

THE CASE RECORDS AND COMMENTARIES

IN

OBSTETRICS AND GYNAECOLOGY

WERE SUBMITTED BY

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FOR THE EXAMINATION OF

MASTER OF MEDICINE IN

OBSTETRICS AND GYNAECOLOGY

OF THE

UNIVERSITY OF NAIROBI

NOVEMBER, 1989

DR. J. M. NYAMU

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DEDICATION

This book is dedicated to my late father, Muchai Magiri and my loving mother, Monica Kithira whose care and effort have made me whom I am.

DECLARATION

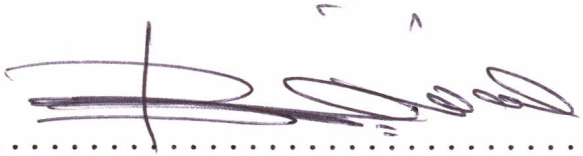
This is to certify that the case records and commentaries presented in this book are my original work and were managed by me under the supervision of the senior members of the Department of Obstetrics and Gynaecology, at the Kenyatta National Hospital, Nairobi.



DR. J. M. NYAMU

NOVEMBER, 1989.

This is to certify that Obstetric cases number 3,5,6 and Gynaecology cases number 14, 15 were managed by Dr. J. M. Nyamu under my supervision and guidance at Kenyatta National Hospital, Nairobi.



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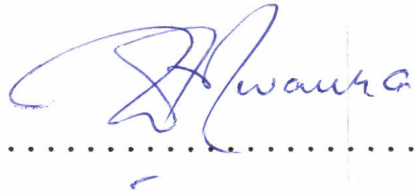
This is to certify that Obstetrics cases number 2,7,9
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This is to certify that the Gynaecological case number
13 and Obstetric case number 8
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CERTIFICATION

This is to certify that the long commentaries in Obstetrics and Gynaecology were designed and carried out by Dr. Nyamu John Muchai under our supervision and guidance during his training for the mastership in Obstetrics and Gynaecology at the University of Nairobi, Kenya.

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INTRODUCTION

KENYATTA NATIONAL HOSPITAL

The cases presented in this book were managed in the Obstetrics and Gynaecology unit of Kenyatta National Hospital between October 1986 and September 1989 except for the long commentaries which were carried out partly in Machakos and Pumwani Maternity Hospital.

Kenyatta National Hospital is the Government's referral hospital which turned parastatal in July 1987. It caters for patients mainly referred from other hospitals in the country and other parts of Africa.

It serves as a teaching hospital harbouring the College of Health Professions which includes the former Medical Training Centre and the Faculty of Medicine of the University of Nairobi. The Department of Obstetrics and Gynaecology is an integral part of the Kenyatta National Hospital Complex.

THE DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

This Department provides both curative and preventive management of patients other than its major role of teaching undergraduates and post-graduate doctors.

All the consultants involved in teaching also carry out research in various health fields as a unit. The Department is a member in the main research body on human

reproduction, namely National Centre for research in Reproduction. The Machakos Project initially sponsored by the W.H.O. and the Department of Obstetrics and Gynaecology has undertaken major research proceedings especially in Family Planning.

The Department also trains Cytologists to embark on the Government's policy of prevention and early diagnosis of cervical cancer.

THE OBSTETRICS AND GYNAECOLOGY SERVICES

These services are offered both as out patient and inpatient.

Outpatient services are offered in the casualty department, Obstetric and Gynaecology clinic, family welfare centre and Rhamtulla Wing. The inpatient services are divided into acute Obstetric, acute Gynae and coldwards. The main theatre also offers Obstetric and Gynaecological services.

- (i) CASUALTY DEPARTMENT: This is the starting point of all cases coming for treatment since Kenyatta Hospital became parastatal in 1987. Referrals from adjacent city commission clinics or other hospitals have to be seen here before being referred to Obstetrics and Gynaecology clinic or being admitted to the acute Gynae ward or acute Obstetric ward. Minor cases are treated and either followed up there or discharged for follow up in the nearest health centre or hospital.

(ii) OBSTETRIC AND GYNAECOLOGY CLINIC: This clinic is run by Consultants, Senior Registrars and Registrars with the assistance of Nurses.

The Obstetric unit is divided into three firms and these operate a clinic on Tuesday, Wednesday and Thursday, the morning session dealing with antenatal follow up while the afternoon session deals with Gynaecological cases. Mondays have been preserved for the firm not on call in that week and this is the time they book their patients depending on the high risk criteria. Each firm is allowed to book 40 new patients and 10 others during the week who are booked by senior registrars as emergencies from the wards or otherwise. These new patients are interviewed by the nurses on ready made ante-natal cards where they record the obstetric history and they take blood pressure and do urinalysis for protein and sugar and they take their weight. The patients are then seen by the registrars who do a general examination and order for ante-natal profile for haemogramme, Khan test and blood group and Rhesus factor; in some cases of bad obstetric history, cervical incompetence or high blood pressure, Diabetes, patients are admitted to the ante-natal wards for further evaluation and management.

The patients booked are then followed up in the booking firm's day of follow up until they are ready for delivery. The Monday afternoon has two clinics. A special infertility clinic run by registrars in that firm

who are in cold Gynaecology wards and a special Adolescent clinic run by registrars in Cold Obstetric ward of the same firm under the assistance of a senior registrar or a consultant from that firm.

Friday clinics are also managed by the firm not on call, usually the same firm managing the Monday clinic. On Friday morning two clinics are attended to. The Oncology clinic and the post-natal clinic. The Oncology clinic caters for follow up of cancer patients managed in the cold wards mainly from the cancer ward. The post-natal clinic caters for patients from all the firms and are held to review the post-operative patients and give advice for family planning to all for post-natal mothers.

The clinic also operates a family planning service on daily basis.

(iii) FAMILY WELFARE CENTRE: This is within the hospital compound and caters for two categories of clients. The clients from Obstetric and Gynaecologic clinic described above are seen by the Doctor (normally a Registrar) straight, while the second category of clients come from home and undergo several stages before they are given the the requested service.

When the clients report they are first received by a record clerk who gives them a card, the client is then interviewed by nurses who inform them of all the methods

for her to make a choice (counselling). She is then examined to see if she is fit for the method chosen. In case of problems like infections, failed contraception, complications of the contraceptive or permanent method of contraception the Registrar is available for consultation. The Doctor then treats the clients and follows them up or refers them to specialised clinics in the hospital in the relevant field.

(iv) RHAHIMTULA WING: This is a section dealing mainly with minilap services and laparoscopy.

The clinic is run by both Senior Registrars and Registrars with the assistance of qualified nurses. It has an office for the Doctor and rest room for the day case procedures and a theatre for the two procedures mentioned above. The Doctor receives clients mainly referred from the Infertility clinic, Gynaecology clinic or post-natal clinic or other wards of the hospital, clerks them and prepares them for the procedure they have come for.

Laparoscopy is done for diagnosis and advice on possible tubal surgery or for tubal ligation. Minilap tubal ligation is also performed under local anaesthesia. There is a training session which is carried out at least once a year on minilap for physicians from different parts of the country and the neighbouring countries sponsored by John Hopkins Hospital.

(v) ACUTE OBSTETRIC SERVICES: These are offered in the maternity ward. The maternity ward is divided into several stages. In the admission stage a house officer screens the patients and admits to labour ward only those who are in labour and or those with serious labour and or those with serious complications such as severe hypertension, cerebral malaria and the others are admitted in the cold ward. Those who are admitted are received in the first stage where they are closely monitored by nurses and the Registrar; the partogramme is used to monitor the labour. The patient can also be admitted to an intensive care room which is also in the unit when they require extra attention like in severe Hypertension, Eclampsia, Comatose patients or patients in failure.

After the first stage, patients are taken to second stage for delivery or if there is any complication in 1st stage or second stage labour requiring operation, a theatre for this purpose is available. There are two theatres but only one is used. The second theatre used to be used for minor procedures like postpartum tubal ligation. The theatre in labour ward is also used for elective caesarian section and insertion of McDonald stitch for cold wards patients.

The acute obstetric ward has also got facilities for ultrasound scanning which is available only to obstetric patients from the wards and a few clinic

patients who are on the research programme currently being done by one of the Senior Registrars.

vi) OBSTETRIC PROCEDURES AND OPERATIONS

These procedures have been mentioned in the presented cases but details have not been included. They are described here to avoid repetition.

AMNIOCENTESIS: This is the tapping of amniotic fluid to check on babies maturity or for other investigations namely bilirubin spectrophotometry for Rhesus iso-immunization and alpha-feto proteins to check on fetal malformations. The patient is explained the procedure, she is asked to empty the bladder and then placed in supine position on an examination couch and fetal heart is recorded. The abdomen is cleaned and drapped; the presenting part is displaced upwards and a wide bore needle, usually the green needle or the giving set needle, is used to aspirate about 5cc. of liquor in a 10c.c. syringe. The patient is then asked to rest in left lateral position after fetal heart is rechecked and the specimen is looked at to note colour, turbidity and is sent for bubble test.

(v) VAGINAL EXAMINATION: This is usually done at the first visit, at 36 weeks gestation and at onset of labour. The patient is explained the procedure. She is put in dorsal position then after inspection, a speculum (cusco's bivalve speculum) is inserted and the patient is examined for appearance of the cervix, dilation, discharge, and effacement. The

vaginal wall is examined as the speculum is withdrawn. Bimanual examination is then done and dilatation of the cervix, consistency, position and length is documented, size of the uterus is also documented. The pelvis is assessed with respect to its adequacy for the passage of the baby.

In pelvic assessment the ischial spines are palpated for any prominence, sacral promontory is tried to be reached if possible and the curvature of the sacral curve is noted. Inter-tuberosity distance is estimated by checking if it can accommodate the four knuckles of a closed fist and the pubic angle is checked if it is greater or less than 90° to confirm adequacy of the outlet.

OPERATIVE VAGINAL DELIVERIES

Vacuum extraction is virtually the only procedure done in Kenyatta Hospital. Forceps delivery is not encouraged because of its complications and inexperience. The main indications for vacuum extraction are prolonged second stage of labour, cardiac disease and hypertensive disease in pregnancy.

CAESARIAN SECTION

Most of the caesarian sections in the obstetric unit are done as emergencies. The few electives done are operated when emergency cases are absent and is usually done in the morning section.

However short the time may be, the following pre-operative observations have to be made: consent, shaving, grouping and cross-matching two units of blood, fixing an intra-venous fluid, and doing the observations of blood pressure pulse and respiration; Atropine 0.6mg intra-muscularly is prescribed to be given half an hour before operation. In addition to these, elective cases have to have a positive surfactant test, a Haemogramme of 10g/dl and two units of compatible blood should be available.

In theatre the patient is placed in supine position and explained about the procedure she will undergo. She is told about catheterisation, cleaning and drapping and that she will be operated while completely asleep. She is started on Oxygen while after catheterisation under sterile conditions, cleaning with savlon and spirit done and then draped.

She is then induced with 250-500mg of thiopentone depending on the patient's weight and about 50-100mg suxamethonium bromide is given (both intravenously). Intubation is performed and Anaesthesia is maintained with a Nitrous Oxide/Oxygen mixture at the ratio of 30% Nitrous Oxide and 70% Oxygen.

When the anaesthetist gives a go ahead, the skin is opened through a longitudinal sub-umbilical incision starting from a point about 2 cm. below the umbilicus and running upto just at the level of symphysis pubis.

The Doyen retractor is inserted at the lower end of the wound and bladder retracted. The utero-vesical fold of peritoneum is incised with scissors and the bladder further pushed away using a swab on a sponge-holding forceps.

To enter the uterus a transverse incision is made at the lower segment and it is extended either by using fingers or better still using scissors to open large enough space for the head. The incision should be at the midline to avoid the uterine vessels at the corners.

The baby is delivered by passing the right hand into the uterus and holding the fetal head, bladder retractor removed and an assistant applies fundal pressure. After the delivery of the baby, the cord is clamped, tied and cut and handed over to a second assistant who sacks it and records the APGAR score and weight among other observations. After delivery of the baby, the anaesthetist gives 70% Nitrous Oxide and 30% O₂. Ergometrine 0.5mg. I.V. is also given by him unless contra-indicated.

The uterus is stopped from excessive haemorrhage using green-armatage clamps and uterus is closed in three layers. The first layer made continuous with chronic catgut number 1 on around bodied needle. The second layers is sutured with a chronic catgut number 1 also continuous but burrying the first layer. The third layer is peritoneum of the uterus which is sutured with number 1/0. Blood is mopped or sucked out of the abdominal cavity and swabs and instrument count made by two nurses. After the count is correct the abdomen

is closed in layers starting with a continuous suture for peritonium with catgut number 1/0, Rectus sheath with catgut number 1 on a cutting needle and fat closed with plain catgut number 0.

The skin is closed by interrupted stitches with either silk or nylon stitches. The wound is then dressed and clots removed from the uterus through the vagina. This is done by doing a bimanual examination and compressing on the fundus to expel the clots; Vulvo-vaginal area cleaned with savlon swabs on a sponge-holding forceps.

Post-operative care is like for any other major operation. Immediate post-anaesthetic period must be carefully monitored for blood pressure, pulse and respiration till fully awake then 4 hourly observations. She is to take nothing orally and should only be on intravenous fluids, she is given pethidine 100mg 8 hourly for 48 hours and prophylactic antibiotic are routinely administered. Ampicillin injection 500mg q-i.d. is the standard drug used. However the current trend for prophylactic antibiotic is to use Zinacef injection 2 ampules during the operation (1500mg) and injection Zinacef 2 ampules 24 hours after the operation. Stitches are removed on the 7th post-operative day. On the 3rd day the patient's Haemogramme will have been done. Any sepsis is aggressively treated to avoid wound dehescence and future weakness of the uterine wound.

- vii) ACUTE GYNAE WARD: This is the admitting ward for all acute Gynaecological cases. The patients can be admitted from any of the clinics or from other hospitals or health centres through casualty. The ward is covered by each of the three firms on weekly basis. The majority of cases are abortion related (incomplete abortion, septic abortion and inevitable abortion etc). Other causes of admission in this ward include Ectopic pregnancy, pelvic infections, septic caesarian section wounds, puerperal sepsis, pelvic masses including fibroids with complications, abnormal vaginal bleeding, bartholins abscess or cyst. The firm on call usually admits deserving cases for cold surgery in their wards otherwise patients discharged from the ward are followed up in the Gynae clinic. Evacuation of incomplete abortions less than 14 weeks is done in the acute gynaecology ward side room using Karman's Cannula.
- viii) COLD WARDS: There are three Obstetric cold wards and two Gynaecology cold wards. The three Obstetric wards are manned by the three firms while the two Gynaecology wards are shared by the three firms. An extra cold ward for cancer patients has been opened to cater for most of the cancer patients and it is under one consultant who is specialised in oncology. However any of the other firms consultants usually operates on the patients from this ward when the patients are ready for operation during their theatre day.

