with their children lived in Rironi. There was no family history of chronic medical diseases.

PHYSICAL EXAMINATION

Her general condition was satisfactory. She was afebrile and was not clinically anaemic. Her vital signs, respiratory and cardiovascular systems were essentially normal. Her abdomen was soft and not tender. Liver and spleen were not palpable.

Vaginal examination revealed normal vulva and vagina. The Cervix was firm, parous and the internal os was closed. The uterus was normal size, antverted and freely mobile. Both adnexae were clear and not tender.

DIAGNOSIS AND MANAGEMENT

A diagnosis of Grandmultiparity was made. She was admitted and prepared for abdominal operation under general anaesthesia as described in the introduction.

In theatre general anaesthesia was induced and maintained as described in the introduction. The patient was now placed in Trendelenburg tilt and her legs supported on padded supports. Simultaneous vulvo-vaginal and abdominal cleaning was done. Draping was then done. The bladder was emptied using a metal catheter. Pelvic examination confirmed the earlier findings. The intra-uterine contraceptive device was removed and a uterine elevator inserted through the cervical os.

A stab incision was made just below the umbilicus. This was deepened to below the rectus sheath. A verres needle, already tested for patency, was now inserted through the stab incision by lifting up the abdominal skin between the thumb and the forefinger. The direction of insertion was oblique *to the abdominal wall* The needle was connected to a carbon dioxide supply source and the gas introduced until a pneumoperitoneum of 2½ litres was achieved. After this the verres needle was removed. The incision was enlarged slightly

and a trocar and cannula introduced into the peritoneal cavity at an angle of 45° . To facilitate insertion the abdominal wall was held on either side by the surgeon and his assistant. The trocar was now removed and a Laproscator Laparoscope already loaded with one falope ring introduced through the cannula. A cold light source was connected to the laparoscope and a good view of the pelvis was obtained. The uterus, fallopian tubes and ovaries all appeared clinically normal. There were no pelvic adhesions and both tubes could be visualized upto the fimbrial ends.

By manipulating the uterus using the uterine elevator the right tube was brought into good view. This tube was grasped with the tongs of the laparoscope about 3cm. from the cornu. A knuckle of the tube was pulled into the laparoscope tube and the falope ring slipped over it. On releasing the tongs the loop of the tube blanched white as the blood supply was cut off. The laparoscope was now removed and a second falope ring installed. The same was repeated on the left tube.

After occluding both tubes, the abdominal and pelvic organs were inspected and found to be free of any injuries. The laparoscope was now removed. The pnemoperitoneum was released. The trocar was reinserted and then withdrawn with the cannula. The abdominal incision was then closed with two Michelle clips.

POST-OPERATIVE CARE:

General anaesthesia was reversed and the patient wheeled down to the recovery ward for routine post-operative observations. Her vital signs remained stable and 5 hours later she was discharged home accompanied by her sister. She was asked to attend the T.L. clinic after 7 days for removal of the clips.

She had no complaints and the clips were removed on the 7th post-operative day. She was reviewed again after 3 months, on 9.9.1982. She had no complaints. Her periods were regular as before with no dysmonorrhoea. Her L.M.P. was on 10.8.1982. Pelvic examination revealed normal pelvic organs.

She was very happy about the sterilization and was hence discharged from the clinic.

COMMENT:

Voluntary sterilization is a surgical operation for permanent contraception. In women, the sterilization operation involving ligating and/or cutting both fallopian tubes (1). Tubal ligation, which has emerged as one of the most popular methods of contraception, can be performed immediately after delivery, after an abortion or at any point between pregnancies (interval tubal ligation). At present there are a vast array of techniques for tubal ligation. The approach may be abdominally (through a laparotomy or more commonly a minilaparotomy or laparoscopy), vaginally (colpotomy or culdoscopy) or transcervically utilizing hysteroscopy (2). Occlusion of the tubes may be accomplished by ligation and division - the Pomeroy and Parkland procedures; ligation, division and burying the medical stump - the Irving procedure; Kroener fimbriectomy technique; electrocauterization of a segment of the tube; and mechanical occlusion using clips, bands or rings (1,2).

From all these methods, minilaparotomy and laparoscopy have had the widest appeal worldwide. Aubert et al (3) reviewed a large number of sterilizations done worldwide and showed that 38% were by interval minilaparotomy, 35% were by laparoscopy, and 18% were by postpartum minilaparotomy. The major advantages of these two approaches are (1,4):

1. The procedures can be done on an outpatient basis and hospitalization is seldom necessary. This is very important in areas like ours where hospital beds are in high demand.
2. Both procedures can be done under local anaesthesia thus minimizing the risks inherent in general anaesthesia.
3. The procedures are short and complications are few. In the past electrocautery was used but this has since been abandoned in most centres because of the dangers of burns to the viscus.

Tubal ligation in general should be considered permanent and irreversible. It is, therefore, the best form of contraception for couples who do not desire more children or for couples who, for medical reasons, should not have more

children. In the case presented, the couple considered their family complete and did not want any more children. Tubal ligation has several advantages that add to its popularity (1):

1. It is more effective than any other method of contraception. Failure rates are quoted as less than 1 per 100 woman years.
2. The operation is easy to perform and carries only a one-time-risk of complication, as opposed to the ongoing risks of other methods of contraception.
3. It is relatively safe with low mortality rate - in fact much lower than that of pregnancy.

The important complications which are associated with tubal ligation are: anaesthetic complications, burns of viscus, pulmonary embolism, haemorrhage, and predisposition to ectopic gestations. None of these complications occurred in this patient.

Sterilization must be considered permanent and irreversible. In our unit, the couple desiring a permanent method of contraception, which invariably means tubal ligation, are counselled thorough by the medical personnel, specifically regarding the irreversibility of the procedure, then both husband and wife sign a consent. If unforeseen circumstances develop then reversal of the tubal ligation can be attempted. Even under the best of hands using microsurgical techniques success rate at reversal is no more than 50-70%; This is not to mention that these reversal operations require specialized training and expensive equipment, and developing countries can ill-afford them (1). Therefore, there is no substitute for thorough, clear and complete counselling of the couple before the procedure is contemplated.

REFERENCES:

1. Centres for Disease Control
Sterilization. In : Family Planning Methods and Practice: Page 253. 1983.
2. Pritchard, J. A., Macdonald, P.C., and Gant, N. F.
Tubal Sterilization. In : Williams Obstetrics. 17th Edition, Page 827.
Appleton - Century - Crofts/Norwalk, Connecticut. 1985.
3. Aubert, J. M., Lubell, I., and Schima, M.
Mortality Risk Associated with Female Sterilization.
Int. J. Gynecol. Obstet. 18 : 406, 1980.
4. Ngoka, W. M.
Laparoscopic sterilization at Kenyatta National Hospital, Nairobi.
J. Obstet. Gynecol. East. Cent. Afr. 1 : 25, 1982.

CASE NO. 11

* * * *

GENITAL PROLAPSE : MANCHESTER REPAIR OPERATION

GENITAL PROLAPSE : MANCHESTER REPAIR OPERATION

<u>NAME</u>	: A.Y.M. (Mrs.)	<u>L.M.P.</u>	: 20.1.1983
<u>UNIT NO.</u>	: 481375	<u>ADMISSION</u>	: 25.1.1983
<u>AGE</u>	: 32 Years	<u>OPERATION</u>	: 10.2.1983
<u>TRIBE</u>	: Mkamba	<u>DISCHARGE</u>	: 18.2.1983
<u>PARITY</u>	: 3 + 0		

PRESENTING HISTORY

The patient was admitted to the non-emergency gynaecological ward on 25.1.1983 with a three-year history of a mass coming down and out of the vagina. She also complained of dragging lower abdominal pains and low back pains.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at 16 years. Her menstrual periods were regular. The cycle was 30 days, the duration 3-4 days and the flow was moderate.

She was para 3 + 0. All these deliveries, in 1971, 1975 and 1979, were full-term vaginal deliveries. The children, two girls and one boy, were alive and well. She had never used any contraceptives.

PAST MEDICAL AND SURGICAL HISTORY

She had a laparotomy in December, 1981 because of intestinal obstruction. She did not give any history of chronic chest or other medical diseases.