This ward deals with staging of various tumours, biopsy, chemotherapy and radiotherapy. Cancer of the cervix and cancer of the ovary are the commonest tumours managed there. Also choriocarcinoma, cancer of the uterus are commonly managed there .

ix) THE MAIN THEATRE

Each of the three firms has been allocated a theatre day on which they operate on patients from the cold wards.

A Gynaecology emergency theatre is opened on daily basis to cater for patients from the acute Gynaecology ward. The usual procedures performed from the acute Gynaecology wards include marsupialization of bartholins cyst or abscess, diagnostic currettage, evacuation of a mole and removal of misplaced intra-uterine contraceptive devices.

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intermittent painful contractions. She had not felt any pains prior to the drainage of liquor. Evacuation was done in both cases after the abortion.

PAST MEDICAL HISTORY:

She was admitted in 1977 due to hypertension and was not pregnant then.

SOCIAL AND FAMILY HISTORY:

She was a typist, married with 3 living children. She was not taking alcohol and never smoked. There was no family history of hypertension or tuberculosis. The mother was a diabetic.

PHYSICAL EXAMINATION:

She was in good general condition, not pale and the temperature was 37⁰c. She had no oedema and no lymphadenopathy.

Breasts: The breasts were normal.

Respiratory System: The respiratory rate was 28/min, and regular. The breath sounds were vasicular with good air entry bilaterally.

Cardio-vascular System: The pulse was 72/min blood pressure was 120/80mmHg. The heart sounds were normal. There were no murmurs.

Central Nervous System: The central nervous system was

Abdominal Examination: The abdomen was obese, no areas of tenderness and no organomegally noticed. The fundal height was 14 weeks.

Vaginal Examination: The external genitalia was normal. The cervix was short (about 1.5cm Long) and the internal os admitted 1 finger. There was normal vaginal discharge per examining finger.

DIAGNOSIS

A diagnosis of cervical incompetence was made and the patient was planned for McDonald's stitch.

INSERTION OF MCDONALD'S STITCH

This was done on 26.2.87 at 12.06p.m. The patient was prepared for theatre. Her haemoglobin was checked and was found to be 12/6g/dl. An informed consent obtained and was starved overnight prior to the operation. She was pre-medicated with atropine 0.6mg intramuscularly half an hour before theatre.

Under general anaesthesia the patient was put in lithotomy position and vulvo-vaginal toilet was done, she was then draped. She was catheterised and clear urine obtained.

Bimanual vaginal examination was done and previous findings confirmed. An auvard speculum was inserted into the vagina and the cervix was found to be healthy looking, about 1.5cm long and appeared closed. She had a mild erosion at

the edge of the external os. A sponge-holding forceps was used to hold the anterior lip of the cervix and a purse string suture was inserted at the junction of the vagina and cervix using No. 2 silk in an atraumatic needle. Four bites were made at 1 o'clock, through 11 o'clock, 7 o'clock and 4 o'clock then from 4 o'clock back to 1 o'clock where the ends of the string were tied using a reef knot and long thread left to make its removal easy. There was no bleeding or drainage of liquor after the procedure. The speculum was removed and patient placed in supine position, then reversed from anaesthesia.

POST-OPERATIVE MANAGEMENT

Vital signs were observed half-hourly till she was fully awake while she was still in theatre. She was later observed four hourly. She was given caps ampicillin 500mg 6 hourly for five days, phenobarbitone tablets 30mg 8 hourly and ventolin tablets 4mg 8 hourly to ensure adequate bed rest and to prevent premature labour and infection. She was kept in the ward for three days and discharged on the above medication.

ANTENATAL FOLLOW UP

She was seen in the ante-natal clinic six times and the ante-natal period was uneventful. The pre-natal investigations were as follows:

Blood group: O Rhesus (D) positive.

Khan test: Negative.

Haemoglobin: 12.5g/dl.

Urinalysis and blood pressure readings were normal throughout pregnancy.

She was re-admitted at 38 weeks for removal of MacDonald stitch and discharged home. She was admitted again on 12.9.87 at 41 weeks with history of reduced fetal movements and was started on induction. The induction failed and on the same day (12.9.87) she was taken to theatre for an emergency caesarean section and tubal ligation (she had consented for tubal ligation). At operation, a male baby weighing 3650gm and APGAR score 10 in one minute and 10 in 5 minutes was delivered. There was no obvious abnormality to have caused the reduced fetal movements. The placenta weighed 500gm and blood loss was 600mls.

The patient stayed in the ward for 8 days and was discharged home to attend post-natal clinic.

POST-NATAL FOLLOW UP

She did not turn up at the post-natal clinic.

COMMENT

Cervical incompetence has an incidence of 15%(9). Njagi in 1979 gave a crude incidence at Kenyatta Hospital to be 1:90 (7). This means that it is a common occurrence in our set up. It is diagnosed by taking an accurate obstetric

history, vaginal examination to check for dilatation of the cervix and shortening and in non-pregnant women by inserting hegar's dilator number 8 and radiologically demonstrating a funnel shaped cervical canal (1,3,5,6,9). McDonald (5) & Pritchard (10) have outlined the typical history of cervical incompetence as one successive second trimester pregnancy losses that are characterised by premature rupture of membranes without preceding painful uterine contractions. In this patient the history was typical. The diagnosis was confirmed in this patient by demonstrating a short and open cervix.

Incompetence of the cervix is basically due to a weakness in the sphincteric mechanism of the internal os so that when the contents of the pregnant uterus reach a critical weight accompanied by the advantage of the erect posture, the weak internal os gives way and the membranes protrude eventually rupturing and leading to delivery of a severely preterm foetus which dies due to immaturity. Most of the causes of cervical incompetence are acquired like previous trauma to the cervix during dilatation and curettage, conization or amputation of the cervix (9) and birth with extended cervical tears. Congenital causes are also mentioned by Pritchard et al (9). This patient discussed seems to have had birth trauma as a possible cause since she had 3 previous normal births prior to the development of the incompetence. She probably developed weakness of the internal os during these three deliveries.

Cervical cerclage is the mainstay of treatment of cervical incompetence. Several methods have been described to tackle this problem. Lash and Lash (4) were the first to describe primary repair of the anatomical defect which was mainly recommended for non-pregnant women but now abandoned due to its effect on fertility. Shirodkar and McDonald later developed a safer method of strengthening the cervical canal. This patient was treated with a purse-stitch as described by McDonald (5). It is normally inserted at 14 weeks gestation (6). Before 14 weeks the gestational sac has not filled the uterine cavity at this time. Also first trimester abortions are due to congenital defects. After 14 weeks protrusion of membranes may have occurred and hence the cerclage can cause rupture of membranes. The patient rests in the ward for 5 to 7 days during which time she is put on tocolytics, antibiotics, sedation and bed rest. This patient was inserted the stitch at 14 weeks gestation and she rested in the ward for three days only due to congestion then.

The stitch is electively removed at 38 weeks and patient waits for spontaneous onset of labour. It should also be removed if membranes rupture or labour starts (6). This patient had the stitch removed at 38 weeks but did not go into spontaneous labour. Such an event is to be expected as McDonald stitch is known to cause cervical dystocia (5).

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PRE-ELAMPTIC TOXAEMIA, INDUCTION OF LABOUR

Name: M.K	L.M.P	13.4.86
Ip. No. 798445	EDD	25.1.87
Age 20 years	DOA	15.12.86
Parity 0+0	DOD	9.1.87

PRESENTING COMPLAINT:

The patient complained of swelling of the feet for one month.

HISTORY OF PRESENTING ILLNESS

The patient had swelling of the feet one month prior to admission. The swelling decreased with rest and increased with activity. She attended ante-natal clinic at Crescent Medical Aid upto 10th of December 1986 and was referred to Kenyatta National Hospital after she was found to have severe hypertension in pregnancy with moderate proteinuria. She attended Kenyatta Hospital ante-natal clinic and she was admitted to the ward after the first visit on 15-12-86.

The initial blood pressure was 150/110mmHg and trace of proteinuria in urine. She was planned for conservative management.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was para 0 + 0. She had her menarche at 15 years. Her LMP was on 18-4-86. Her periods had been regular occurring every 28 days and lasting 4 days. They were not painful. She had not used any contraceptives.

PAST MEDICAL AND SURGICAL HISTORY:-

This was not significant.

FAMILY AND SOCIAL HISTORY:-

She was single. She was a housemaid. The mother was hypertensive. No other significant illnesses in the family. She did not take alcohol or smoke cigarettes.

PHYSICAL EXAMINATIONS:-

She was in good general condition. She was not pale. She was afebrile. She had bilateral leg oedema. She had no jaundice or lymphadenopathy. The breasts were normal.

CARDIOVASCULAR SYSTEM:-

Her pulse rate was 96/min, regular with good volume. Her blood pressure was 150/110mmHg. The jugular venous pressure was not raised. The cardiac apex beat was in the left 5th intercostal space. Heart sounds were heard and were normal.

ABDOMINAL EXAMINATION:-

The abdomen was uniformly distended with a uterine size of 34 weeks. The foetus was in longitudinal lie, cephalic presentation and the head was five fifths above the pelvic brim. The foetal heart was heard and was 140/min. regular.

RESPIRATORY AND CENTRAL NERVOUS SYSTEMS

These were essentially normal.

VAGINAL EXAMINATION:

This was not done as it was not indicated.

DIAGNOSIS:

A diagnosis of pre-eclamptic toxæmia at 34 weeks was made.

MANAGEMENT:

The patient was put in a quiet intensive care room and give I.V. hydrallazine 20mg, I.V. valium 10mg and a drip of hydrallazine containing 40mg in 500c.c. 5% dextrose was put up to be titrated against the blood pressure starting from 10 drops per minute. She was also to rest on her left lateral position. Her blood pressure pulse rate and rhythm and foetal heart were recorded every 30 minutes.

LABORATORY INVESTIGATION:

Urinalysis: Trace protein (albumin), sugar - nil

Esbach: 0.1g per 24 hours.

Urea and electrolytes: Na⁺ 125mmol/l

K⁺ 3.0mmol/l

BUN: 3.3mmol/l

Creatinine: 76mmol/l.

PROGRESS:-

On 15-12-86 at 11.20p.m. she was reviewed and found to have diastolic blood pressure ranging between 80-100mmHg, but had headache and was restless. She was sedated with pethilorphan 100mg. On 16-12-86 the blood pressure was 140/80mmHg. She felt better but leg oedema persisted. She was weaned off the hydrallazine drip and she was taken to the general ward for further treatment there on tab hydrallazine 25mg + ds tab aldomet 250mg + ds and tab valium 10mg + ds. She was to get boluses of i.v. hydrallazine 20mg when blood pressure was 110mmHg diastolic or above. On 17-12-86 the blood pressure was 150/90mmHg, urine output was 1500mls. The baby's estimated weight was 2000gm. Between 18-12-86 and 30-12-86 her blood pressure remained stable between 120/90mmHg and 150/90mmHg. Amniocentesis was performed on her 30-12-86 and liquor was clear but the results were lost. Ultrasound was done on 2-1-87 and the report indicated that there was a single foetus, cephalic presentation, cardiac activity was demonstrated and B.P.D.

was 8.7cm equivalent to 37 weeks gestation. The placenta was fundal and posterior. Surfactant test was repeated on 5-1-87 following amniocentesis and was reported as: 1:1 positive and 1:2 positive. A decision to deliver her by induction was made. Bishops score was done and it was found to be 4. The cervix was therefore not suitable for induction and on 6-1-87 at 9.30a.m. one vial of PGF₂ ~~X~~ soaked in a gauze was inserted high into the vagina to ripen the cervix. At 4.30p.m. the same day she was noticed to be contracting. She had 2 mild contractions in 10 minutes but the cervix was found to be 50% effaced and closed.

On 7-1-87 the prostaglandin swab was removed, bishops score repeated and was found to be 7. She was transferred to the labour ward for delivery. Artificial rupture of membranes was done and liquor was clear. No cord was felt, 5 units of syntocinon in 500c.c. of 5% dextrose drip was put up. The syntocinon was run at 20 drops per minute to increase every 30 minutes by 10 drops per minute until 60 drops per minute or attainment of 3 strong contractions. At 8.30a.m. on 7-1-89 the cervix was found to be 6cm dilated and she had 3 strong contractions in 10 minutes. She was planned to have assisted vacuum delivery in second stage. At 9.30a.m. she was delivered by vacuum extraction and a female baby of good APGAR score was delivered. She scored 10 in one minute and 10 in five minutes. She weighed 3000gm. After delivery the patient was sedated with valium 10mg

intramuscularly and she had close observation for six hours (half hourly observations) then 4 hourly afterwards. Blood loss was estimated to be 200mls. The placenta weighed 600mg and was healthy. Post delivery blood pressure was 140/90mmHg. At 5.00p.m. on the same day she was taken back to the general ward on sedation for further bed rest.

On 8-1-87. Her blood pressure was 140/90mmHg. The baby and mother were well. The lochia loss was normal. On 9-1-87 she was discharged home on valium 5mg + ds and was booked to come to post-natal clinic after 6 weeks.

FOLLOW UP

She was seen in the post-natal clinic after six weeks and her blood pressure was normal. She was discharged from the clinic to attend ante-natal clinic early when she became pregnant next time. She was also referred to the Renal clinic for further assessment and investigation.

COMMENT

This patient had presented with pre-eclampsia at 34 weeks gestation. She was kept in the ward until the time she was 38 weeks and she was successfully induced with PGF₂ α amniotomy and syntocinon. She had assisted vaginal delivery

of a healthy female infant.

The incidence of pre-eclampsia is reported to be 5% (Pritchard, 1985). It has been defined as a condition peculiar to pregnancy in which there is a rise in diastolic blood pressure to 90mmHg or higher and it is associated with fluid retention and proteinuria. In Kenya, Mati found that hypertension complicates 1.5% to 9% of all pregnancies (Mati, 1975). It is usually a disease of primigravida (Pritchard, 1985). Our patient presented with hypertension, oedema and trace of proteinuria. She was a young primigravida.

Aetiology of pre-eclampsia is unknown. Several theories have been suggested and include alterations in maternal-fetal immunological interaction, maternal vascular reactivity and maternal disorders of coagulation (Pertrucco, 1981). Our patient was not investigated fully to look for a possible aetiological factor. However, it was noted that her blood pressure had dropped six weeks after delivery. She had been referred to renal clinic for further assessment.