SOCIAL AND FAMILY HISTORY

She was a married housewife with no formal education. Her husband was a peasant farmer and the couple lived in Machakos.

PHYSICAL EXAMINATION

She was a middle-aged slim lady who had no pallor, jaundice, cyanosis or peripheral oedema. Her blood pressure was 110/60 mmHg., pulse rate was 80 per minute regular, and temperature was 36.2°C.

Her cardiovascular, respiratory and central nervous systems were essentially normal. The abdomen had a left paramedial scar, it was soft and not tender. The liver and spleen were not palpable.

VAGINAL EXAMINATION

The vulva was normal. There was uterine prolapse with the cervix and *part of the corpus uteri hanging out of the introitus. The cervix appeared healthy with no evidence of infection.* On straining a cystocoele and a rectocoele were demonstrable.

DIAGNOSIS AND MANAGEMENT

A diagnosis of **third** degree uterine prolapse with a cystocoele and a rectocoele was made. Several investigations were done pre-operatively.

RESULTS OF THE INVESTIGATIONS

Haemoglobin	:	14.1 gm/dl.
Haematocrit	:	41.1%
Blood Urea Nitrogen	:	4.2 Mmol/l
Sodium	:	136 Mmol/l
Potassium	:	4.0 Mmol/l
M.S.S.U.	:	No bacterial growth.
Pap Smear	:	Class II with non-specific inflammatory changes.

Manchester repair operation was decided upon as the treatment of choice. The patient was informed about the decision and she gave her consent. Two units of blood were obtained and she was prepared for the operation as described in the introduction.

MANCHESTER REPAIR OPERATION

The patient was premedicated with 0.6 mg. of atropine sulphate and 50 mg of pethidine intramuscularly half an hour before the operation. In theatre general anaesthesia was induced and maintained as described in the introduction.

She was placed in lithotomy position and vulvo-vaginal and perineal toilet done. The area was then draped with sterile towels and she was catheterised and the catheter left in-situ.

Examination under anaesthesia confirmed the earlier findings. Standard dilatation was done upto Hegar dilator No.'8'. Sharp curettage obtained normal - looking pale curettings which were sent for histopathology.

Four small Kocher's forceps were placed to the Fothergill's points: one immediately below the urethral meatus, one posterolateral to the cervix on both sides, and the fourth in the midline of the posterior fornix. Using a scalpel the four points were joined by an incision through the thickness of the vaginal skin. Starting from the urethral meatus the vaginal skin was reflected off the bladder from the urethra towards the cervix. This reflection was extended to the cervicovesical ligament which was divided. The bladder was now dislocated upwards until the uterovesical pouch was identified. The incised vaginal skin was mobilized upwards to expose the cardinal ligaments. These were clamped in angled Kocher's forceps and transected then transfixed with No.1 chromic catgut. Amputation of the cervix was now done at the level of the internal os. The Fothergill's suture was now inserted starting from the left lateral Fothergill's point through the vaginal skin, through the divided cardinal ligament and through the mid-point of the anterior lip of the amputated cervix, from without inwards into the canal. The needle was then passed in a reverse direction from within outwards and the process exactly repeated on the right side. This suture of No.2 chromic catgut anchored the lateral sides of the vagina and the stumps of the cardinal ligaments in front of the cervix. The amputated cervix was now covered with vaginal skin using mattress sutures of No.0 chromic catgut.

The anterior incised vaginal skin was excised. The pubocervicovesical fascia was tightened by a series of horizontally placed interrupted sutures of No.0 chromic catgut. The vaginal skin was then united with interrupted sutures of No.0 chromic catgut. This is anterior colporrhaphy.

The posterior vaginal wall was ~~now~~ bluntly separated from the rectum then a V-shaped redundant tissue excised. The vaginal skin was stitched using interrupted No.0 chromic catgut. The levator ani muscles were approximated by four stitches of interrupted No.1 chromic catgut firmly tied. The superficial perineal muscles were then sutured together to cover the united levators. Finally, the skin was restored with interrupted No.0 chromic catgut sutures. This is posterior colpoperineorrhaphy.

After the operation the vagina could accommodate two fingers. The catheter was left in place. Total blood loss was minimal.

POST-OPERATIVE CARE

Recovery from anesthesia was uneventful. She was put on intravenous fluids of normal saline alternating with 5% dextrose for 24 hours. She was started on septrin prophylactically and was instructed on perineal toilet using warm saline twice daily and after opening bowels. The urethral catheter was removed after 24 hours.

She had a smooth post-operative period. She remained afebrile throughout and had no problems in passing urine. Post-operative haemoglobin concentration was 13.4 gm/dl. and urine culture on two occasions grew no bacteria. She was discharged in good condition on 18.2.1983.

HISTOLOGY OF ENDOMETRIAL CURRETTING AND CERVICAL SPECIMEN

These are moderate pale currettings. Histology shows normal secretory endometrium.

The cervical specimen shown features of mild chronic cervicitis. No evidence of malignancy.

FOLLOW-UP

The patient was seen in the gynaecology clinic after two months. She was well and had no complaints. She had menstruated normally once since discharge from hospital. The vulva, vagina and cervix appeared healthy and normal. The uterus was anteverted and normal sized, and the adnexae were clear. She was, therefore discharged from the clinic.

COMMENT

Genital prolapse is rare in Africa when compared to Western countries (1,2). In Kenya, Cox and Webster (1) showed that genital prolapse was common among the Pokot and rare in Central Kenya. Mwalali (3) found an incidence of 0.1% for Kenyatta National Hospital (K.N.H.).

Genital prolapse is a consequence of failure of ligamentous supports of the uterus. The causes of this include congenital tissue abnormality, child-bearing, menopause with consequent atrophy of the ligamentous supports, and chronic elevation of intra-abdominal pressure (4). It was the considered opinion of Cox and Webster (1) that the high incidence of prolapse among the Pokot is related to their large pelves which allow the head to descend before full cervical dilatation. Premature bearing down and fundal pressure by local midwives would then accentuate the strain on the uterine supports. To support this view they showed that in areas with contracted pelves, where assisted deliveries are common, the prevalence of genital prolapse was low.

In western countries, genital prolapse is a disease of elderly highly parous patients (4). This is not so in Africa (1,2). The patient under discussion bears this out. She was 32 years old and was Para 3 + 0. All these deliveries were at home. The cause of genital prolapse in this case was not clear, possibly this was related to circumstances surrounding her previous deliveries.

The leading symptom in genital prolapse, as was in this patient, is something coming down (2,3,4). Other symptoms include low back pains, vaginal discharge (if there is ulceration of the cervix), and various urinary and rectal symptoms (4). On examination, Mwalali (3) found that 40.6% of the patients in KNH/ had third degree prolapse, while 26.6% had second degree prolapse. This patient ^{had} a third degree prolapse with a cystocoele and a rectocoele.

Once the diagnosis of genital prolapse is made and there are symptoms to warrant intervention then surgery is the mode of treatment. Currently the choice lies between vaginal hysterectomy and Manchester repair operation. Controversy still rages on as to which is superior to the other (4). Scott (4) was of the opinion that, everything being equal, whichever method is chosen is irrelevant because the important thing is the efficiency with which the vaginal vault is supported by shortening the cardinal and the uterosacral ligaments. Once this important point is realised then the individual surgeon's preference will tilt the balance towards one or the other of the operations.

Nevertheless, there are other considerations which should militate the surgeon to do either of the operations. These include whether there are other symptoms (e.g. irregular uterine bleeding due to dysfunctional uterine bleeding or presence of small fibroids), age and parity of the patient and whether the patient wants more children (4). Manchester repair operation is preferred to vaginal hysterectomy in our patients because menstruation is still so strongly associated with femininity (2). Absence of other symptoms, low age and parity, and desirability of more children are other considerations in favour of Manchester repair operation.

All the factors were considered carefully before finally deciding on Manchester repair in this case.

REFERENCES

1. Cox, P.C.V. and Webster, D.
Genital Prolapse Amongst the Pokot.
E.Afr. Med. J. 52 : 694, 1975.
2. Otubu, J.A. and Ezem, B.U.
Genital Prolapse in the Hausa/Fulani of Northern
Nigeria.
E.Afr. Med. J. 59 : 605, 1982.
3. Mwalali, P.N.
A Retrospective Study of Genital Prolapse at
Kenyatta National Hospital.
M.Med. Thesis, 1982.
4. Scott, J.S.
Prolapse and Stress Incontinence of Urine. In :
Intergrated Obstetrics and Gynaecology for Post-
graduates. Edited by Sir John Dewhurst.
Third Edition Page 631.
Blackwell Scientific Publications. 1981.

CASE NO. 12.

* * * * *

CHORIOCARCINOMA : CHEMOTHERAPEUTIC MANAGEMENT.

PAST MEDICAL AND SURGICAL HISTORY:

There was no relevant past medical and surgical history.

SOCIAL AND FAMILY HISTORY:

She was married and lived with her family in Muranga District. There was no family history of chronic medical diseases.

PHYSICAL EXAMINATION

This was an elderly lady who was in a poor general condition. She was wasted and had mild pallor. The vital signs were within normal limits. The abdominal and cardiovascular systems were essentially normal.

RESPIRATORY SYSTEM:

The trachea was central. The chest was symmetrical and moved with respiration. Both lung bases were dull to percussion and had reduced air entry on auscultation. There were, however, no crepitations or rhonchi.

VAGINAL EXAMINATION:

The vulva and vagina were clinically normal. The cervix was parous, firm and closed. The uterus was bulky. Both adnexae and the Pouch of Douglas were free and not tender. There was no active bleeding per vaginam.

DIAGNOSIS AND MANAGEMENT

An impression of choriocarcinoma with possible pulmonary metastases was made. Several investigations were done.

RESULTS OF THE INVESTIGATIONS:

- | | | |
|-------------------|---|--|
| 1. Haemoglobin | : | 10.1gm/dl |
| 2. Haematocrit | : | 33% |
| 3. WBC count | : | $7.1 \times 10^{12}/l$ |
| 4. Platelet count | : | Adequate |
| 5. Pregnancy Test | : | Positive. HCG levels > 256 I.U./Ml. but < 512 I.U./Ml. |
| 6. Chest X-ray | : | Bilateral rounded opacities with left lower lobe effusion |

7. Sodium	: 138 mmol/L
8. Potassium	: 4.4 mmol/L
9. BUN	: 3.6 mmol/L
10. Alkaline Phosphatase	: 25.0 K.A.
11. Albumin	: 22 gm/L
12. SGPT	: 24 K.S.

After getting all these results a definitive diagnosis of chorio-carcinoma with secondaries to the chest was made. The haematological parameters, liver and renal function tests were considered within acceptable levels for commencement of chemotherapy. Because of her age, initial HCG levels, and the time which had elapsed since the abortion, the patient was considered to be in a high-risk group.

She was transferred^d to the non-acute gynaecological ward and her first course of chemotherapy was started on 13.1.1984. This was composed of:

1. Methotrexate : 50mg in 500mls of 5% dextrose which ran over 24 hours.
2. Cyclophosphamide : 150mg intravenously given once daily for 5 days
3. 6-Mercaptopurine : 200mg - tablets given three times daily for 5 days.

After her first course of Triple therapy blood specimens were taken for full haemogram, renal and liver function tests. Urine was submitted for pregnancy test in dilution and a chest x-ray was done.

All results were normal except the following:

1. Haemoglobin : 7.7 gm/dl
2. WBC count : $5.8 \times 10^{12}/L$
3. Chest x-ray : Bilateral rounded opacities consistent with secondaries.
4. Pregnancy test : Positive. HCG levels > 64 I.U./ml. but < 128 I.U./ml

She was transfused with two units of blood and a second course of triple therapy was started on 4.12.1984. After this course the haematological parameters were within normal limits. HCG levels were reported to be >4 I.U./ml. but <8 I.U./ml. and the pulmonary metastases were reported to be resolving.

The third course of chemotherapy was started on 18.12.1984. After this course all the relevant investigations were done. The pregnancy test was negative and the chest x-ray was reported as normal. All the other investigations were normal. Her general condition had also improved drastically and she was putting on weight adequately.

As is the policy in our unit, the patient was given three more courses of chemotherapy after the first negative pregnancy test. These were given from 9.1.1985, 11.2.1985, and 27.2.1985. After each course she was investigated adequately before the next course. The pregnancy test persistently remained negative. After the last course of chemotherapy she was discharged.

Because of long distances, this patient will be followed up in Muranga District Hospital, which is her nearest hospital. This will involve fortnightly pregnancy tests for 3 months, monthly upto two years since completion of treatment. To avoid another pregnancy, she was started on, and was to continue using contraceptive pills during this period of follow-up.

COMMENT:

A case of choriocarcinoma following a spontaneous abortion at 10 weeks gestation in a 40-year old highly parous patient is presented. This extremely malignant form of trophoblastic neoplasia is a carcinoma of chorionic epithelium although in its growth and metastasis it often behaves as a sarcoma (1).

Morphologically an important diagnostic feature of choriocarcinoma, in contrast with hydatidiform mole and invasive mole, is absence of a villous pattern.

What is seen is a core of pleomorphic cytotrophoblast surrounded by a rim of syncytium with extensive areas of haemorrhage (2).

Choriocarcinoma can follow normal pregnancy, non-molar abortion, ectopic pregnancy, or hydatidiform mole (2). In the patient presented, this followed a non-molar abortion. Although in other areas the incidence of choriocarcinoma is said to be 1000 times more common after hydatidiform mole than after normal pregnancy (2), the study by Makokha and Mati (3) found that in Kenyatta National Hospital (KNH) the commonest antecedent pregnancy was non-molar abortion

Choriocarcinoma in particular and all gestational trophoblastic diseases in general are reported to be commoner in developing countries especially South East Asia and Latin America than in North America and European countries (2,4). Of the other predisposing factors, Makokha and Mati (3) found high age and parity to be associated with the development of choriocarcinoma in KNH. This was considered to be related to the overall weakened immunological response due to aging and repeated pregnancies. The concept of increased fetal malformation with increasing age was another factor that could play a part in the causation of malignant development.

The patient presented was 40 years old and was para 9+1. These two factors could have predisposed her to the development of choriocarcinoma.

Clinically, a patient with choriocarcinoma commonly presents with abnormal bleeding per vaginam(1,3). This could be in association with other symptoms. In view of the variety of presentation, a high index of suspicion is needed by

the medical practitioner. Thus, Dyspnoea, persistent cough (with or without haemoptysis), signs of intra-cranial haemorrhage, raised intra-cranial pressure, hemiparesis or paraplegia, or unusual gastrointestinal symptoms, especially in association with a history of irregular vaginal bleeding or previous molar pregnancy, should suggest the possible diagnosis of choriocarcinoma (5).

This patient presented with features which were very suggestive of choriocarcinoma. She gave a protracted history of intermittent vaginal bleeding following an abortion. This was later followed by chest pains, ~~productive~~ cough and haemoptysis as the disease spread to the lungs. With a high index of suspicion, the proper diagnosis could have been made much earlier; thus making prospects of cure much more favourable (4,6). This patient had, in the meantime, uterine curettage. This procedure was considered futile and gross mismanagement by Makokha and Mati (3).

Makokha and Mati (3) used the following criteria as indicative of choriocarcinoma:

1. A positive pregnancy test outside pregnancy.
2. A positive pregnancy test with irregular vaginal bleeding not associated with any type of abortion.
3. Metastases in the chest and/or vagina with or without a positive pregnancy test.
4. Rising titres of HCG after abortion or hydatidiform mole.
5. Histological reports of biopsies of the endometrium and/or vaginal metastases or other areas.
6. Postmortem reports.

Bagshawe and Begent (4) state that evidence for the presence of trophoblastic tumour more than 6 months following a hydatidiform mole or more than 2 months after any other pregnancy constitutes prima facie evidence of choriocarcinoma.