The pathophysiological disturbances consist of reduction of blood flow to vital organs like the placenta and kidneys. This causes ischaemia and subsequent infarction of the placenta leading to poor placental function. This in turn causes intra-uterine growth retardation (5,6). Our patient had a good size baby and there was no evidence of

intra-uterine growth retardation.

The management of pre-eclampsia depends on the severity of it and the gestation. Mild hypertension is usually treated by bed rest and may not even need admission to hospital. Curet, L. B. et al (1979) proposed bed rest 4 hours daily in the left lateral position. He noted that since the fetus was compromised by decreased maternal blood volume and decreased placental perfusion, an alternative plan of management utilizing bed rest in the lateral recumbent position was worthwhile. Bed rest controls maternal blood pressure and placental perfusion is improved. (Curet, 1979). Patients with moderate to severe hypertension need to be admitted to hospital for treatment and investigations. Our patient had moderate to severe hypertension. Her initial blood pressure was 110mmHg diastolic and sometimes could be 100mmHg before it settled to 90mmHg diastolic. She was therefore put on aldomet and phenobarbitone and hydrallazine. Phenobarbitone acts centrally as a sedative by desensitising the neurons in the central nervous system and has been associated with reduced incidence of jaundice in newborns probably because it induces the liver enzymes. Aldomet is safe in pregnancy. Its action is also central, decreasing the sympathetic outflow from the brain. (2). Hydrallazine is a vasodilator and is used in emergencies and severe hypertension. It's safety in pregnancy is still debatable especially when given in boluses. However it's use with aldomet is even more beneficial since aldomet is known to block the reflex increase in cardiac output produced by

the peripheral vasodilatation. Redman (1984) had studied aldomet extensively and found no evidence that it affects fetal growth, the duration of labour or the blood gas status of the new born. He also noted in his other study in 1982 that aldomet did not lessen the incidence of superimposed pre-eclampsia. The drug only prevented the progression of mild to moderate hypertension and hence reduced the frequency of severe hypertension.

Our patient did not have any problems with these drugs and reduced the progression of the hypertension to a more severe form.

Delivery of patients with pre-eclampsia is indicated when the foetus is thought to be mature because of the associated intra-uterine growth retardation and even foetal demise. The timing of delivery usually occurs at 37 to 38 weeks after performing surfactant test (2). Our patient was 38 weeks and surfactant test was done and found to be positive.

Delivery is usually effected by induction if there is no contra-indication to this (5). Our patient had induction of labour after cervical ripening using prostaglandins. The induction was effected by amniotomy and syntocinon drip and she progressed well in labour with diastolic blood pressure remaining at 90mmHg.

Because of possible increase in venous return and increased cardiac output with subsequent rise in blood pressure during bearing down in second stage, the patients are normally assisted with a vacuum delivery. This was done in our patient.

The placenta of such patients could have infarcts or even retro-placental clots (5,6). Our patient did not have any abnormalities of the placenta.

Following delivery the patient with pre-eclampsia should be sedated and observed closely for about 48 hours (1,5). Our patient was sedated with valium 10mg I.M. and was observed in the hospital for 24 hours.

The patient's blood pressure had fallen to normal at the time of the post-natal check up. This is typical of pre-eclampsia whereby blood pressure comes back to normal after delivery (Pritchard, 1985). However such patients with pre-eclampsia should have further tests to exclude possible predisposing factors such as pheochromocytoma and renal pathology. She required tests such as vanil mandelic acid levels and intravenous urography.

This patient was referred to the renal clinic for assessment and further investigations after her discharge from the post-natal clinic but she never turned up.

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ANAEMIA IN PREGNANCY

Name: J. O.	LMP: 28.7.88
Age: 26 years	EDD: 5.5.89
Parity: 0+0	DOA: 27.4.89
IP.No.: 955057	DOD: 7.6.89

PRESENTING COMPLAINT:

The patient did not have any complaint. She was admitted from the ante-natal clinic at 37 weeks gestation with an haemoglobin of 7.3g/dl for transfusion.

HISTORY OF PRESENTING ILLNESS

The patient was a clinic attendant at Kenyatta National Hospital who was booked due to anaemia in pregnancy. She was previously admitted at a private hospital in March at 33 weeks gestation with an haemoglobin of 8.9g/dl and was put on haematinics only. She was not dyspnoeic and had no swelling of legs. There was no history of diarrhoea or abdominal pain.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She was para 0+0. Her last monthly period was 28.7.88 and her gestation by dates was 37 weeks. Her menarche was at 15 years. Her periods were regular and normal flow coming every 28 days and lasting 3 to 4 days and never used any

contraception.

SOCIAL AND FAMILY HISTORY

She was single and worked as an administrator at the University of Nairobi. She did not smoke nor take alcohol. No family history of any chronic illness.

PAST MEDICAL HISTORY

This was not significant.

PHYSICAL EXAMINATION

The patient was in good general condition. She had moderate pallor and had no leg oedema. She was afebrile and had no jaundice or lymphadenopathy.

CARDIOVASCULAR SYSTEM:

Her pulse was 80/min, regular, good volume. The blood pressure was 120/70mmHg. Her jugular venous pressure was not raised and the apex beat was in the 5th left intercostal space. There was no heart murmurs.

RESPIRATORY SYSTEM:

This was essentially normal with breath sounds vesicular on both sides and good bilateral air entry.

CENTRAL NERVOUS SYSTEM

There was no neurological deficit. The patient was well oriented in space, time and person and all the cranial nerves were intact.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and moved with respiration. The fundal height was term and the foetus was in longitudinal lie and cephalic presentation. The head was five parts up. The foetal heart rate was 148/min. and was regular. There was no organo-megally.

PELVIC EXAMINATION

This was not done as it was not indicated.

IMPRESSION

An impression of mild anaemia in pregnancy was made.

INVESTIGATIONS DONE:

Haemogram - Haemoglobin 8.9g/dl
W.B.C. - $6.2 \times 10^9 / l$
RBC - $3.23 \times 10^{12} / l$
MCV - 84.1 fl (n = 84 ± 7 fl)
MCH - 27.6 pg.
MCHC - 32.8g/dl (N = 34 ± 2.0 g/dl)

Lymphocytes: 33.8%

Haemoglobin electrophoresis: Hb AA

Stool for ova and cyst: No ova or cysts seen.

Peripheral blood film: Normocytic normochronic.

Other tests: Ante-natal profiles - Khan test - Negative

- Blood group - B+ve

Urinalysis - negative for sugar and albumin.

Blood slide for malaria parasites - Negative.

MANAGEMENT AND PROGRESS

The patient was planned to be transfused with one unit of blood before labour and 5.5.89 she was transfused with one unit of blood without any reaction. On 6.5.89, the patient started labour pains at 12.30p.m. During the course of labour, grouping and cross-matching of two units of blood was done and the blood kept ready. Amniotomy was done at 4cm cervical dilatation and she was continuously monitored using the partogramme. Pelvic assessment was done and the pelvis was found to be adequate for the baby. She made good progress in labour and at 6.20p.m. on the same day she had a spontaneous vaginal delivery to a male infant who scored 10 in one minute and 10 in five minutes. He weighed 3500g. I. M. Ergometrine 0.5g was given after delivery of the baby. The blood loss was 150 millilitres and she did not require transfusion.

The immediate post-delivery observations were normal. Her blood pressure was 100/60mmHg and her pulse was 84 per minute. Her respiratory rate was 20 per minute and temperature was 36.3⁰c. The uterus was well contracted. She emptied her bladder and there was no vaginal bleeding.

On 7-6-89 at 4a.m. she was transferred to the general Obstetric ward for bed rest and at 11a.m. same day she was discharged home to attend post-natal clinic after 6 weeks.

POST-NATAL FOLLOW UP

The patient was seen six weeks after discharge from the ward and was found to be in good general condition, she was not pale and the uterus was well involuted. She was advised to attend the family planning clinic and was warned of the possibility of recurrence of the anaemia in subsequent pregnancies. She was advised to report immediately when she gets pregnant next in order to receive appropriate prophylactic treatment. Her haemoglobin on discharge was 11.5g/dl.

COMMENT:

This is a patient who had mild anaemia in pregnancy and had a normal vaginal delivery to a term baby.

Anaemia is the commonest haematological disorder to affect pregnant women (1). It is defined as a haemoglobin level below 10g/dl (8). This patient had a haemoglobin of 7.3g/dl at admission but it went up to 8.9g/dl on haematinics. This level of haemoglobin is relatively safe in pregnancy but she was admitted because she was approaching term and hence there was no room for conservative management as an out patient.

The incidence of anaemia in pregnancy at Kenyatta National Hospital was reported by Mati (1971) to be 4.3%. Sinei, Mati et al reported a prevalence of 7.4% in a rural community in Kenya in 1984. Kibunguchy (1985) gave an incidence of 8.5% in an urban hospital in Kenya.

The factors responsible for the incidence of anaemia in pregnancy are two fold. One, the developing pregnancy interferes with maternal erythropoiesis by competing for the available raw materials. The other possibility is deficiency of nutritional needs coupled with infestations such as malaria and hookworm which cause further depletion of blood (1). In rural Kenya Sinei, Mati et al (1984) found that 1/3 of the anaemic mothers had malaria parasitaemia while Mati et al (1971) reported that megaloblastic anaemia was the commonest type of

anaemia in Nairobi and nearly half of the cases of megaloblastic anaemia was associated with malaria with strong evidence of haemolysis. Kibunguchy W. reported that his cases showed a dimorphic picture of anaemia, followed by iron deficiency. He reported that 63.6% had positive blood slide and 38.1% of these haemolysis with 43.2% having splenomegally. Hookworm infestation was also found to be a common cause of anaemia in his series. The patient being discussed had did not have a conclusive cause of the anaemia. Her blood film showed a normocytic and normochronic picture with a slightly reduced mean corpuscular haemoglobin concentration.

Her blood slide for malaria parasites was negative and did not have sickle cell disease. Her haemoglobin was HbAA.

The management of anaemia in pregnancy depends on severity of the anaemia, gestational age and the causitive factor. Severe anaemia (Hb below 6.5g/dl) before term should be managed by blood transfusion. Mild anaemia can be treated conservatively by haematinics but blood should be ready during labour incase she bleeds alot after delivery. Specific treatment for malaria, iron and folate deficiency, hookworm infestation should be given appropriately (1,4).

The patient presented had an haemoglobin of 7.3g/dl which rose to 9 8.9g/dl after treatment with haematinics and she was given one unit of blood . This unit of blood could also have been preserved for her to be transfused during delivery if she bled.

Premature labour and low birth weight are some of the main complications of anaemia in pregnancy (1,3,4,6). Kibunguchy (1985) reported a low birth weight rate of 44.6%. The cause of low birth weight is probably due to hypoxia secondary to maternal anaemia. This patient did not have any of these complications but the labour was short for a primigravida since she delivered in six hours.

In symptomatic patients vacuum delivery and active management of third stage of labour are all geared to reduce strain to the heart which is already hypoxic (4,7) Our patient did not fall in this category but ergometrine was given after delivery of the baby to prevent post-partum haemorrhage.

The prevention of anaemia begins before conception in the pre-natal clinic. The haemoglobin concentration should be raised to normal. In pregnancy they should get prophylactic iron and folate and in malaria infested areas

chloroquine should be given (4,7). This patient was advised on the possibility of recurrence of her anaemia and told to come to the ante-natal clinic early for investigation and early treatment.

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PORTAL HYPERTENSION COMPLICATING PREGNANCY

Name: A. M. L.M.P. 2-9-88
Age: 24 years EDD. 9-6-89.
Hospital No. 933548
Admitted: 27.2.89
Discharged: 15-5-89.

PRESENTING HISTORY

She was admitted from the ante-natal clinic where she had been referred from the medical ward. She had been admitted in the medical ward with portal-hypertension and after emergency treatment for bleeding oesophageal varices in that ward, she was referred to the ante-natal clinic because of the pregnancy. At the ante-natal clinic she was found to have massive oedema, severe pallor and imminent cardiac failure. She was therefore admitted as an emergency.

PAST-MEDICAL HISTORY

She had been admitted at Kenyatta Hospital in 1984 due to nose bleeding. In April 1988 she vomitted 200mls of blood and was treated in a private clinic and improved. In December 1988 she was admitted in Kenyatta Hospital medical ward with haematemesis (500mls) due to oesophageal varices. She was transfused with one unit of blood (she was 14 weeks pregnant then). Ultrasound was done during this admission on 19-12-88 showing prominent veins and liver and spleen enlarged with normal echo pattern; the splenic vein was dilated.

On 31st January 1989 she was admitted to acute Gynaecology ward with hyperemesis gravidarum and anaemia 20 weeks gestation. In the ward she vomitted 1.5 litres of blood (seven bouts) and was transfused with two units of blood.

She was transferred to the medical ward as a case of bleeding oesophageal varices. She was treated with vasopressin 20 units in 200 mls of saline to run in 30 minutes. She was planned for sclerotherapy but this was later deferred. She was also seen by the surgeons who recommended endoscopy and cardiothoracic review.

She is a known asthmatic since 1986 and has been on franol. No other notable medical problems in her life.

OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 2+0. She had her first delivery in 1982 (male) and the last delivery was in 1987 (female). All the babies were full term and delivered spontaneously.

Her periods were regular, painless and lasted 5 days with a cycle of 26 to 28 days. Her menarche was at 18 years age. Her last monthly period was on 2.9.88 and her E.D.D. was 9-6-89. She was therefore 32 weeks by dates on admission.

SOCIAL AND FAMILY HISTORY

She had been married for five years by a man from Mombasa while she came from Kiambu. However both stayed in

Nairobi and occasionally went to Mombasa about 3 times a year. Both parents were alive and well. She was the last born in a family of 5, she did not take alcoholic drinks nor did she smoke.

No family history of similar illness but mother is an asthmatic.

SYSTEMATIC ENQUIRY:

Central Nervous System: She had occasional headaches and dizziness. No visual disturbance.

Respiratory System: She was coughing and had difficulty in breathing.

Cardiovascular System: She had palpitations.

Gastro-intestinal System: She had no melena stools but had occasional epigastric pains. She got melena stools only when she has vomitted blood.

EXAMINATION FINDINGS:

Booking Day (12-3-89)

She was in good general condition, she had moderate pallor, bilateral pitting leg oedema, no varicose veins of the legs and she had no lymphadenopathy.

Breasts: The breasts were normal.

Chest: The chest was moving with respiration, trachea was central and the respiratory rate was 28 per minute.