The diagnosis of choriocarcinoma in this patient did not pose any problems. The history of irregular vaginal bleeding and chest symptoms was

highly suggestive, pregnancy test done 8 months after spontaneous abortion was positive with very high HCG levels, and the chest x-ray showed unequivocal signs of pulmonary metastases.

There are certain factors which influence response to therapy in choriocarcinoma. Most workers, therefore, divide patients either two-way (high-risk, low-risk) or three-way (high-risk, medium-risk or low-risk) according to the factors. Those factors which have consistently been shown to adversely influence response to treatment are (2,4,6):

1. Time interval between antecedent pregnancy and treatment of more than 4 months.
2. Type of antecedent pregnancy: Full term pregnancy having worse prognosis than either a mole or an abortion.
3. Initial HCG levels of greater than 100,000 I.U./l.
4. Metastases to sites other than the lungs and/or the vagina.
5. Previous unsuccessful chemotherapy.
6. Age above 39 years.

Other factors like the ABO blood groups of the female and male, largest tumour size, and number of metastases *have also been shown to have some* prognostic significance. The WHO scientific groups on Gestational trophoblastic diseases (2) analysed these factors and came out with a scoring system upon which prognosis can be based.

In our unit patients with choriocarcinoma, ^{those} who have one (any) adverse factor are put in the high-risk category and are treated with triple therapy. Those with no adverse factor are considered low-risk and are treated with a single drug (either methotrexate or actinomycin-D). The patient presented had 3 adverse factors - i.e. she was 40 years old, she presented 8 months after the antecedent pregnancy, and the initial HCG levels were above 100,000 i.u./l. (read as >256 i.u./ml and <512 i.u./ml). She therefore was treated as a high-risk case, with three chemotherapeutic agents (Methotrexate, 6-mercaptopurine and cylophosphamide).

Her response was consistent and encouraging, and after three courses the pregnancy test was negative and the chest metastases had completely resolved. As is the policy in this unit, she was given three more courses after negative pregnancy test.

Monitoring of patients on therapy involves checking the haematological indices, liver and renal function tests, tests for HCG levels and chest x-rays. Bagshawe and Begent (4) advise that these should be done twice weekly. However, in places, like ours, with limited resources, equipment and manpower, and as was done in this case, monitoring these parameters after every course of chemotherapy is adequate. The most important factor in monitoring response to treatment is HCG levels. In our unit we rely more often on measurements of the pregnancy test in dilution. This is a crude and an unreliable method as has been shown by Sekadde-Kigundu et al (7). Use of Radioimmunoassay or Radioreceptor assay is far superior and more sensitive, especially the B-HCG. Radioimmunoassay is possible in our unit (7), but during the management of this patient the relevant kits were not available.

REFERENCES:

1. Pritchard, J. A., Macdonald, P.C. and Gant, N. F.
Choriocarcinoma. In : Williams Obstetrics.
17th Edition, Page 454.
2. Report of a WHO Scientific Group. 1980
Gestational Trophoblastic Diseases
3. Makokha, A. E. and Mati, J. K. G.
Choriocarcinoma at Kenyatta National Hospital 1973 - 79
J. Obstet. Gynecol. East Cent. Afric. 1 : 27, 1982.
4. Bagshawe, K. D., and Begent, R. H. J.
Trophoblastic Tumours : Clinical Features and Management.
In : Gynaecologic Oncology, Page 757.
Edited by Malcolm Coppleson.
Churchill Livingstone. 1981.
5. Armon, P. J., and Kajembe, A. H.
Choriocarcinoma in Tanzania with Special Reference to Medical
Presentations.
E. Afri. Med. J. 55 : 143, 1978.
6. Olive, D. L., Lurain, J. R. and Brewer, J. I.
Choriocarcinoma Associated with Term Gestation.
Am. J. Obstet Gynecol. 148 : 711, 1984.
7. Sekadde-Kigundu, C. B., Fongoh, F. B., Makokha, A. et al
The use of Luteinizing Hormone (LH) and Beta - Human Chorionic
Gonadotrophin (B-HCG) Radioimmunoassay in the Diagnosis and
Treatment of Choriocarcinoma at Kenyatta National Hospital.
J. Obstet. Gynaecol. East. Cent. Afric. 1 : 148, 1982.

CASE NO. 13

* * * *

OVARIAN SEROUS CYSTADENOCARCINOMA - STAGE III:

TOTAL ABDOMINAL HYSTERECTOMY, BILATERAL

SALPINGOOPHORECTOMY AND MONTHLY CHEMOTHERAPY

OVARIAN SEROUS CYSTADENOCARCINOMA - STAGE III:TOTAL ABDOMINAL HYSTERECTOMY, BILATERAL
SALPINGOOPHRECTOMY AND MONTHLY CHEMOTHERAPY

<u>NAME</u> : J.A.J. (Mrs)	<u>PARITY</u> : 2 + 0
<u>UNIT NO.:</u> 401629	<u>L.M.P.</u> : 21.10.1981
<u>AGE</u> : 22 Years	<u>ADMISSION</u> : 9.11.1981
<u>TRIBE</u> : Luhya	<u>OPERATION</u> : 20.11.1981

PRESENTING HISTORY

The patient was admitted to the non-emergency gynaecological ward as a referral from a medical ward on 9.11.1981, She presented with a three month history of progressive abdominal distension, backache and exertional dyspnoea. She had been in the medical ward for about five weeks where she was being managed as a case of tuberculous peritonitis, but progressive symptoms and non-response to anti-tuberculous treatment necessitated gynaecological review.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche occurred at the age of 14 years. She had regular menstrual periods; the cycle was 28 days and the duration 5 days.

She was para 2 + 0. Both deliveries, in 1975 and 1977, were term vaginal deliveries and the children were alive and well. She had never used any contraceptives.

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

She was married. The couple and their children lived in Nairobi. Her husband worked as a bus conductor. There was no family history of chronic diseases.

PHYSICAL EXAMINATION

She had no pallor, jaundice, cyanosis, leg oedema or peripheral lymphadenopathy. She, however, appeared weak and apprehensive but was not wasted.

Her blood pressure was 120/80 mmHg., pulse was 96/minute, and temperature was 36.2^oC. Her respiratory, cardiovascular and central nervous systems were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and tense. There were no surgical scars or areas of tenderness. Shifting dullness and fluid thrill were elicited. No intra-abdominal masses were palpable.

VAGINAL EXAMINATION

The vulva and vagina were normal. There was no vaginal discharge or bleeding. The cervix was parous, firm, smooth and the os was closed. The uterus was difficult to delineate. An irregular mass was felt in the pouch of Douglas.

RECTO-VAGINAL EXAMINATION

The mass in the pouch of Douglas was better defined: it was firm, irregular, fixed and not tender.

DIAGNOSIS AND MANAGEMENT

A presumptive diagnosis of ovarian malignancy was made. Several investigations were done and the results are shown below:-

Haemoglobin	:	14.0 gm/dl.
Haematocrit	:	42%
BUN	:	4.4 mmol/L.
Sodium	:	130 mmol/L.
Potassium	:	4.2 mmol/l.
M.S.S.U.	:	No growth on culture
Pap Smear	:	Class I.
Ascitic Tap	:	4 cc. of straw-coloured fluid received. Numerous small malignant cells are present singly and in clusters.

After receiving all these results a decision to do a laparotomy was taken. This was done on 20.11.81. She was prepared and premedicated as described in the introduction. Three units of compatible blood were obtained for her.

LAPARATOMY

In theatre anaesthesia was induced and maintained as described in the introduction. She was catheterised aseptically and the catheter left in place. Examination under anaesthesia revealed similar findings to those described above. The vagina was now thoroughly cleaned with 1% hibitane solution and painted with Bonney's blue solution.

Abdominal toilet was done and after draping the abdomen was opened in layers through a midline subumbilical incision. About 5 litres of haemorrhagic ascitic fluid was drained out. Both ovaries had multiple cysts and cauliflower-type of tumours. The omentum, gut, undersurface of the diaphragm and peritoneum had extensive tumour seedlings. The liver was, however, smooth and normal. Both fallopian tubes were thickened and blocked terminally. The uterus was normal size and had no tumour seedlings.