There was prolonged expiratory phase and rhonchi were heard. There were no crepitations.

Cardiovascular System: The pulse was 120/min. regular non-collapsing. The B.P. was $\frac{120}{60}$ mmHg. The JVP was not raised, Apex beat was on the 5th intercostal space. The 1st and 2nd heart sounds were heard and were normal. There was a systolic murmur, which was probably haemic.

Abdominal Examination: The abdomen was distended and moved with respiration. There was a spleenomegally of 13cm below the left subcostal margin along the mid-clavicular. It was smooth, firm and non-tender. The liver was 5cm below the right subcostal margin and was smooth, firm and non-tender. There was a distended vein to the right of the umbilicus and chest. The fundal height was 26 weeks and fetal heart was heard, 140/minute regular. Ascites was demonstrated with the shifting dullness technique.

Vaginal Examination: Not done but on inspection there were no vulval swellings or varicosities.

Per-rectal Exam/Proctoscopy: These were not done.

INVESTIGATIONS DONE:

1. Full Haemogramme:

The picture was that of microcytic hypochromic anaemia and there was reduced total WBC and RBC. The platelets were adequate. The HB on 28-2-89 was 5.2g/dl and 3.3.89 it was 7.1g/dl.

2. Urea and Electrolytes

- These were of normal range.

3. Liver Function Tests

- The total protein was 57, albumin was 26 and bilirubin 8 umol/l. The alkaline phosphatase was 13.1KA. These were of normal value.

4. Rectal Snip: No ova of schistosoma mausoni were seen.

5. STOOL: No ova, cysts or larvae seen.

6. Urinalysis: Normal.

7. Abdominal Ultrasound: The liver was of normal echo pattern and size but portal vein appeared prominent. The spleen was enlarged, had normal echo pattern and splenic vein was dilated. No abdominal masses were seen.

8. Endoscopy (7.2.89): There were severe oesophageal varices with red spots and signs of recent haemorrhage.

9. H.I.V. - Elisa test was positive but western blot was negative (20.3.89).

TREATMENT OFFERED TO THE PATIENT

The patient was kept in the maternity ward until delivery. She had been reviewed by surgeons and the physicians while in the maternity ward and both recommended conservative management. So she was being transfused when need arose. She had haematemesis five times during pregnancy each time she was transfused. At one time the haematemesis was so severe that she developed congestive cardiac failure and had to be managed in the

intensive care unit of the maternity ward. She was for Sengstaken-Blackmore tube if haemorrhage persisted but fortunately it stopped. She was put on vasopressin I.V. 20 units in 100mls 5% dextrose over 30 minutes. Most of her ante-natal period she was put on digoxin, salbutamol and antacids alternating with haematenics. She was placed on bed rest. At one time she developed pneumonia complicating the asthma she had and was put on antibiotics.

The average HB was kept at about 7.5g/dl because of scarcity of blood. The aim was to raise it to above 10g/dl. It was the experience of the patient that every time she was given blood when the HB was 7g/dl and above she used to vomit blood. There was no explanation for this.

On 2-5-89, at 34 weeks gestation, an ultrasound was done which confirmed fetal viability and on 9-5-89 she developed pneumonia and severe asthmatic attack. At around 11.30p.m. the same day she had spontaneous rupture of membranes and she was found to be contracting. The fetal heart was found to be 98/minute and irregular. She was put on oxygen and close monitoring using the partogramme. The cervix was found to be 6cm dilated and fully effaced and a decision was made by the attending physician to allow her to deliver vaginally. She delivered at 1 A.M. and the baby was female weighing 2500gm with clear liquor and there was no obvious cause for the fetal distress. The APGAR score was poor and she was taken to nursery after the initial resuscitation.

After delivery she was found to be pale (but blood loss was 100mls) and her B.P. was 100/60mmHg. The baby died a few minutes later.

Six days after delivery she was found to be in stable condition and she was discharged home. She was advised to have tubal ligation and to attend medical clinic for follow up.

FOLLOW UP: She was seen in the post-natal clinic after 6 weeks and had no complaints. She had not made her mind concerning family planning. On 12-8-89, 3 months after delivery she was admitted to the medical ward with severe anaemia after haematemesis. She was transfused on 13-8-89 with two units of blood and was put on antacids.

Repeat Endoscopy was done on 15-8-89 and one big oesophageal varice was seen. Sclerotherapy was done using 2mls ethanolamine injection and the varices collapsed. However after the injection she started oozing blood and she was treated with vasopressin 20 units in 100mls 5% dextrose to run over 15 minutes. She was discharged from the medical ward three days later in stable condition.

COMMENT:

Portal hypertension is increased portal vein pressure caused by extra-hepatic portal vein obstruction, increased hepatic flow or increased resistance to hepatic outflow (child, 1974). The normal portal venous pressure is 10-15cm

of water (Donaldson, 1971).

The causes of portal hypertension can be grouped into pre-hepatic, where tropical splenomegally syndrome and portal vein occlusion are responsible or intra-hepatic in cases of schistosomiasis (pipestem fibrosis), macronodular cirrhosis, centrizonal colaginosi, fatty liver of pregnancy (causing partial obstruction of sinusoids by the swollen hepatocytes), congenital hepatic fibrosis and liver tumours or post hepatic due to cardiac failure (due to chronic RHD), constrictive pericarditis, inferior venacaval obstruction and hepatic vein thrombosis. (13,9). In the case presented, no actual cause of the portal hypertension was established with the investigations that were done. The liver scan showed no evidence of fibrosis or tumour and the spleen was also of normal texture. There was no evidence of alcoholism or chronic malaria from the history. Liver biopsy ought to be done on this patient for any pathology of the liver. The biopsy will differentiate various causes of portal hypertension namely intra and post-hepatic causes. In schistosomal cirrhosis pipestem fibrosis will be seen. Sinusoidal lymphocytosis with Kupffer cell hypertrophy and hyperplasia will suggest tropical splenomegally syndrome and normal liver biopsy with portal hypertension will suggest portal vein thrombosis. Splenic venogramme coupled with abdominal x-ray would detect calcification of portal vein. However portal vein thrombosis is rarely seen in pregnancy (Donaldson & Plant, 1971).

According to Donaldson and Plant (1971) extrahepatic causes represent 10% and intra-hepatic portal hypertension 90%. This grouping was not done in this patient because a definite diagnosis was not established.

The manifestations of portal hypertension in pregnancy are splenomegally, collateral circulation and ascites. (Cook, 1980; Orloff, 1980). The splenomegally is usually due to venous congestion, the collateral circulation is found in the oesophagus, stomach (distension of Gastric and azygous vein), upper rectum (haemorrhoids) and umbilicus (caput medusae). The ascites is partly due to excess lymph from hepatic and intestinal areas as a result of congested veins and could also be due to hypoalbuminaemia which occurs in cirrhosis (Cook, 1980). This patient being discussed had splenomegally, collateral circulation (in the oesophagus and caput medusae) and ascites. The cause of ascites in this patient was probably congestion as cirrhosis was not evident.

A review of literature shows that pre-existing portal hypertension is accentuated by the physiological changes of pregnancy. A report by Hendry and Mackey (1969) described three cases of portal hypertension due to extra-hepatic obstruction and all these developed haematemesis during pregnancy and one died. This patient had adverse effect of pregnancy as she had five bouts of haematemesis during pregnancy.

There is evidence that the dynamics of normal gestation predispose to variceal bleeding (Donaldson and Plant, 1971) There is increased portal vein pressure in the latter stage of pregnancy. The increase in portal vein pressure is due to the enlarged gravid uterus which causes an increase in intra-abdominal pressure. The uterus presses against the diaphragm producing a transient three-fold increase in portal vein pressure (3,4,8). The haematemesis in this patient worsened as pregnancy progressed. The effects of pregnancy on the disease process is unpredictable (Donaldson and Plant, 1971). Mwathe (1984) reported one case which had uneventful pre-natal, natal and post-natal period.

Lebrec et al (1980) observed that the degree of portal hypertension has no predictive value for the risk of gastro-intestinal bleeding, but added that large-sized oesophageal varices are associated with a high risk of occurrence or recurrence of gastro-intestinal bleeding and should be taken into account for a better selection of patients for posto-caval shunt. This patient had large oesophageal varices.

The mechanism of bleeding in these patients is explained by Child (1974). The favoured theory suggests that varices rupture after abrupt increases in portal pressure such as may occur in straining (Valsalva maneuver) or stretching. The alternative theory of variceal rupture suggests gastro-oesophageal reflux of acid gastric contents leading to erosive oesophagitis.

This patient had evidence of epigastric pain and was an asthmatic with coughing most of the time. Hence she was a good candidate for variceal bleeding.

The management of these patient in pregnancy is not unanimously agreed due to the fact that very few cases have been reported in literature (Donaldson and Plant, 1971). However from the evidence there is acute haemorrhage should be treated by blood replacement. Rapid and adequate transfusion should be instituted. Blood pressure and pulse rate are used to estimate the quantity of blood required. There should be no sedation. The patient should get I.M. vitamin K and oral cimetidine if available. She should get 20 units of vasopressin (pitressin) in 100mls of glucose saline given over 10 minutes. This causes constriction of the mesenteric arterial bed and can cause diarrhoea and vomiting. If bleeding does not stop, insertion of sangstaken-blackmore tube should be done (Orloff, J. M. et al 1980). This patient was treated with blood transfusion and vasopressin injection. She did not require the sangstaken-blackmore tube.

Invasive treatment is not advisable in pregnancy. Such treatment like sclerotherapy, portal caval shunt and ligation of varices should be left until after delivery. This patient had sclerotherapy 3 months after delivery.

The management of labour is sensitive. Donaldson and Plant (1971) suggested elective caesarian section at 38 weeks to avoid rupture and haemorrhage of the varices from increased back pressure through the portal-venous

system at vaginal delivery and recommend vacuum extraction in those who deliver vaginally. They also suggest the following supportive therapy: raising the foot of the bed, avoiding fluids in the evening, avoiding coffee and alcohol and taking antacids to avoid oesophagitis. Hendry and Mackey (1969) observed that since pregnancy presents a grave risk in the absence of an effective portal systemic shunt it should be avoided and if it occurs should be terminated early unless portal hypertension has been corrected.

In conclusion it can be said that portal hypertension in pregnancy can lead to grave complications and if pregnancy occurs the patient should be admitted throughout pregnancy for close monitoring. She should be managed conservatively and pregnancy should either be terminated at 38 weeks or when fetal lung maturity is established or during delivery an elective vacuum extraction done. After delivery the patient should have a tubal ligation or if she wants further babies the problem should be corrected before the next pregnancy.

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Vol. 15 N 4 April 1989.

DEEP VEIN THROMBOSIS IN PREGNANCY

Name: S. W.	LMP: 29.2.88
Age: 16 years	EDD: 7.12.88
IP.NO. 926958	DOA: 30.10.88
Parity: 0+0	DOD: 24.12.88

CHIEF COMPLAINT:

She complained of pain in the right lower limb for one day.

HISTORY OF PRESENTING ILLNESS

The patient was admitted through casualty as a referral from Pumwani Maternity Hospital with complaints of pain in the right lower limb centralised in the calf muscle. The pain was progressive and was associated with swelling and difficulty in walking with the right lower limb.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She was a para 0+0. Her menarche occurred at 15 years of age. Her menses were regular occurring every 30 days lasting 7 days. Her last period was on 29.2.88 giving a period of amenorrhoea of 34 weeks. She was not on any contraception. She attended ante-natal care at Riruta Health Centre in Nairobi since 24 week gestation and the ante-natal period up to the time of present complaints was

uneventful.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was single and stayed with parents at Kawangware. The uncle had twins. There was no family history of any chronic illness. She did not smoke cigarettes or take alcohol.

PHYSICAL EXAMINATION

The patient was in fair general condition, she was not pale. She was clinically febrile (temperature was 37.2⁰c). She had no oedema and no lymphadenopathy.

RESPIRATORY AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

CARDIOVASCULAR SYSTEM

Her pulse was 96 per minute and her blood pressure was 120/80mmHg. Her jugular venous pressure was not raised and her heartsounds were heard and were normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and moved with respiration. The uterine size was corresponding to 36 weeks and the fetus was lying longitudinally, cephalic presentation. The fetal heart rate was 140 per minute and was regular. There were no uterine contractions.

LOCAL EXAMINATION OF THE LOWER LIMB

The right lower limb was swollen and appeared larger than the left lower limb. It was shiny especially at the calf region. The whole limb felt warm and there was marked tenderness at the calf region. The Homan's sign was positive. The femoral, popliteal and dorsalis pedis pulses were felt. The leg circumference was 31cm at a point 10cm below the tibial tuberosity. The opposite lower limb (normal) was noted to be 28cm at the same level.

PELVIC EXAMINATION

This was not indicated.

IMPRESSION

An impression of right deep vein thrombosis in 34 weeks pregnancy was made.

MANAGEMENT

The patient was put on bed rest with the right leg elevated. She was started on intravenous heparin 7,500 units 6 hourly and intravenous crystapen 2 mega units 6 hourly and intravenous crystapen 2 mega units 6 hourly. Her blood clotting time (whole blood) was done and was found to be 1 minute 40 seconds. She was for daily leg circumference and blood for investigations was withdrawn.

RESULTS OF INVESTIGATIONS

1. Ante-natal profile.

Khan test: Positive.

Group and Rh factor: Rhesus D positive.

Haemogramme - Hb 11.9g/dl

- WBC - Normal

- RBC - Normocytic normochronic

- Platelets - adequate.

2. Daily leg circumference

	<u>Left</u>		<u>Right</u>	
	10cm below tibial tuberosity	15cm above tibial tuberosity	10cm below tibial tuberosity	10cm above tibial tuberosity
31.10.88	28cm	34cm	31cm	36cm
1.11.88	28cm	34cm	31cm	36cm
3.11.88	30cm	38cm	34cm	39cm
9.11.88	30cm	35cm	31cm	36cm
15.11.88	30cm	37cm	32cm	37cm

3. Coagulation screen (4-11-88)

P.T.T. 13 sec.

Control 15 sec.

Thrombin time test 14 sec.

Thrombin time control 11 sec.

K.C.C. 50 sec.

Control 41 sec.

4. Urinalysis (18-11-89).

Ph 7

No protein or sugar

Leucocytosis +

No growth on culture sensitivity.

5. Coagulation screen (30.11.88)

P.T.T. 16 sec.

Control 15 sec.

Thrombin time test: 12 sec.

Control: 11 sec.

K.C.C.T.: 73 sec.

K.C.C.T. control: 35 sec.

FURTHER MANAGEMENT

The dose of heparin was increased to 10,000 units 6 hourly on 4-11-88 after the coagulation screen indicated inadequate doses. On 18-11-88 she developed lower abdominal pain and dysuria. Urinalysis was done and showed no urinary tract infection. On 23-11-88 she improved

clinically and the dose of heparin was reduced to 7,500 units 6 hourly. The coagulation screen report of 30-11-83 indicated adequate heparinisation. She was also given benzathin penicillin 2 mega weekly for three weeks for the positive khan test.

She was kept in the hospital till 5-12-88 on the same dose of heparin when a decision to deliver her was made after she was 42 weeks by dates. Amniocentesis was done and surfactant test was positive 1:1 and 1:2.

Bishops score was done on 6.12.88 and she had a bishops score of 7. The cervix was ripened using prostaglandin F₂ and she was induced on 13/12/88 after bishops score was favourable. Heparin was stopped.

On 14.12.88 she had prolonged labour due to face presentation and caesarean section was done to deliver a live male baby weighing 3190 grammes with an APGAR score of 8 in one minute, 9 in five minutes and 10 in 10 minutes. The blood loss was 700mls.

Post-operatively she was started on heparin 24 hours after delivery and warfarin was also started at the same time. She was given the dose of heparin she was getting before labour (7,500 units six hourly) and warfarin 4mg O.D. On the 4th day after starting the patient on warfarin, her prothrombin time (test) was 23 seconds and prothrombin time (control) was 14 seconds giving a prothrombin time index of

56%.

On the third post-operative day her haemoglobin was 10.6grammes/dl.

On the 10th post-operative day she was sent home on warfarin 4mg once daily to come to the clinic six weeks later.

POST-NATAL VISIT

This patient did not turn up in the post-natal clinic.

COMMENT

This is a patient who presented with deep vein thrombosis of the left leg at 34 weeks of pregnancy and had an uneventful labour and delivery.

Deep vein thrombosis is a disease associated with pregnancy. Waweru Mathu (1981) found that in 80 of proved deep vein thrombosis cases at Kenyatta National Hospital 61.25% were associated with pregnancy. Our patient was pregnant.

Deep vein thrombosis usually affects the calf (soleus muscle) and the ileo-femoral venous segment (Aaro, 1971). Deep vein thrombosis commonly affects the left leg and left

thrombosis cases had developed pulmonary embolism. Our patient did not develop any pulmonary embolism.

Diagnosis of deep vein thrombosis is usually made on a history of pain, swelling and warmth of one or both legs (5).

However not all patients present with all these symptoms. Flessa et al (1974) reported that only 1/3 of their patients presented with swollen limb. Therefore the diagnosis rests entirely on clinical judgement including performing homan's test, coagulation screen and whole blood clotting time. The patient being discussed had a history of pain, swelling of the right lower limb and homan's sign was positive. Her whole blood clotting time was very low (1 min. 40 seconds). Coagulation screen was done and was within normal five days after starting heparin. It was not possible to do it before starting heparin. The patient was also having daily leg circumference which was noted to be different on both limbs, the one with deep vein thrombosis being bigger.

When the diagnosis of deep vein thrombosis is suspected, treatment should be started immediately. The mainstay of treatment is intravenous heparin in acute phase and warfarin sodium for maintenance. Heparin is given 6 hourly and is controlled by K.C.C.T while warfarin is a daily dose of 5mg or 6mg and is controlled by P.T.I. The action of heparin starts immediately while that of warfarin

ileo-femoral vein (Waweru - Mathu, 1981 and Aaro, 1971 respectively). Waweru - Mathu (1981) found that deep vein thrombosis affected the left leg in 61 out of 80 proved cases (76.2%). Our patient had deep vein thrombosis on the right leg.

Deep vein thrombosis is more common in pregnancy because pregnancy is accompanied by a rise in coagulation factors, namely fibrinogen, prothrombin, factor VII, factor VIII, factor IX and factor X, and platelets (Weiner, 1985). Apart from the alterations in blood clotting factors there is also slowing of venous circulation in pregnancy. (Tindal, 1987). Labour is accompanied by changes that follow an operation and hence risk of deep vein thrombosis after normal delivery or after caesarean section is more. Use of the pill before pregnancy is another factor which may be responsible for development of deep vein thrombosis. Waweru - Mathu (1981) at Kenyatta National Hospital found history of use of the pill before pregnancy in these patients accounted for 22.5%. This patient did not use contraceptives before pregnancy. She did not have any further complications during delivery or immediate post-natal period.

The incidence of deep vein thrombosis at Kenyatta National Hospital was reported by Waweru - Mathu in 1981 to be 0.16% of all admissions. Although the incidence is low, deep vein thrombosis is an important cause of maternal death. Gikonyo (1980) reported that 5.4% of deep vein

starts within 3 days. The anti-dote of warfarin is vitamin K and that of heparin is protamin sulphate in the dose of 1 part per 100 units of heparin. In pregnancy, heparin is used in the acute phase of deep vein thrombosis and throughout first trimester, in the second trimester, warfarin can be used after the acute phase but should be stopped at 36 weeks to start her back on heparin. The basis of this is that warfarin is teratogenic when used in the first trimester. Shaul et al (1977) reported that warfarin causes nasal hypoplasia, ophthalmologic abnormalities and retarded development. In third trimester, warfarin may cause bleeding tendency in the fetus because it crosses the placental barrier (heparin does not). Hence to prevent bleeding during labour (especially intracranial haemorrhage) the patient should not be on warfarin during labour (8). This patient presented in the third trimester and hence there was no place for warfarin since the acute phase was over after she had already passed 36 weeks. She continued on heparin until the time of delivery when it was stopped.

In the post-partum period, early ambulation is encouraged. Heparin is started 24 hours after delivery and warfarin is also started at the same time so that heparin can be stopped after 3 days. The dose of heparin is adjusted to 1 to $1\frac{1}{2}$ times the control level when measured 6 hours after heparin injection. This patient was started on heparin 24 hours after delivery.

To prevent recurrence, post-partum treatment should continue for six weeks. The patient should attend a well equipped ante-natal clinic in her subsequent pregnancies. Waweru - Mathu (1981) reported a recurrence rate of 11.2% in his series. This patient was advised on management of her future pregnancies including the risk of developing deep vein thrombosis again. She was asked to take warfarin 6mg once daily for six weeks after delivery.

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PREGNANCY FOLLOWING TREATMENT FOR CHORIOCARCINOMA

Name: R. K. IP.NO: 961170
Age: 39 years DOA: 6.5.89
Parity: Para 2+2 DOD: 31.5.89

PRESENTING COMPLAINTS:

The patient presented with complaints of drainage of liquor for two hours.

HISTORY OF PRESENTING ILLNESS

The patient was admitted through labour ward on 6.5.89 with a history of drainage of liquor for two hours. The liquor started draining spontaneously and it ran down the legs. She had no labour pains and there was no history of trauma. She had no gastro-intestinal, urinary system or respiratory system problems and there was no history of vaginal bleeding.

PAST-OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was a para 2+2. She had an abortion of two months in 1976, then this was followed by two term deliveries in 1977 (vacuum extraction done) and in 1979 (breech delivery). Her last pregnancy was in 1983 which turned out to be molar pregnancy. Dilatation and currettage was done and products were taken for histology which showed a diagnosis of

She was treated with seven courses of methotrexate and 6 - mercaptopurine and followed up in the Gynaecology clinic after three months, then after 6 monthly upto 1988. In all these visits she had negative pregnancy tests.

In 1988 she was discharged from the clinic and by this time she had stopped taking her oral contraceptive pills due to a complication of high blood pressure.

Her last period was on 30.8.88 and hence she had a period of amenorrhoea of 35 weeks. Her periods prior to this were occurring every 28 days and lasted four days. She attended ante-natal clinic at Kenyatta National Hospital at a gestation of 20 weeks.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was married with two living children. The father was diabetic and so was the father in law. There was no history of hypertension in the family.

PHYSICAL EXAMINATION

Her general condition was good. She was afebrile. She was not pale. She had bilateral oedema of feet. She had no

lymphadenopathy.

CARDIOVASCULAR SYSTEM

Her pulse was 78 beats per minute and was regular. Her blood pressure was 150/80mmHg. Her jugular venous pressure was not raised. Both heart sounds were heard and normal.

RESPIRATORY SYSTEM

This was essentially normal with equal air entry on both sides and breath sounds were vesicular.

CENTRAL NERVOUS SYSTEM

The patient was well oriented in space, time and person. The cranial nerves and the deep tendon reflexes were tested and were normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended. The fundal height was 36 weeks and the baby was of good size. The fetal heart was heard and was 140 beats per minute and regular. She had no contractions. The foetus was lying longitudinally with breech presentation.

PELVIC EXAMINATION

The external genitalia was normal. There was a colourless and odourless watery vaginal discharge. A speculum examination revealed clear liquor in the vagina. The cervix was about one centimetre dilated and appeared parous. There was a gush of fluid after increased intra abdominal pressure. The vaginal wall was normal.

DIAGNOSIS

A diagnosis of a pregnancy with premature rupture of membranes and breech presentation at 36 weeks following treatment for choriocarcinoma was made.

LABORATORY INVESTIGATIONS

1. Haemogramme

Hb: 13.7g/dl.

PCV: 39.6g/dl.

WBC: $7 \times 10^9/l$.

2. Serology: Negative

3. Group and Rh factor: 0 Rhesus +ve.

4. Pelvic ultrasound on 24.11.88.

- this showed a foetus with fetal cardiac activity.

Biparietal diameter of 2cm was suggestive of 12 weeks gestation. The placenta was fundoposterior, not

low lying.

5. Urea and electrolytes

Sodium : 135mmol/l
Potassium:3.5mmol/l
Chloride : 102mmol/l
BUN : 3.5mmol/l.

MANAGEMENT

The patient was planned for an emergency caesarean section because she was not in labour and had a breech presentation with premature rupture of membranes. She was prepared for the operation as in the introduction. The operation was performed as in the introduction and a female baby of APGAR score 9 in one minute and 10 in five minutes was delivered. The baby's weight was 2560 grammes. The placenta was easily delivered by controlled cord traction and the uterus and abdomen were closed in three layers each. Bilateral tubal ligation was done on her as she had given consent in the ante-natal clinic. Apart from the infection which appeared after removal of stitches post-operative recovery was uneventful.

FOLLOW UP

She was seen on 7.7.89 in the post-natal clinic and the wound had healed poorly. There was still a discharging sinus and she was put on antibiotics and to continue dressing in the nearest hospital. She never turned up again for check up.

COMMENT

This is a patient who became pregnant four years after the treatment for choriocarcinoma and had a normal baby.

Pregnancy after choriocarcinoma has been proved safe one year after remission following chemotherapy for choriocarcinoma (Bagshawe et al 1981). Durfee (1984) stated that over 90% of patients have been able to preserve reproductive function. Curry et al (1975) followed up 19 pregnant patients who had therapy for malignant trophoblastic disease and successful pregnancy was the usual results.

This patient became pregnant four years after remission. Contraception is essential during the first year of remission. Once the gonadotrophin levels are within the normal non-pregnant ranges, combined oral contraception is the most effective. If contra-indicated, the mechanical methods of contraception are preferable as intra-uterine contraceptive device can cause bleeding. (Tindal, 1987). This patient had microgynon as contraception until after five years of remission when she stopped them due to high blood pressure. Following this she became pregnant as she did not use another contraceptive method. She never came to seek for advice as she had already been discharged from the clinic.

There has been no evidence that successfully treated trophoblastic disease is associated with sub-fertility or fetal wastage. There doesn't appear to be any increase in abortions, congenital abnormalities, perinatal loss or neonatal morbidity (Tindal, 1987).

This patient did not have any subfertility and did not develop any congenital abnormalities or abortions or perinatal loss. Her delay in getting pregnant was due to the fact that she was on pills.

The explanation suggested for the one year pregnancy free period is that all the mature ova affected by chemotherapy will be eliminated, whilst the resting oocytes are resistant to the effects of the drugs.

The management of patients pregnant following choriocarcinoma is the same as any other normal pregnancy. However special attention should be drawn to the possibility of placenta praevia and retained placenta. There is a slight increase in placenta praevia probably due to the initial type of abnormal pregnancy causing local damage (7). Van Thiel et al (1972) reported retained placenta in one out of every 18 patients previously treated for choriocarcinoma and one of every 22.5 patients previously treated for choriocarcinoma. Most of these patients were treated conservatively with manual removal of placenta followed by curettage when necessary. The patient being discussed had no placenta praevia and there was no evidence of placenta

accreta at operation. She had been done emergency caesarean section because of preterm premature rupture of membranes and breech presentation. The only complication she had was septic wound which could have been due to an infection originating from the drainage of liquor which had caused an intra-uterine infection.

After delivery those patients should be followed up for at least one year with pregnancy tests to rule out a possible recurrence. This patient was seen at the post-natal clinic nine weeks post-partum and had no complaints suggestive of recurrence. The pregnancy test was negative. She was to continue with dressing of the wound in the nearest hospital and to report back incase she noticed any abnormal bleeding.

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ANTEPARTUM HAEMORRHAGE - E.U.A. AND DELIVERY BY CAESAREAN SECTION

Name: W. K.	LMP: 30.5.86
Age: 37 years	EDD: 7.2.87
IP.NO. 802267	DOA: 4.1.87
Parity: 6+0	DOD: 13.1.87

PRESENTING COMPLAINT:

The patient presented with a complaint of vaginal bleeding for one day.

HISTORY OF PRESENTING ILLNESS

The patient was well until one day prior to admission when she started having painless vaginal bleeding. The blood trickled down her legs and it was moderate in amount. She went to Kibwezi hospital in Machakos but because of lack of the anaesthetist at Kibwezi and Machakos at that time she was referred to Kenyatta Naitonal Hospital.

She attended her ante-natal care at Ngwata in Kibwezi. She had no previous episode of bleeding and her ante-natal record was uneventful. At the time of admission the bleeding was moderate and had slightly decreased. She had no history of a fall and no history of interference. She had no labour pains.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 6 1. Her first delivery was in 1969 and her last delivery was in 1985. All deliveries were by spontaneous vaginal deliveries. All the six children were alive and well. She had an abortion in 1971 at two months gestation. There was no history of bleeding during her previous pregnancies. Her menarche started at 15 years. She had regular periods and her periods occurred every 28 days lasting 3 to 4 days. She had no dysmenorrhoea. Her last monthly period was on 30.5.86 and so her gestation was 36 weeks. She did not use any contraceptives.