From these findings a clinical classification of Stage III ovarian malignancy was made. Total abdominal hysterectomy, bilateral salpingo-oophrectomy and partial omentectomy was considered the appropriate extent of the surgical management.

Using two tagged abdominal packs the intestines were pushed well away from the pelvis. The uterus and its appendages were then delivered through the abdominal incision. The right then left round ligaments were clamped and divided. The distal stumps were ligated with No.1 chromic catgut. The anterior leaf of the broad ligament was incised and the vesico-uterine peritoneum and the bladder bluntly separated from the uterus and pushed down.

The infidibulo-pelvic ligament of one side was now doubly clamped and then divided between the clamps. The ligament and the ovarian vessels therein was then doubly transfixed with No.2 chromic catgut.

This procedure was repeated on the opposite side. The posterior leaf of the broad ligament was now incised from the uterus and bluntly dissected downwards with a swab on a finger.

Using angled Kochers and a straight clamp the uterine vessels of one side then the other were doubly clamped and excised with a scalpel. The vessels were then doubly transfixed with No.2 chromic catgut. The cardinal ligaments on either side were subsequently clamped, divided and ligated. Amputation of the vaginal vault was now done. The four quadrants of the vaginal vault were held with straight clamps. The angles were secured with mattress sutures of No.1 chromic catgut. The vault was then closed with mattress sutures. The pelvic peritoneum was now closed over the vaginal vault with a continuous suture of No.0 chromic catgut; carefully burying the stamps of the round, infundibulo-pelvic and cardinal ligaments, and suspending the vault.

A sizeable amount of the omentum was clamped, excised and ligated. The uterus with its attached appendages and the omentum were submitted to the laboratory for histopathology.

The abdomen was closed in layers as described in the introduction. The patient lost about 700 mls. of blood and was transfused with two units of whole blood.

POST-OPERATIVE CARE

The patient's vital signs were observed half-hourly until she was fully awake from anaesthesia. She was given pethidine 6-hourly for analgesia for 48 hours. Intravenous fluids were maintained until bowel sounds were established. She also received prophylactic ampicillin for seven days.

She had an uneventful recovery. Post-operative haemoglobin concentration was 13.8 gm/dl. All abdominal stitches were removed on the seventh post-operative day. The wound was clean and had healed well.

On this day she was started on the first course of Melphalan (Alkeran). The dose was 0.2 mg. per kilogram body weight in 500 mls. of 5% dextrose given over a period of 30 minutes. She tolerated this course very well and did not develop any adverse reactions. After this she was discharged to be seen monthly in the ward for subsequent courses of chemotherapy.

HISTOLOGY (NO. 8540):

Both ovaries show presence of serous cystadenocarcinoma. The tumours have numerous psammoma bodies. The omentum shows large metastatic deposits of tumour. The fallopian tubes show chronic salpingitis but the uterus is unremarkable.

MONTHLY FOLLOW-UP

The patient was admitted in the ward every month for chemotherapy. In the ward she would have full physical examination, complete haemogram and liver functions tests before commencement of chemotherapy.

Upto the time of writing this paper she has received 18 courses of intravenous Melphalan, 12 courses of oral Melphalan (1 mg/Kg. body weight given three times daily for 5 days), and 2 courses of intravenous Endoxan (1 gm in 500 mls. of 5% dextrose given over 30 minutes). She has withstood her treatment quite well apart from troublesome menopausal symptoms of hot flushes and palpitations. These are ameliorated by intermittent mild sedation.

She has had no recurrence of ascitis and has gained weight well. Her general outlook and morale are very positive and high.

COMMENT

Ovarian tumours present a number of problems with regard to aetiology, classification, diagnosis and treatment. No other organ in the body produces such a multiplicity and diversity of tumours. Not only are these tumours distressingly insidious and silent in their development and do not give rise to early symptoms, but also no early, accurate and mass diagnostic means are available. All these factors work in concert to make ovarian cancer a major cause of death in gynaecological oncology all over the world (1-5).

The incidence of ovarian cancer is not known with certainty, but Ojwang and associates (5) reported on 60 cases seen at Kenyatta National Hospital over a five-year period. In Western countries, this malignancy occurs less frequently, but with worse prognosis, than cancer of the cervix and body of the uterus (1-4).

The commonest symptom of ovarian cancer is abdominal swelling alone or in combination with pain. At this stage, however, the disease would have spread outside the ovarian capsule and in advanced stage (F.I.G.O. Stage III or IV) rendering cure much less likely (1-5). Apart from the clinical extension of the disease, other factors which influence patients' survival include histological tumour type, degree of differentiation, available treatment modalities, and the amount of residual tumour after surgery (1,4).

This patient presented with progressive abdominal distension. She was initially treated a case of tuberculous peritonitis - an important differential diagnosis (3). At operation she was found to have Stage III serous systadenocarcinoma - the commonest finding in most series (1-6). Although serous tumours have been shown to have poorer prognosis (4) the presence of psammoma bodies, as was in this, is said to somewhat brighten the outlook (1).

Although no age is exempted, ovarian cancer is largely a disease of perimenopausal and postmenopausal women (1-5). The mean age recorded in our environment is, however, lower than that in Western countries (5). This patient, at 22 years, was not in the usual age bracket; but she was of low parity - an associated factor that is frequently quoted (1-3).

The mainstay of treatment for this malignancy is surgery; which should be as radical as is operationally possible (1-5). At laparotomy as was done in this case, the tumour is staged according to the F.I.G.O.'s classification (for the details please see 1 and 3). In stage I and II surgical treatment may be curative. Because prognosis is related to the residual tumour after surgery, in advanced stages surgery aims to maximally reduce the tumour burden (1,4). This is then followed by chemotherapy and/or radiotherapy (1,2,4,5). In our unit, Ojwang and associates (5) showed that Melphalan (Alkeran) is an appropriate chemotherapeutic agent.

The patient under discussion had radical surgery followed by monthly chemotherapy. Although the amount of residual tumour and the degree of histologic differentiation were not documented, she has responded to treatment very well. She has remained symptom-free for about three years after surgery. Hanson and associates (4) found that younger patients had lower grade-tumour and, therefore, had better survival.

The latest trend now is to use combined chemotherapy in advanced tumour stages, in poorly differentiated tumours, and if more than two centimetres of tumour mass has been left after surgical debulking (1,4). Important questions like which is the most appropriate and suitable chemotherapeutic combination, and for how long the chemotherapy should be continued have not been satisfactorily resolved and unanimously accepted.

The "second-Look" laparotomy has emerged as an invaluable adjuvant in the management of patients with ovarian cancer (1,3,6). Schwartz and Smith (6) listed the following advantages of this operation:-

- (i) It permits chemotherapy to be discontinued in those patients without evidence of disease. To arrive at this conclusion, peritoneal washings and multiple biopsy specimens from abdominal and pelvic peritoneum and from the nodes must be tumour-free.

- (ii) It permits removal of any residual tumour mass if present. Future managment is then rationally planned.
- (iii) It permits diagnosis of failure to respond.

These authors found that the most significant factors associated with negative "second-look" operations were : Stage of disease, the amount of residual tumour after surgery, and the number of courses of chemotherapy - with twelve or more courses showing optimal response (6). This patient has been on chemotherapy since 1981. We are currently planning to do the "second-look" operation.

It is trite but it is true that prevention is better than cure. As far ovarian cancer is concerned, not only prevention but even early diagnosis have remained elusive and non-forthcoming (1,2). Until this stage is reached, the outcome of patients with this disease will continue to remain largely in the hands of fate, the skill of the surgeon, the acumen of the pathologist and optimal post-operative therapy.

REFERENCES

1. Morrow, C.P.
Tumours of the Ovary. In : Gynaecologic Oncology.
Edited by Malcolm Coppleson. Volume 2, Page 655.
Churchill Livingstone. 1981.
2. Julian, C.G., and Woodruff, J.D.
The role of Chemotherapy in the Treatment of Primary
Ovarian Malignancy.
Obstet. Gynaecol. Surv. 24 : 1307, 1969.
3. Mattingly, R.F.
Adnexal Tumours. In : Te Linde's Operative Gynaecology.
Fifth Edition, Page 809.
J.B. Lippincott Company. 1977.
4. Hanson, M.B., Powell, D.E., Donaldson, E.S. and Van Nagell, J.R.
Treatment of Epithelial Ovarian Carcinoma by
Surgical Debulking Followed by Single Alkylating
Agent Chemotherapy.
Gyanecol. Oncol. 10 : 337, 1980.
5. Ojwang, S.B.O., Makokha, A.E. and Sinei, S.K.A.
Ovarian Cancer in Kenya.
E.Afr. Med. J. 57 : 131, 1980.
6. Schwartz, P.E. and Smith, J.P.
Second-Look Operations in Ovarian Cancer.
Am. J. Obstet. Gynaecol. 138 : 1124, 1980.

CASE NO. 14.

* * * * *

ENDOCERVICAL CARCINOMA IN-SITU:

EXTENDED HYSTERECTOMY.

ENDOCERVICAL CARCINOMA IN-SITU:EXTENDED HYSTERECTOMY

<u>NAME</u>	: G.W.M. (Mrs.)	<u>L.M.P.</u>	: 10 years Previous
<u>UNIT NO.:</u>	655248	<u>ADMISSION</u>	: 9.11.1984
<u>AGE</u>	: 68 years	<u>E.U.A.</u>	: 9.11.1984
<u>TRIBE</u>	: Kikuyu	<u>HYSTERECTOMY</u>	: 21.1.1985
<u>PARITY</u>	: 9+0	<u>DISCHARGE</u>	: 13.2.1985

PRESENTING HISTORY:

The patient was admitted to the acute gynaecological ward on 9.11.1984 with a two-day history of postmenopausal bleeding. The bleeding had started spontaneously and was not heavy.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

She could not remember the age at menarche. She was postmenopausal for the last 10 years.

She was Para 9+0. All her children were alive and well. Her last delivery was in 1957.

FAMILY AND SOCIAL HISTORY:

She married at the age of 18 years but her husband died in 1970. She was presently living with one of her children in Nairobi. She denied any history of premarital sexual intercourse. There was no history of chronic medical diseases.

PAST MEDICAL AND SURGICAL HISTORY:

This had no relevance to her present problem.

PHYSICAL EXAMINATION

She was an elderly lady in good general condition. She had no pallor, oedema, cyanosis or peripheral lymphadenopathy. Her vital signs were within normal limits. Her cardiovascular and respiratory systems were essentially normal. The abdomen was soft with no abnormal masses. Liver and spleen were not palpable.

SPECULUM EXAMINATION:

The vulva and vagina appeared healthy and normal. The cervix was atrophic and had ^{/a}small growth on its posterior lip which bled easily on touch.

Digital examination revealed a normal sized retroverted uterus and clear adnexae.

DIAGNOSIS AND MANAGEMENT

A presumptive diagnosis of carcinoma of the cervix - Stage I B was made. A pap smear was taken and the patient was prepared for examination under anaesthesia (E.U.A.). During E.U.A. the plan was to take a biopsy from the cervical growth on the posterior lip followed by fractional curettage.

E.U.A.:

This was done on the same day of admission. She was prepared and premedicated as described in the introduction. In theatre general anaesthesia was induced and maintained ^{as} /described in the introduction.

The patient was now placed in lithotomy position. The vulva, vagina and perineum were cleaned with hibitane solution and the area draped with sterile towels. Inspection revealed healthy vulva and vagina. The cervix was exposed with a speculum. The findings described above were confirmed. Digital examination revealed a normal sized retroverted uterus and clear adnexae. The rectal mucosa, pouch of Douglas and parametria were all free on rectal examination.

Using a scalpel the cervical growth on the posterior lip was excised. A figure-of-eight haemostatic suture of No. "00" chromic catgut was applied to the bleeding area. Using a small sharp curette the cervical canal was curetted. Standard dilatation was now done upto Hegar dilator No. "7". Uterine curettage was then done.

The cervical biopsy specimen, the endocervical curettings, and the endometria ^{/1} /curettings were put into separate specimen bottles and sent to the laboratory for histology. Anaesthesia was reversed and the patient wheeled out of theatre.

Routine post-operative care was accorded the patient. Recovery from anaesthesia was uneventful.

RESULTS OF THE INVESTIGATIONS:

- 1. PAP SMEAR : Class II. Cellular changes associated with atrophy
- 2. CERVICAL BIOPSY : This firm haemorrhagic mass shows smooth muscle with partial hyaline degeneration. No tumour seen.
- 3. CERVICAL CURETTINGS : The endocervical epithelium exhibits marked dysplasia amounting to carcinoma insitu.
- 4. ENDOMETRIAL CURETTINGS : Atrophic endometrium with no abnormality.

After receiving these results a pathological diagnosis of endocervical carcinoma in-situ was entertained. Because of the discrepancy between the clinical and the pathological findings a decision to do extended hysterectomy was taken.

Blood specimens were taken from her for haemogram, and urea and electrolytes. A mid stream specimen of urine was taken for culture. The results of these investigations are shown below:

- 1. Haemoglobin : 12.7gm/dl
- 2. Haematocrit : 38.3%
- 3. Sodium : 139 mmol/l
- 4. Potassium : 4.4 mmol/l
- 5. B.U.N. : 5.3 mmol/l
- 6. M.S.S.U. : No growth on culture.

EXTENDED HYSTERECTOMY:

This was done on 21.1.1985. Three units of blood were obtained for her. She was prepared and premedicated as described in the introduction. In theatre she was put under general anaesthesia as described in the introduction. She was now catheterised aseptically and the catheter left insitu. Examination under anaesthesia confirmed the earlier findings. The vagina was now painted with methylene blue solution.

The abdomen was cleaned with hibitane solution then draped. Through a midline subumbilical incision the abdomen was opened in layers. The uterus, tubes and ovaries appeared healthy and normal. Extended hysterectomy was now done. The procedure is essentially the same as that described under the case MULTIPLE UTERINE FIBROIDS but in addition the following extensions were made:

- (i) Both tubes and ovaries were removed. The infundibulo-pelvic ligament was then transfixed with No. "2" chromic catgut.
- (ii) Hysterectomy was continued down to include a two-centimeter cuff of the vagina.

The vaginal vault was now closed and peritonization done. The uterine and cervical cavities of the hysterectomy specimen were opened. No gross cervical or endometrial lesions were seen. The whole specimen was then sent for histology.

The abdomen was now closed in three layers as described in the introduction. Total blood loss was about 600mls. and the patient was transfused with two units of blood.

POST-OPERATIVE CARE:

The patient received routine post-operative care as described in the introduction. She was mobilized from bed from the third post-operative day. Alternate and all abdominal stitches were removed on the sixth and seventh post-operative days respectively. Post-operative haemoglobin concentration was 13.2 gm/dl.

HISTOLOGY REPORT:

Uterus and cervix are normal. No tumour detected.

GYNAECOLOGICAL REVIEW:

She was reviewed in the clinic on 4.4.1985. She had no complaints. The abdomen was soft with no areas of tenderness. The vaginal vault was well healed on speculum examination. A pap smear was taken from the vault which later showed Pap class I.

She will be reviewed again after 3 months.

COMMENT:

Presented in this paper is an elderly lady who had endocervical carcinoma in-situ. She was managed by extended hysterectomy.

Carcinoma in-situ (CIS) is a term applied to a microscopic picture of surface cervical epithelium in which the individual cells have the same characteristics as those of invasive cancer but are confined and occupy the full thickness of the epithelial layer (1). The bulk of evidence so far attests to the fact that CIS is a premalignant cervical lesion (1,2). Boyes et al (2) in a statistical study showed that about 60% of CIS will progress to invasive cancer in 10-20 years. They also pointed out that the incidence of invasive cervical cancer is substantially decreased by removal of in-situ disease from the community.

CIS as well as invasive cervical cancer can be diagnosed by cervical cytology. The major clinical value of cervical cancer screening is the detection of the disease in an earlier stage thus making prospects of cure much more favourable. Cervical screening has a known false negative rate, which is estimated to be 10-15% (1). This false negative rate is, however, higher in endocervical lesions which produce fewer exfoliated cells (1).