SOCIAL AND FAMILY HISTORY

She was married and she was a housewife. She had no family history of diabetes, hypertension or tuberculosis. Her sister had twins. She did not smoke cigarettes and she did not drink beer.

PAST MEDICAL HISTORY

This was not significant.

PHYSICAL EXAMINATION

She was in fair general condition. She was not pale and she had no jaundice. She had no oedema or lymphadenopathy. She was afebrile. Her body temperature was

37.2⁰c.

CARDIOVASCULAR SYSTEM

Her pulse rate was 78 per minute and her blood pressure was 130/80mmHg. Her jugular venous pressure was not raised and her first and second heart sounds were normal. She had no murmurs.

RESPIRATORY SYSTEM AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and moved with respiration. There were no surgical marks on the abdomen. On palpation no areas of tenderness were elicited and there was no guarding. The foetus was lying longitudinally and in cephalic presentation the foetal head was high above the pelvic brim. The fundal height was 36 weeks.

PELVIC EXAMINATION

The patient was placed in lithotomy position and on inspection the vulva had no blood stains. Vulvo-vaginal toilet was done and a cuscos's speculum was inserted gently. Some blood clots were seen in the posterior vaginal fornix. The cervix was closed and there was fresh blood oozing

actively from the os. The cervix appeared healthy and had no lacerations. The vaginal wall was normal. Digital examination was contra-indicated.

DIAGNOSIS

A diagnosis of moderate ante-partum haemorrhage at 36 weeks was made.

MANAGEMENT

The patient was started on intravenous fluids normal saline 500mls to run at 30 drops per minute alternating with 500mls 5% dextrose to run at the same rate. Blood for grouping and cross-match of two units removed and taken to the laboratory. She was blood group A positive but no blood was available immediately. She was planned for examination under anaesthesia and delivery because of the moderate bleeding and the good size of the baby. She was explained about her condition and the intended treatment and she gave consent. Two units of blood were made ready and the Paediatrician was summoned in case she was to be delivered by caesarean section. She was given pre-medication atropine 0.6mg 1/2 hour before theatre.

EXAMINATION UNDER ANAESTHESIA AND DELIVERY

The theatre staff prepared as for emergency caesarean section. The patient was taken to theatre and placed in

supine position. She was anaesthetised and then placed in lithotomy position with her legs suspended in the stirrups. Vulvo-vaginal toilet was done and she was draped. A Sims speculum was inserted gently into the vagina and the cervix was exposed using a second Sims speculum. There was active bleeding from the cervical os. Digital examination was done gently and there was a boggy mass felt in the posterior vaginal fornix. The cervix was 3cm dilated and 1cm long. The placenta was felt in the posterior lower segment and reaching the internal os.

A new diagnosis of placenta praevia type IIb with moderate ante-partum haemorrhage at 36 weeks was made and a decision to perform a caesarean section was made and the Paediatrician was informed.

The patient was placed back in supine position and she was cleaned and draped. The abdomen was opened through a sub-umbilical midline incision. The uterus was opened through a lower uterine segment caesarean section and a female baby delivered with an APGAR score 4 in one minute and 6 in 5 minutes. The baby was resuscitated by a Paediatrician and was admitted to the nursery for intensive care. The baby weighed 2050 grammes.

The placenta was in the lower segment. It was removed by controlled cord traction and the uterus was repaired in three layers. Swabs and instrument count was correct and the abdomen was closed in three layers. The incision wound

was dressed and vulvo-vaginal toilet was done. The patient was reversed from anaesthesia. The total blood loss was 500mls.

POST-OPERATIVE MANAGEMENT

The patient was observed 1/2 hourly till she was fully awake. She was transfused with two units of whole blood which got finished without any reaction. She was also put on pethidine intramuscularly 100g eight hourly and ampicillin injection intramuscularly 500mg six hourly for two days and five days respectively. On the evening of the first post-operative day she developed rigors and a fever of 38.8⁰c of which she responded to chloroquine although the blood slide was negative for malaria parasites. On her third post-operative day her post-operative haemoglobin was 12.9g/dl. Her bowel sounds were good. She had a normal lochia loss. Her baby was also reported to have died in nursery. On the seventh post-operative day the stitches were removed and the wound had healed well. She was discharged home to attend post-natal clinic 6 weeks postpartum.

FOLLOW UP

The patient was seen in the post-natal clinic five weeks later and she was in good general condition. The wound had healed well and the uterus was well involuted. She had no vaginal discharge. She had no vaginal discharge. She had not commenced her periods and she was advised to attend

family planning for the method of her choice. She was advised on tubal ligation because of her parity and she said she would discuss the matter with the husband.

COMMENT

This patient had ante-partum haemorrhage (A.P.H.) due to placenta praevia type II posterior. She had an emergency caesarean section and a female baby weighing 2050 grammes was delivered who was asphyxiated.

Antepartum haemorrhage is defined as the bleeding from the genital tract after the 28th week of pregnancy but before the birth of the baby (Dewhurst, 1981). The patient discussed had a gestation of 36 weeks.

The incidence of antepartum haemorrhage is reported to be 1.9% in Nairobi (Mati et al, 1983).

The causes of antepartum haemorrhage includes abnormal placental implantation, accidental haemorrhage due to partial separation of a normally situated placenta (abruptio placenta) or local causes in the vulva, vagina and cervix (1,6). Other possible causes of antepartum haemorrhage are vasapraevia, circumvalate placenta or coagulation defects (1,2). The patient discussed had placenta praevia.

Placenta praevia is the implantation of the placenta wholly or partially in the lower segment of the uterus (Kelly et al, 1981).

The aetiology of placenta praevia is unknown but the predisposing factors are multiparity, previous scar, advancing age, faulty implantation of the ovum and defective vascularisation of the decidua (2,6). The patient discussed was 37 years old and grand-multiparous.

Placenta praevia is graded into 4 types depending on the degree of attachment of the placenta to the lower segment and its relation to the opening of the internal os. In type one, the placenta is partly in the upper segment and a crescent of the lower edge is attached to the upper part of the lower segment. In type II the placenta extends to the internal os but it does not cover it. This is further subdivided into anterior and posterior. Type III is where the placenta covers the internal os but does not cover it fully when the cervix is fully dilated. Type IV is when the cervix is fully dilated (1,6). The patient discussed had placenta praevia type II posterior.

Diagnosis of placenta praevia is suspected when there is a history of painless vaginal bleeding towards the end of the second trimester or the third trimester of pregnancy. It is also suspected in cases of unstable lie, malpresentation and high foetal head (1,4,6). The patient discussed had

painless vaginal bleeding in the third trimester and the foetal head was well above the pelvic brim.

Confirmatory diagnostic methods include ultrasonography, soft tissue x-ray placentography, radio isotope and angiography (1,2,6). None of these tests were done on our patient as she was bleeding excessively and we could not wait.

Digital examination is considered a conclusive diagnostic method during examination under anaesthesia but it has to be done in most cases at the 38th week of gestation (2,3). The patient discussed had a digital exam at 36 weeks as an emergency and it was confirmed that she had placenta praevia type II posterior.

The management of a patient with placenta praevia depends on the maturity of the foetus and the amount of bleeding. Pritchard, et al (1985) have defined four forms of management of placenta praevia patients. These are 1. the foetus is preterm without excessive bleeding - conservative management 2. the foetus at term (more than 37 completed weeks) - E.U.A. and delivery 3. the patient in labour - E.U.A. and delivery 4. the patient with severe haemorrhage emergency caesarean section. The patient discussed had excessive haemorrhage and the baby was good size.

When the patient is destined for delivery as an emergency or at 38th week of gestation, she is examined under general anaesthesia, degree of placenta praevia determine and decision on the mode of delivery made. Type I and II anterior are delivered vaginally while type II posterior, type III and type IV are delivered by caesarean section. The patient discussed had type II posterior and so she was sectioned.

Placenta praevia is associated with increased foetal and maternal complications. The maternal complications are haemorrhage and its sequelae including death. The foetal complications are intrauterine growth retardation, intrauterine asphyxia, prematurity and death (Donald, 1979) To prevent these complications, liberal use of transfusion and timely caesarean section has been advocated (1,6). The patient discussed could not be transfused in time because of lack of blood. She was however delivered without waste of time but the baby was severely asphyxiated and it died after three days.

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PRETERM-PREMATURE RUPTURE OF MEMBRANES - CONSERVATIVE

MANAGEMENT AND PREMATURE DELIVERY:

Name: J. W.	L.M.P 27.8.88
Age: 27 years	E.D.D. 4.6.89
IP.No. 954106	DOA: 30.3.89
Parity: 4+0	DOD: 3.4.89

PRESENTING COMPLAINTS:

The patient presented with a history of drainage of liquor for two days.

HISTORY OF PRESENTING ILLNESS

She was admitted through casualty with history of drainage of liquor on and off for two weeks. She had no abdominal pains and there was no vaginal bleeding. She had no other symptoms.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 4+0. Her last delivery was in 1982 and all the other pregnancies were full term spontaneous vaginal deliveries. Her last monthly period was 27.8.88, hence her gestation by dates was 30 weeks. She attended ante-natal care at Nyahururu but there was no card available for checking on her previous ante-natal visits. She had not used any method of contraception. Her menarche was at 15 years and her

menstrual cycles had been regular bleeding for 3 days every 28 to 30 days and the periods were painless

PAST MEDICAL HISTORY

This is not significant.

FAMILY AND SOCIAL HISTORY

She was married and was a housewife. Her husband was a bussinessman. There was no history of diabetes, hypertension or tuberculosis in the family. She did not smoke nor did she drink alcohol.

PHYSICAL EXAMINATION AT ADMISSION

She was in good general condition. She was not pale or febrile and had no oedema. She had no lymphadenopathy.

CARDIOVASCULAR SYSTEM

Her pulse rate was 90 per minute, regular and of good volume. Her blood pressure was 100/70mmHg. Her jugular venous pressure was not raised and both heart sounds were heard and were normal.

RESPIRATORY SYSTEM

She had a respiratory rate of 20 per minute. Both lung fields were clear.

CENTRAL NERVOUS SYSTEM

She was well oriented in space, time and person and her cranial nerves and deep tendon reflexes were normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and moved with respiration. The fundal height was 34 weeks. The foetus was lying longitudinally, presenting cephalic and the head was 5/5 above the pelvic brim. The foetal heart was heard and was 132 per minute, regular. She had no uterine contractions. The liver and spleen were not palpable. The baby's weight was estimated to be 2000 grammes.

SPECULUM EXAMINATION

The external genitalia were normal, there was slight drainage of liquor from the cervical os. The cervix appeared closed with some nabothian follicles and was slightly inflamed. The vaginal wall was normal.

DIAGNOSIS

A diagnosis of premature rupture of membranes at 30 weeks was made.

MANAGEMENT

She was admitted in the lying-in ward for conservative

management. She was given bed rest, started on Amoxil capsules 500mg eight hourly and phenobarbitone 30mg eight hourly and four hourly observations of temperature, pulse rate and fetal heart rate. She was given a vaginal pad to monitor the drainage of liquor and smell. She also had daily abdominal examination for tenderness and white blood cell count was done.

INVESTIGATIONS:

1. Haemogramme

Haemoglobin 11.6g per cent.

PCV 34%

White blood cell counts: $6 \times 10^9 / l$

Polymorphs 74% lymphocytes 24%

Osinophils 1% and monocytes 1%.

2. Urinalysis - No sugar or protein, no casts.

3. Blood group - O rhesus "D" positive.

FURTHER MANAGEMENT

31-3-89: The patient continued to drain but not substantially. Her pulse was 88 per minute and her temperature was $36.8^{\circ}c$. The foetal heart was 142 per minute and was regular.

1-4-89: She developed labour pains at 3.30am and one contraction was palpated lasting less than 20 seconds. At

1p.m. same day, she started having two moderate contractions lasting 20-40 seconds. She was still draining. At 2.30p.m. she delivered a female baby weighing 1700grammes who scored 9 at one minute and 10 at 5 minutes. The baby had a mild respiratory distress a few minutes later and was taken to nursery for intensive care. The placenta was healthy and there was no evidence of chorionamnitis. Post-delivery the mothers observations were normal and she was discharged on 3-4-89 to go to mother's hostel to wait for her baby there.

POST-NATAL VISIT

She was seen in the post-natal clinic after six weeks and she was breastfeeding her baby well. Examination revealed a well involuted uterus but she had not started her periods.

She was advised to use microlut as a contraceptive and was advised to attend our ante-natal clinic early next pregnancy if she wishes to conceive again.

COMMENT

This is a patient who had premature rupture of membranes at 30 weeks. Two days after admission she developed spontaneous labour and she delivered a live foetus who did well post-delivery.

Premature rupture of membranes is defined as spontaneous rupture of membranes at any time before the onset of contractions (Wilson et al, 1982). Webster, A (1969) defined it as occurrence of rupture of membranes one hour prior to labour.

Our patient had spontaneous rupture of membranes for two days and went into labour two days after admission.

The incidence of premature rupture of membranes has been reported to be 9.3% of all deliveries by Wanjala (1980). Webster, A (1969) reported an incidence of 4-14% in pregnancies over 20 weeks gestation in a Chicago hospital.

In approximately 80% of patients with premature rupture of membranes, the latent period is less than 24 hours (Webster, 1969). Our patient had a latent period of four days.

The aetiology of premature rupture of membranes is unknown (Naeye, 1982). However Naeye (1982) observed that localized connective tissue necrosis is usually present near the site of premature rupture and proposed that proteolytic enzymes released by acute inflammation or the collagenase - like enzymes in seminal fluid are possible mechanisms by which such local damage might take place.

Alger (1986), in a study of the aetiology of preterm premature rupture of membranes, concluded that maternal

genital infection by Neisseria gonorrhoea, group B streptococcus, bacteroides species (and perhaps other anaerobes), trichomonas vaginalis, clamidia trachomatis, and possibly mycoplasmas are associated with premature rupture of membranes.

This patient had probably a genital infection which was evidenced by a finding of inflammed cervix and presence of narbothian follicles on the cervix on speculum.

The mechanism of the rupture of membranes following infection has been proposed by Bejar, R. et al in 1981. He suggested that bacterial contamination by anaerobes and streptococcus causes release of phospholipase A₂ which hydrolyzes amniotic phospholipids to produce araebdonic acid, which in turn forms prostaglandins. These cause contraction of the uterus and hence labour starts.

Other than infection, other factors contributing to premature rupture of membranes include cervical incompetence, trauma, hydramnios, increased intra-uterine tension (e.g. in twins), cigarette smoking and coitus (7).

Our patient did not have trauma, cervical incompetence or any evidence of increased intra-uterine tension. Dietary deficiency of vitamin c and zinc has also been associated with premature rupture of membranes.