This patient had Pap class II on cervical cytology, but endocervical curettings exhibited features of marked dysplasia amounting to CIS. Thus, this patient had false negative results on cervical cytology. To minimize the false negative rate, it has been suggested that both the ectocervix and the endocervix must be sampled (3).

The precise aetiological factor causing cervical cancer is not known. Because of numerous circumstantial evidence, it now appears that, whatever its nature, this carcinogen is transmitted by sexual intercourse. It has been shown that women who begin coitus in their teens or are married before the age of 20 years are at a higher risk of developing cervical cancer (4,5). Multiple sexual partners is another factor which is closely associated with a higher incidence of cervical cancer (4). The patient under discussion had no

premarital sexual experience. She, however, married at 18 years and was, therefore, exposed to coitus at an early age.

Other risk factors like race, socio-economic status, occupation, education and venereal diseases may be characteristic of the population from which women who have early intercourse and multiple sexual partners are drawn and may not themselves be aetiologically important. High parity, as was the case in this patient, is also closely correlated to early age at first coitus or marriage.

Abnormal vaginal bleeding is the commonest symptom of carcinoma of the cervix. The patient under discussion presented with postmenopausal bleeding. Clinically a presumptive diagnosis of stage IB carcinoma of the cervix was made. However, histology of the cervical growth showed a haemorrhagic mass of smooth muscle with hyaline degeneration. Because of the discrepancy between the clinical impression and the pathological report, it was thought prudent to treat her with extended hysterectomy. Treatment of patients with cervical intraepithelial neoplasia can now be achieved by cauterization, cryosurgery, laser therapy, cone biopsy or hysterectomy. Hysterectomy is reserved for patients of high parity and/or advanced age - two factors which were quite evident in this patient.

Another interesting aspect of this case is the fact that the hysterectomy specimen showed no histological abnormalities although endocervical curettings had earlier shown features of severe dysplasia amounting to CIS. It is likely that the endocervical curettage had removed the intraepithelial neoplasia. Diagnostic measures have been shown to account for some of the so-called "disappearing cervical lesions" (1).

Cervical cancer is the leading female genital malignancy in this country, and the majority of the patients present with more advanced disease rendering prospects of cure much less likely (6). Prevention of this dreaded malignancy lies in two areas:

- (i) Sex Education : This should stress that delay in beginning sexual activity and avoidance of promiscuity would result in a lower frequency of cervical cancer.
- (ii) Cervical cancer screening : Established screening programmes have shown that mortality and morbidity from cervical cancer are drastically reduced in well screened areas (2). Nation-wide screening programmes are expensive to set up and to maintain, but every opportunity should be taken to do cervical cytology as part of routine medical care in sexually active women.

REFERENCES:

1. Staf1, A., Richard, F., and Mattingly, R. F.
Cervical Intraepithelial Neoplasia. In : Te Linde's Operative
Gynaecology. 5th Edition, Page 671.
J. B. Lippincott Company. 1977.
2. Boyes, D. A., Fidler, K. H., and Lock, D. R.
Significance of In-situ Carcinoma of the Uterine Cervix.
Br. Med. J. 1 : 203, 1962
3. Briggs,
A current Appraisal of the Abnormal Pap smear.
E. Afr. Med. J. 58 : 18, 1981.
4. Rotkin, I. D.
Adolescent Coitus and cervical cancer : Associations of Related
Events with Increased Risk.
Cancer Res. 27 : 603, 1967.
5. Christopherson, W. M., and Parker, J. E.
Relationship of cervical cancer to Early Marriage and childbearing.
N. Eng. J. Med. 273 : 235, 1965.
6. Ojwang, S. N. O., and Mati, J. K.
Carcinoma of the Cervix in Kenya.
E. Afr. Med. J. 55 : 194, 1978.

CASE NO. 15

* * * * *

PERFORATION OF THE UTERUS AND INJURY TO SMALL
INTESTINES COMPLICATING SURGICAL TERMINATION
OF PREGNANCY : UTERINE REPAIR, RESECTION AND
END-TO-END ANASTOMOSIS OF THE GUT

PERFORATION OF THE UTERUS AND INJURY TO SMALL INTESTINES
COMPLICATING SURGICAL TERMINATION OF PREGNANCY : UTERINE
REPAIR, RESECTION AND END-TO-END ANASTOMOSIS OF THE GUT •

<u>NAME</u>	: H. W. K. (Mrs.)	<u>L.M.P.</u>	: 27.5.1984
<u>UNIT NO.</u>	: 630240	<u>AMENORRHOEA</u>	: 11 ⁺ weeks
<u>AGE</u>	: 28 years	<u>ADMISSION</u>	: 20.8.1984
<u>TRIBE</u>	: Kikuyu	<u>OPERATION</u>	: 23.8.1984
<u>PARITY</u>	: 3+0	<u>DISCHARGED</u>	: 30.8.1984

PRESENTING HISTORY:

This patient was admitted to the emergency gynaecological ward on 20.8.1984 for surgical termination of pregnancy on medical grounds. She did not give any history of abdominal pains or vaginal bleeding. Her last menstrual periods was on 27.5.1984; therefore, the period of amenorrhoea was 11+ weeks.

MEDICAL AND PSYCHIATRIC HISTORY:

She was followed in the psychiatric and neurology clinics because of severe headache. She had several skull x-rays to exclude a brain space - occupying lesion. In the psychiatric clinic a diagnosis of reactive depression was made and she was treated with Tegretol, valium, serenace and Imipramine. All these were done in June, 1984 before it was realized that she was pregnant. In August, 1984 when she had missed two menstrual periods, she was referred to the gynaecology clinic for termination of pregnancy on medical grounds.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

Menarche occurred at the age of 14 years. Her menstrual periods were regular; the cycle was 28 days and the duration 3 days.

She was Para 3+0. All were term vaginal deliveries and the children were alive and well. She used an intrauterine contraceptive device after her last delivery in 1981. The device was removed in April, 1984 because of menorrhagia.

SOCIAL AND FAMILY HISTORY:

She was married and lived with her husband in Nairobi. There was no family history of psychiatric diseases, hypertension or diabetes mellitus.

PHYSICAL EXAMINATION

Her general condition was satisfactory. She had no pallor, cyanosis, jaundice or peripheral oedema. Her vital signs were within normal limits. The chest was clear and the cardiovascular system was essentially normal.

CENTRAL NERVOUS SYSTEM

She was fully conscious and was well oriented in time, space and person. The cranial nerves, reflexes, motor and sensory systems were clinically unimpaired. The patient, however, appeared withdrawn and reticent and was greatly concerned that she might be carrying a deformed fetus because of the many x-rays and the medications she had taken in early pregnancy.

ABDOMINAL EXAMINATION:

The abdomen was soft and non-tender. The uterine fundus could just be palpated above the symphysis pubis. The liver and spleen were not palpable.

PELVIC EXAMINATION:

The vulva and vagina were normal. The cervix was parous, soft and the internal os was closed. The uterus corresponded to 12 weeks gestation and both adnexae were clear.

DIAGNOSIS AND MANAGEMENT

A diagnosis reactive depression in early pregnancy for surgical termination was made. Blood specimens were taken for haemoglobin estimation and grouping and crossmatching. Results showed a haemoglobin concentration of 13.4gm/dl and a haematocrit of 38.7%.

TERMINATION OF PREGNANCY:

This was done on 23.8.1984. Two units of compatible group "A" Rhesus (D) Positive blood were booked for her. She was prepared and premedicated as described in the introduction. In theatre general anaesthesia was induced and maintained as described in the introduction.

She was then placed in lithotomy position. Vulvo-vaginal and perineal toilet was done and the area draped with sterile towels. The bladder was emptied using a metal catheter. Examination under anaesthesia confirmed the findings described earlier. An Auvard's speculum was inserted to expose the cervix. The anterior lip of the cervix was held with a volsellum forceps. Standard dilatation was now done upto hegar dilator No. "11".