Diagnosis of premature rupture of membranes can be made from history supported by clinical examination. The history alone cannot be sufficient because the patient may mistake increased moisture from vaginitis, cervical mucous or slight urinary incontinence for amniotic fluid (Webster, 1969). This patient was examined and was found not to be infected and drainage of clear liquor was confirmed on speculum. Other than direct vision of liquor leaking from the external os of the cervix, test of the liquor with nitrazine paper to check for alkalinity (Beja et al, 1981). The PH of liquor is alkaline 7.0 to 7.5 compared to 4.5 to 5.5 that of the vagina. Other tests are the ferning phenomenon for the cervical mucous and demonstrating fetal cells by staining technique (Bejar et al, 1981).

Once diagnosis is made, management of premature rupture of membranes depends on maturity of the baby, degree of the rupture, circumstances surrounding the rupture and presence or absence of evidence of infection. A patient with a positive history of interference and infection is suspected requires termination. Evidence of sepsis is revealed by daily monitor of white blood cell count, oral temperature and foetal heart rate. Also abdominal tenderness and foul smell of the liquor is suggestive. A sharp rise of white blood cells or appearance of immature forms is an evidence of chorionamnitis; temperature rise above 37.5°C and fetal heart rate above 160 per minute on two occasions is another pointer of possible sepsis (Wilson, 1982). Our patient did

not have any evidence of sepsis and hence had conservative management.

The gestation for conservative management should be 28-34 weeks (6,7) and the foetus should weigh below 200gm (7) our patient was 30 weeks gestation. The baby's weight was estimated to be 200gm but her actual weight after birth was 1700grammes.

Active management has been advocated by most authors irrespective of the gestation (6,11). Wilson, (1982) found out that non-intervention was found not to significantly extend the time in utero as only 19% of his cases were extended one week or more in utero. Nelson (1985) observed that incidence of neonatal sepsis increased in women with preterm ruptured membranes given steroids who remain undelivered for 24 to 23 hours after ruptured membranes.

Dexamethasone for lung maturity has been used widely in non-infected patients when active management is decided upon. Dexamethasone or celestamine in the dose of 12mg is given intramuscularly and can be repeated 24 hour later if labour has not started. Sometimes tocolytics can be used to delay labour for 72 hours after the first dose of steroids (Nelson et al, 1985). However Nelson(1985) has reported that use of steroids does not reduce the incidence of respiratory distress syndrome, hyperbilirubinaemia, patent ductus arteriosus, episodes of apnoea and bradycardia, necrotizing enterocolitis, perinatal mortality, maternal sepsis or

neonatal sepsis and recommends that once premature rupture of membranes has been diagnosed, the best management is delivery.

This patient was not given steroids and had spontaneous onset of labour while being managed conservatively.

Induction of labour with syntocinon and institution of antibiotics if membranes have ruptured more than 12 hours or if there is evidence of infection have been suggested (3,7,10,11). Our patient was not given syntocinon as she had effective contractions. She was put on ampicillin capsules 500mg six hourly.

Prevention of premature rupture of membranes is adviseable since there is a tendency of it to recur in successive pregnancies (Naeye, 1982). Gazaway (1986) wrote that prevention of cervical factors (for example cervical incompetence), myometrial factors and fetal membrane problems will ease the problem of further premature rupture of membranes. Our patient was advised to attend our clinic early when she becomes pregnant again for assessment and prevention of further pregnancy loss.

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CORD PROLAPSE IN LABOUR - EMERGENCY CAESAREAN SECTION

Name:	E. O.	LMP:	24-8-86
Age:	23 years	EDD:	31-5-87
Parity:	0+0	DOA:	23-7-87
IP.NO:	812124	DOD:	2-3-87

PRESENTING COMPLAINT

The patient presented with complaints of labour pains for about 7 hours. She was also draining liquor for the same duration.

HISTORY OF PRESENTING ILLNESS

The patient was admitted to labour ward through casualty where she was also found to have a cord prolapse which was in the vagina. She was quickly brought to labour ward for urgent delivery as the cord was still pulsating. She had no history of interference with the pregnancy.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was a para 0+0. Her menarche was at 15 years. Her periods had been regular occurring every 28 days and lasting 3 to 4 days. Her last monthly period was 24-8-86 hence her gestation by dates was 26+ weeks. She was sure of her dates and she was not taking any contraceptives. She had attended ante-natal clinic at St. Mary's Hospital, Mumias without any

notable problems.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was a married housewife staying with her husband.
She neither smoked cigarettes nor did she take alcohol.

PHYSICAL EXAMINATION

She was a young lady in good general condition. She was not pale. She had no leg oedema and had no lymphadenopathy. She was afebrile. Her temperature was 36.8⁰ c.

CARDIOVASCULAR SYSTEM

Her pulse rate was 80/min and her blood pressure was 120/80mmHg. Her jugular venous pressure was not raised and her heart sounds were normal.

RESPIRATORY SYSTEM AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended. The fundal height was 30 weeks. The presenting part was at the level of 5/5. The fetal heart rate was 100 beats per minute and irregular. She was having two contractions in ten minutes each lasting about 30 seconds.

VAGINAL EXAMINATION

The external genitalia were normal, cervix was fully effaced and cervical os was 7cm dilated. The cord was felt in the vagina and was pulsating. The liquor was clear. The pelvis was clinically adequate. The pressure was relieved from the cord by a midwife who placed one hand in the vagina to push away the baby's head with two fingers and the other hand on her abdomen to lift the head up per abdomen.

MANAGEMENT

The patient was informed of her condition and she gave consent for operation. She was put on an I.V. dextrose 500c.c. to run at 20 drops per minute. Blood was removed from her for grouping and cross-matching and she was given atropine 0.6mg I.M. stat as a pre-medication.

In theatre, the operating table was put in a moderate trendelenburgh's position. The cord was still pulsating and the fetal heart was 120 per minute regular.

Vulval vagina toilet was done, bladder catheterised and obtained 300mls of clear urine. The catheter was left in situ. The abdomen was cleaned with savlon and spirit and then draped with sterile towels. The patient was anaesthetised and the abdomen was opened through a sub-umbilical midline incision. The uterus was in the midline and loops of intestine were packed away with moist towel packs. The bladder was reflected off the lower uterine segment. The lower segment was opened up by a transverse incision. The head of the baby was delivered and the nostrils were cleared of liquor with a swab before delivering the whole baby. A baby girl was delivered with and APGAR score of 9 in one minute and 10 in 5 minutes. It looked preterm of about 30 weeks gestation and weighed 1950 grammes. The placenta and membranes were delivered complete and the uterus was closed in 3 layers using chromic catgut number 2 for first two layers and chromic catgut number 0 for the peritoneum. The abdominal packs were removed the abdomen was mopped dry. Swabs and instrument count was reported correct and the abdomen was closed in three layers, chromic catgut number 0 to the peritoneum, chromic catgut number 2 to the rectus sheath and interrupted silk number 2 to the skin. The incision wound was dressed and the vaginal clots were removed using a swab on a sponge holding forceps. The blood loss was approximated to be 500c.c.

The patient was reversed from general anaesthesia and was kept in the theatre recovery room till she was fully

awake.

Post-operatively the patient was put on intravenous dextrose 500mls to alternate with normal saline each to run 4 hourly until she had good bowel sounds. She was also put on intramuscular pethidine 100mg 8 hourly for the first 48 hours and then tab. aspirin +ds for 3 days. She was also given intramuscular ampicillin 500mg 6 hourly for 48 hours and this was changed to capsules of ampicillin 500mg 6 hourly for five days. She did well post-operatively.

The patient's haemoglobin was checked on the third day and was found to be 10.5g/dl.

On the 7th day stitches were removed and she was discharged home to come to the post-natal clinic after 6 weeks.

THE BABY

The baby was admitted to the nursery because of prematurity but after two days observation without any complications she was returned to her mother.

FOLLOW UP

The patient was seen in the post-natal clinic after six weeks and both the mother and the baby were in normal condition. She was advised to attend our family planning

for the method of her choice. She was told of the possibility of repeat caesaren section in her next pregnancy and that she should attend ante-natal clinic and deliver in a hospital.

COMMENT

This is a patient who had presented with an umbilical cord prolapse at 26+ weeks gestation and her cervical dilatation was 7cm and so she was delivered by an emergency caesarean section and a live baby was delivered.

Cord prolapse is the condition when the umbilical cord lies ahead of the presenting part with the membranes ruptured (Moir, C, 1964). The cord prolapse may be within the vagina or completely outside the vagina. Our patient had a cord prolapse after ruptured fetal membrane, and it was inside the vagina.

The incidence of cord prolapse is reported to be 0.33 to 0.5% of all deliveries (Salvage et al, 1981). Ochiel (1980) reported an incidence of 0.57% at Kenyatta National Hospital while Mati et al (1981) reported an incidence of 0.8% in the Nairobi birth survey.

The conditions predisposing to the occurrence of cord prolapse include malpresentations, prematurity, multiple pregnancy, amniotomy, premature rupture of membranes,

abnormally long cord and grand multiparity (2,5). The patient discussed had spontaneous rupture of membranes when the fetal head was still high up in the abdomen. The baby was also premature.

Clinically the diagnosis of prolapsed cord is made by vaginal examination in all women in labour and speculum examination in those with premature rupture of membranes like in our patient. Other clinical features which would suggest cord prolapse would be fetal distress due to compression of the cord by the presenting part (Benson, 1984). The fetal heart deceleration pattern is that of bradycardia following a contraction and this recovered after the contraction. Our patient had this pattern of deceleration. The fetal heart could be 100/min irregular during a contraction and recovered to 120/min after the contraction.

The management of a cord prolapse depends on the viability of the foetus, dilatation of the cervix and descent of the baby's head and the fate of the baby in terms of prematurity and congenital abnormality (2,5). A non-pulsatile cord should be ignored while babies thought not to survive after delivery need not cause an added problem of caesarean section.

If a decision to deliver her urgently is made to save the baby, the cord-compression should first be relieved while awaiting definitive delivery (2,4,5,7).

In preventing cord compression, manual maintainance of the feotal head away from the prolapsed cord with one hand in the vagina and the other per abdomen has been found to be useful (Moir, 1964). Also placing the patient in trendelenburg's position is preferred to the knee chest position (Morris, 1972) An alternative method to relieve cord compression while preparing for delivery consists of inflating the patient's bladder with 500-750c.c. sterile saline into the bladder via a foley's catheter while still maintaining the manual support. Once the bladder is distended, the manual procedure is then stopped (Vago, 1967). The distended bladder also temporarily stops the contractions. The patient being discussed had relieve of compression manually and she was also placed in trendelenburgh's position.

It is important to replace the cord into the vagina to prevent vasospasm which results from cold and local irritation (2,4,5,6). This was not necessary in our patient as the cord was in the vagina.

The definative treatment for a cord prolapse with a live baby can either be assisted vaginal delivery or emergency caesarean section. Vacuum extraction can be done when the cervix is fully dilated or at least when the cervix is 8cm or above with the baby's descent being at least 2/5 above the brim. Breech extraction can also be done when the cervix is fully dilated (2,4,5,7). The patient being discussed had a preterm baby and the cervix was 7cm dilated with the head

5/5. The only option in this patient was caesarean section which was done.

The umbilical cord prolapse is associated with high perinatal mortality. Savage et al (1981) reported a gross perinatal mortality rate of 38.1% and for term infants a mortality of 17.6%. In contrast, Aggarwal et al, (1982) at Kenyatta National Hospital found that cord prolapse was responsible for (9.4% of the perinatal deaths. The patient being discussed did not develop this complication.

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SUCCESSFUL TRIAL OF SCAR - LIVE BABY

Name:	J. M.	LMP:	18.9.88
Age:	36 years	EDD:	25.6.89
IP.NO:	817582	DOA:	1.6.89
Parity:	4+1	DOD:	2.6.89

PRESENTING HISTORY

The patient was admitted through the casualty department with history of drainage of liquor for one day and labour pains for two hours. She had no vaginal bleeding.

HISTORY OF PRESENT PREGNANCY

She attended ante-natal clinic at a Nairobi City Council Clinic. She attended the clinic regularly and her weight gain and other ante-natal parameters were within normal limits.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She had menarche at 15 years and her menses had been regular occurring every 28 days lasting three to four days. She was a para 4+0. All the children are alive and well. Her last delivery was in 1987 by caesarean section due to

foetal distress and the baby weighed 4kg. Prior to this she had three normal deliveries whose weights were 4kg, 3kg and 3.5kg respectively. She did not use any contraceptives. Her last monthly period was on 18.9.88 so her gestation by dates was 36 weeks.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was a housewife. The husband was a bussinessman. There was no family history of any chronic illness. She did not smoke cigarettes nor was she taking alcohol.

PHYSICAL EXAMINATION

She was in good general condition, she was not pale and was afebrile. Her body temperature was 36.5^oc. She had no oedema or lymphadenopathy.

CARDIOVASCULAR SYSTEM

Her pulse rate was 80 per minute, her blood pressure was 120/70mmHg. The **first** and second heart sounds were normal.

RESPIRATORY AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and moving with respiration. There was a sub-umbilical midline scar. The uterine size was 36 weeks and the baby was cephalic (5/5) lying longitudinally. The foetal heart rate was 140 per minute and was regular. She had one contraction in 10 minutes lasting 10 to 20 seconds. She had no tenderness in the previous scar.

VAGINAL EXAMINATION

The external genitalia was normal. On speculum examination, the cervix was dilated about 3cm and looked healthy. Clear liquor was draining freely but no cord prolapse was seen. On digital examination, cervix was 3cm dilated fully effaced and no cord was felt. The foetal head was well applied to the cervix and the position was left occipital anterior. There was no moulding and no caput. The sacral promontory was not tipped at 14cm and the ischeal spines were not prominent. The sacral curve was normal and

the subpubic angle was admitting two knuckles. The pelvis was clinically adequate for the baby's size.

DIAGNOSIS

A diagnosis of pregnancy with premature rupture of membranes and previous scar at 36 weeks was made.

RESULTS OF INVESTIGATIONS:

Haemogramme: Hb 12.5g/dl

WBC $7.5 \times 10^9 / l$

Blood group: 0

Rhesus factor: +ve

Khan test: -ve

Urinalysis: Negative for protein and sugar.

MANAGEMENT OF LABOUR AND DELIVERY

The patient had a good size baby and had an adequate pelvis on clinical assessment. So she was for trial of scar.