A 10mm suction curette was connected to a vacuum machine via a rubber tubing. The uterus was then gently evacuated by back and forth movements of the curette. After about 15 minutes the uterus was felt to be empty by the gritty sensation of the endometrium. At this time it was also noticed that the curette could be inserted further than was previously possible. Uterine bleeding was also rather brisk. An impression of uterine perforation was thus entertained. A decision to do a laparotomy was taken.

LAPARATOMY:

The patient was now placed in supine position. The abdomen was cleaned and draped. Through a midline subumbilical incision the abdomen was opened in layers.

About 200mls of haemoperitoneum was found on opening the abdomen. The uterus had a fundal perforation measuring about 2cm. in diameter. There was blunt injury to the small gut near the ileo-caecal junction which had an extent of approximately 5cm. The mesentary around the injured portion of the small intestines was devitalized thus leaving that section of the gut with questionable viability. Decision was thus taken to resect off that section and perform end-to-end anastomosis of the intestines.

First, the perforation in the uterus was repaired in three layers using interrupted sutures of NO. "0" chromic catgut. Haemostasis was achieved.

Next, crushing clamps were placed obliquely to the intestines, with the apex on the mesenteric side. Noncrushing clamps were then proximally placed to control any spill. The devitalized segment of the gut was then resected off. Using atraumatic round body needle, continuous sutures of No. "00" chromic catgut were used to approximate the serosal surfaces of the intestines on the posterior aspect. The posterior mucosal layers were now approximated with No. "00" chromic catgut suture on atraumatic round body needle. This suture was continued anteriorly to close the mucosal layers. After this, the anterior serosal layers were approximated with the same suture. The mesenteric defect was closed with continuous No. "00" chromic catgut suture. Any bleeding points were separately tied with No. "00" chromic catgut until haemostasis was established.

The noncrushing clamps were now removed. Inspection showed no leakage of intestinal contents through the suture line. There were no other injuries to the viscera. The peritoneal cavity was now thoroughly cleaned with 500mg. of Rifocin in 500mls. of warm normal saline. The abdomen was then closed in layers as described in the introduction.

All in all, the patient lost about 1500mls of blood. She was transfused with 3 units of whole blood.

POST-OPERATIVE CARE:

The patient's vital signs were observed half-hourly until she was fully recovered from anaesthesia, then they were charted 4-hourly. A nasogastric tube was introduced and intermittent nasogastric suction was done for the first 48 hours. She was maintained on intravenous fluids of normal saline alternating with 5% dextrose - 500mls 4-hourly - for 48 hours. Analgesia was provided by pethidine - 100mg 6-hourly for 48 hours. She was started on I.V. Flagyl - 500mg 6-hourly, and I.M. Ampicillin - 1gm. 6-hourly for 48 hours. After this she was continued on oral flagyl - 400mg 8-hourly and oral

ampicillin - 500mg 6-hourly for a further 5 days.

Recovery was uneventful. There was no abdominal distention at any time in the immediate post-operative period. By the second post-operative period she had passed flatus and the bowel sounds were heard on auscultation. She was started on oral sips of water and was encouraged to get out of bed and move about.

Haemoglobin estimation done on the third post-operative day showed a haemoglobin concentration of 12.gm/dl. Alternate and all abdominal stitches were removed on the 6th and 7th post-operative days respectively. The wound was clean and had healed well. She was discharged to be reviewed in the gynaecology clinic after 6 weeks.

GYNAECOLOGIC REVIEW:

She attended the clinic after 6 weeks. She was well and had no complaints. She had, however, not resumed her menstruation yet. The abdomen was soft and the scar well healed. Pelvic examination revealed normal pelvic organs. She was advised on contraception and was discharged through the family planning clinic.

COMMENT:

Unwanted pregnancy, with its sequelae of criminally induced abortion and subsequent postabortal sepsis is a major cause of maternal morbidity and mortality in this country (1,2). Kenya's law on termination of pregnancy is not only very strict but it is also rather ambiguous and vague. The only allowance for carrying abortion lawfully in this country is found in SECTION 240 of the penal code. This section reads as follows:

"A person is not criminally responsible for performing in good faith and with reasonable care and skill a surgical operation upon any person for his or her benefit, or upon an unborn child for the preservation of the mother's life, if the performance of the operation is reasonable, having regard to the patient's state at the time and the circumstances of the case".

In the case of abortion, the law requires that two doctors - one a physician and the other a psychiatrist - certify that the operation is necessary to preserve a woman's life, and then the termination should be carried out in a hospital by a competent doctor. The patient presented had had several x-rays and medications in very early pregnancy. She was, therefore, quite concerned that she might be carrying a malformed baby. This deep concern made her reactive depression, for which she was being treated in the psychiatric clinic, worse. The psychiatrist who was looking after her recommended termination of pregnancy. She was reviewed by a consultant gynaecologist who concurred with the views of the psychiatrist. This, therefore, established a bona fide prerequisite for termination of pregnancy in this case.

For therapeutic termination of pregnancy several methods are in use. In very early pregnancy (less than 8 weeks gestation) the products of conception may be aspirated using Karman cannula and syringe - a procedure called "Menstrual regulation" or "Menstrual aspiration". Between 8 and 12 weeks termination is usually achieved by dilatation of the cervix followed by either curettage or vacuum aspiration. After 12 weeks the methods used involve either intraamniotic or extraamniotic installation of abortifacients, or

hysterotomy.

Suction curettage is associated with a number of complications. One of these complications occurred in this patient - i.e.-uterine perforation and injury to the small intestines. The incidence of perforation of the uterus varies between 0.5 - 10 per 1,000 procedures (3,4). Because uterine perforation is a surgical accident which occurs veiled from the observer's eye and because abortion is a one-man procedure, it is probably wise to say that the perforations reported in most series are those which are most obvious and that many remain unreported either by design or through ignorance.

There are basically two factors which have been associated with perforation of the uterus - these are:

1. The skill of the surgeon (4,5). This was the likely factor in this case.
2. The position of the uterus; with a retroverted uterus being associated with a higher risk of uterine perforation (4,5).

About any instrument used in the surgical termination of pregnancy may cause perforation of the uterus. In this case the putative instrument was not known with certainty; but from the size of the rent in the uterus and the devitalization of the segment of the intestines and its adjacent mesentery, this was assumed to be the suction curette. Perforation by a small instrument like the uterine sound may be managed conservatively. This involves close observation in hospital plus a course of broad spectrum antibiotics. Most of these small perforations are said to heal spontaneously (5). However, if there is any doubt about the extent of the damage then the best management is laparotomy and repair of the damage (3,5). This course of action was taken in this case, and, retrospectively, this was justified.

Other consequences which may follow elective termination of pregnancy include maternal mortality, haemorrhage, sepsis, cervical incompetence, uterine rupture during subsequent pregnancies, and the so-called Asherman syndrome (5). All these complications are rare - for example, the risk of death from abortion by dilatation and evacuation performed during the first

2 months of gestation is in the region of 0.6 per 100,000 procedures (5). Legally induced abortion is, therefore, a relatively safe procedure - in fact much safer than criminally induced abortion by "back-street doctors". Health education, sex education in schools, use of contraceptives and liberalization of abortion laws will greatly reduce the morbidity, mortality and misery caused by criminally induced abortion. Elective termination of pregnancy is also a necessary back-up method to family planning services.

REFERENCES:

1. Aggarwal, V. P., and Mati, J. K. G.
Review of Abortions at Kenyatta National Hospital, Nairobi.
E. Afr. Med. J. 57 : 138, 1980.
2. Makokha, A. E.
Maternal Mortality, Kenyatta National Hospital - 1972 1977.
E. Afr. Med. J. 57 : 451, 1980.
3. Mattingly, R. F.
Therapeutic Abortion. In : Te Linde's Operative Gynaecology.
5th Edition, Page 439.
J. B. Lippincott Company. 1977.
4. Nathanson, R. N.
Management of Uterine Perforation Suffered at Elective Abortion.
Am. J. Obstet. Gynecol. 114 : 1054, 1972.
5. Pritchard, J. A., Macdonald, P.C. and Gant, N. F.
Elective (Voluntary) Abortion. In : Williams Obstetrics.
17th Edition, Page 477.
Appleton - Century - Crofts/Norwalk, Connecticut. 1985.