She was started on prophylactic antibiotics, intramuscular ampicillin 500mg six hourly for five days, an intravenous line of 5% dextrose 500c.c. to alternate with

normal saline 500mls to run at 30 drops per minute. Two units of blood were cross-matched and preserved for her until after delivery.

She was monitored using the partogramme. Four hours after admission she was reviewed and found to be in good general condition, her vital signs were normal (pulse was 72 per minute). There was no tenderness on the abdominal scar and on vaginal examination the cervix was 6cm dilated and there was no caput and no moulding; the foetal head was 3/5. There was no vaginal bleeding.

Four hours later, the patient was reviewed and the cervix was found to be fully dilated and she was taken to the delivery room.

The head was visible at the vulva. 10mls of procaine hydrochloride was infiltrated into the left vulval area and a left lateral episiotomy was made. The patient was encouraged to bear down and after two contractions she delivered a female baby weighing 2900 grammes with an APGAR score 10/1, 10/5. The baby joined the mother. Ergometrine 0.5mg was given after delivery of the baby. Placenta was removed by controlled cord traction. Placenta and membranes were complete. The uterus was well contracted. The episiotomy was covered with gauze. Blood loss was 200mls.

EXPLORATION

The patient was placed in lithotomy position. Speculum examination revealed normal cervix and vagina. The lower segment of the uterus and cervix were explored digitally and were found to be intact. The episiotomy was sutured as in the introduction.

POST-NATAL CARE

The patient was observed in the post natal ward for two days and observations were normal. Her post-natal haemogramme on the second day was 12.5g/dl. She was discharged home on capsules ampicillin 500mg six hourly for five days.

FOLLOW UP

She was seen in the post-natal clinic after six weeks and she was breast feeding her baby well. She had no complaints. The uterus was well involuted and she had no vaginal discharge. She was advised to use contraceptives and she chose to use the oral contraceptive pill (microlut). She was however counselled on permanent contraception and she said she would discuss it with her husband.

COMMENT

This is a patient who had a previous lower uterine caesarean section and she had a successful trial of scar.

Trial of scar is one of the two alternatives of managing a patient with previous scar. The other alternative being repeat caesarean section (Chattopadyay et al, 1988).

However repeat caesarean section after a previous scar has been one of the causes of a rising caesarean section rates in the recent past (Chattopadyay et al, 1988). Concern over this high caesarean section rate with its associated increase in maternal mortality and morbidity has raised eyebrows of Obstetricians (1,9). Sinei (1981) found a prevalence of 29.5% febrile morbidity and 6.5% of abdominal infections at Kenyatta Hospital. in patients who had caesarean section.

The incidence of caesarean section rate is reported as 4.4% in Pumwani Maternity Hospital and 17.1% at Kenyatta National Hospital in Kenya (Mati et al, 1983). Fraser et al (1979) reported an incidence of 20% in Zimbabwe. Walton reported that 10% of the patients presenting in labour had a previous scar and there was a tendency to repeat section. Trial of scar has been reported safe by several authors

(1,6,8,11). Walton (1978) reported successful trial in 73.9% of his patients at Kenyatta National Hospital.

Proper selection of patients for trial of scar is vital for successful vaginal delivery. The factors that influence the success of trial of scar include the indication for the primary caesarean section,, a history of previous vaginal delivery, the number of previous caesarean sections, the probability of uterine rupture and maternal and perinatal outcome (Chattopadyay et al, 1988). Walton (1978) gave five criteria for selection as 1. The primary section should have been for a non-recurrent condition 2. only one scar should be tried. 3. There should be no medical complication like hypertension or diabetes 4. Absence of previous history of uterine rupture 5. A true conjugate of 10.5cm or above.

The patient discussed had only one previous caesarean section, she had history of previous vaginal delivery and she fulfilled the Walton's criteria except for the x-ray pelvimetry which was not done.

The criteria by Walton of a true conjugate of 10.5cm or more as a baseline for trial of scar (Walton, 1978) has been disapproved by other studies (3,5). Flaser et al (1979) observed that 70% of all radiological pelvimetry can be

replaced by clinical pelvimetry by an experienced Obstetrician. Kelvin et al (1982) recommended that the best assessment of feto-pelvic accommodation is trial of labour and assessing descent of the fetal head and cervical dilatation. Ogutu (1985) diagnosed 58.8% of his study cases as contracted pelvis clinically compared to 42.5% by radiological assessment of 80 patients. This means that adequate Obstetric conjugate is not an absolute necessity in selection of patients for trial of scar.

The patient discussed had her pelvis clinically assessed to be adequate.

Previous history of cephalopelvic disproportion and breech presentation, grand-multiparity and multiple pregnancy in the index pregnancy have been reviewed recently and found to be no contra-indication to trial of scar (1,4,8).

Chattopadhyay et al, 1988 in a study of 1847 women with previous caesarean section ignored history of CPD and breech presentation in the current pregnancy contra-indication for trial of scar and the outcome of labour was good. 71.2% of 105 grand multiparous women with previous scar had successful trial of scar (long commentary in Obstetrics in this book). Gilbert, et al (1988) reported that all 15 patients with twin pregnancy allowed to deliver vaginally had uneventful labour

and delivery even after manipulations for delivery of second twin by breech extraction .

The patient discussed had none of these complications. The use of oxytocin in patients for trial of scar has been found to be safe and does not increase the risk of scar rupture (1,2). The patient discussed did not need syntocinon as she progressed well in labour.

Exploration of the uterus after delivery is necessary to check on a possible scar rupture. Lavin et al (1982) reported an incidence of scar rupture of 0.7% while Walton (1978) had reported an incidence of scar rupture of 2% for lower segment caesarean section and 15% for classical caesarean section. The patient discussed was explored and the lower uterine segment and cervix were found to be intact.

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DELAYED SECOND STAGE OF LABOUR - ASSISTED VACUUM DELIVERY

Name: N. N.	LMP: 26-2-86
Age: 20 years	EDD: 3-12-86
IP. NO. 795231	DOA: 24-11-86
Parity: 0+0	DOD: 26-11-86

PRESENTING COMPLAINT

The patient presented with a history of backache and lower abdominal pains for 3 hours and drainage of liquor for 2 hours.

HISTORY OF PRESENTING ILLNESS

The patient was admitted to the labour ward through casualty with a history of labour pains and drainage of liquor for 3 hours and 2 hours respectively. The pains were increasing in intensity and frequency. The liquor had drained in bed and the bed was wet.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was a para 0+0. Her last monthly period was on 26-2-86 and her expected date of delivery was on 3-12-86. Therefore her gestation by dates was 38 weeks. She never attended any ante-natal care. Her periods prior to pregnancy were regular and she had the quickening in August, 1986. She had not used any contraceptives.

FAMILY HISTORY AND SOCIAL HISTORY

She was a housewife. She had no family history of tuberculosis, diabetes or hypertension. Her mother had twins. She did not smoke nor was she taking alcohol.

PAST MEDICAL HISTORY

This was not significant.

PHYSICAL EXAMINATION

She was in good general condition. She was not pale and was not jaundiced. She was afebrile. Her body temperature was 36.8⁰ c. She had no oedema and she had no lymphadenopathy.

CARDIOVASCULAR EXAMINATION

Her pulse was 100/min and blood pressure was 140/70mmHg. Her jugular venous pressure was not raised and the 1st and 2nd heart sounds were heard and were normal. There were no murmurs.

RESPIRATORY AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended and was moving with respiration. The fundal height was term and the baby was lying longitudinally in cephalic presentation. The head was 5 parts up (5/5). The fetal heart was heard and was 140 beats per minute. She had one contraction in 10 minutes lasting 30 seconds.

VAGINAL EXAMINATION

Her external genitalia were normal. The vagina and cervix felt normal. The cervical os was 2cm dilated and the cervix was 50% effaced. The presenting part was felt and was high. No membranes were felt and no cord was felt.

DIAGNOSIS

A diagnosis of primigravida at term in labour was made.

MANAGEMENT

She was admitted in labour ward for monitoring of labour using the partogramme. Her pulse, blood pressure and contractions were monitored half hourly and the fetal heart was also recorded half hourly. At 5.30a.m. She was reviewed and the cervix was 4cm dilated. She was advised to rest on the left lateral position. At 10.30a.m. She was noticed to have three strong contractions lasting 20-40

seconds and the presenting part was 3/5. On vaginal examination, the cervix was 7cm dilated and fully effaced. The presenting part (head) had no moulding and there was no caput. At 3.p.m. she was still having 3 strong contractions and the presenting part was 4/5. On vaginal examination the cervix was 8cm dilated. There was no caput and no moulding. At 5p.m. the patient had 3 contractions in 10 minutes lasting 20-40 seconds. The presenting part was 0/5 and the fetal heart was 140 beats per minute and regular. On vaginal examination the cervix was fully dilated. A diagnosis of second stage of labour was made and the patient was taken to the delivery room. 54 minutes later the patient was bearing down and was encouraged to do so with each contraction. As the head began to crown the left lateral vulva was infiltrated with 1% procaine hydrochloride and a left mediolateral episiotomy was made. However no further progress was noted and the patient looked exhausted. A drip of 10% dextrose was put up and a decision to perform vacuum extraction was made.

VACUUM DELIVERY

The patient was explained the procedure and she gave consent. The vulval area was cleaned and the patient was draped in lithotomy position. She was catheterised and clear urine obtained. The patient was told to relax as a size 5 cup (50 mm cup) was introduced sideways into the vagina pressing it backwards against the perineum and guided into place on the scalp, care being taken that the cervix or vagina

does not come between the cup and the fetal scalp. The cup was put onto the vertex, sutures and fontanelles being avoided. The assistant was asked to apply vacuum pressure enough to grasp the fetal scalp. This was increased by $0.2\text{kg}/\text{cm}^2$ every 2 minutes until a pressure of $0.5\text{kg}/\text{cm}^2$ was reached. Traction was applied perpendicular to the cup and at right angles to the curve of the pelvis. This was done with each contraction while she was asked to bear down at the time. She delivered the baby with the second traction.

A male baby with an apgar score 10/1 and 10/5 was delivered. He weighed 2800g and had no injuries for the chignon where the cap had held the scalp. The placenta was removed by controlled cord traction after 3 minutes and it weighed 450g. The patient was give ergometrine 0.5mg intramuscularly after the baby was delivered. Epidiotomy was sutured in two layers using chronic catgut number 2"0". The total blood loss was estimated to be 200cc. The baby was examined by a Paediatrician and he was found to be normal.

POST-OPERATIVE MANAGEMENT

The post-operative observations were: pulse 80 per minute blood pressure 140/80mmHg and temperature 37°C . She was not pale. The uterus was well contracted and she was not bleeding per vagina. She was given analgesics panadol 2 tablets + ds caps ampicillin 500mg q.i.d. for five days.

On 26.11.86 she requested to go home and she was discharged on the above treatment to be seen in the post-natal clinic in six weeks time. The baby's chignon had disappeared.

POST-NATAL CLINIC

She was seen in the post-natal clinic after six weeks and she was in good health. Her episiotomy had healed and the uterus was well unvolutated. The baby was also healthy and breastfeeding well. She was advised to start family planning and she chose to use microlut.

COMMENT

This is a patient who presented with a prolonged second stage of labour and had a successful vacuum delivery.

Vacuum extraction is a procedure performed to assist in the delivery of the baby using a suction cup attached on the scalp of the fetal head (Benson, 1984).

Assisted delivery by vacuum was reported more than 280 years ago. In 1706, Sir James Young in Edinburgh used a glass suction cup but the first practical instrument seems to have designed by Simpson in 1849 although the efforts of Simpson failed to result in an acceptable efficient instrument (Donald, 1972).

In 1954, Malmstrom of Gothenburg, Sweden, designed the mushroom shaped 60mm diameter cup functioning as a traction device by using negative pressure (Malmstrom, 1954). In 1969, Bird reported a modification of Malmstrom's metal cup by avoiding the application of metal chain through the cup using a metal plate and attaching it to the cup (Bird, 1969). He also designed cup sizes 40mm, 50mm and 60mm (or size 4, 5 and 6). More recently Kobayashi in 1973 developed a plastic cup called silastic (Kobayashi) cup. The patient discussed was managed using the modified Malmstrom cup size 5 (50mm cup).

Gebbie was the first to introduce vacuum extractor in East Africa in 1962 at Mulago Hospital, Uganda (Gebbie, 1966). It is now widely used in East Africa. In Kenyatta National Hospital, Okello-Agina (1982) reported an incidence of 2.9% with 56.4% of the mothers being nulliparous. Gachiri (1988) reported an incidence of 6.3% and 69.4% of the mothers were nulliparous. The increase in incidence from 1982 to 1988 is not surprising since Kenyatta National Hospital had by 1988 become a national referral centre handling only high risk mothers. Our patient was nulliparous.

The use of vacuum extractor is indicated in delayed second stage, fetal distress, maternal exhaustion (poor maternal effort), cord prolapse and delivery of second twin (high vacuum). It is also indicated when maternal effort should be avoided like in cardiac disease, cardiac failure, hypertensive diseases, chronic obstructive airways disease,

severe anaemia and portal hypertension (1,4,5,12). In the patient discussed, the indication was delayed second stage of labour. Second stage of labour is said to be delayed when it lasts more than 30 minutes in primigravida and more than 20 minutes in multiparous mothers (1,4). The patient discussed was in second stage of labour for 45 minutes.

Vacuum extraction is contra-indicated in cephalopelvic disproportion, malpresentation (brow, face, breech), prematurity (<37 weeks), tumours of the baby (polycystic kidney, tumour of the head and ascitis) (Benson, 1984).

The rationale for doing an emergency vacuum is because there is a related perinatal mortality when there is delay in delivering the baby. Mati et al (1983) found that at 30 minutes the mortality rate remains the same but at 30-44 minutes the mortality rate starts to rise being clearly evident at 45 minutes. The patient discussed therefore could not be allowed to go beyond 45 minutes while in second stage.

The vacuum extraction can either be performed under pudendal block, local infiltration of the perineum but in most cases no anaesthesia is required (Benson, 1984). In this patient, no anaesthesia was used except for the local anaesthesia which was used for the episiotomy.

Except in the delivery of second twins where a high vacuum is recommended, vacuum delivery should only be attempted where the head is at least 2/5 up or less and the cervix should be fully dilated or at least more than 7cm dilatation (Benson, 1984). In the patient discussed, the head was all in the pelvis (0/5) and the cervix was fully dilated.

Once the cup has been placed on the vertex, negative pressure is induced at a rate of $0.2\text{kg}/\text{cm}^2$ per 2 minutes until a negative pressure of $0.6\text{kg}/\text{cm}^2$ is attained, an elapsed time of about 6-7 minutes. The slow increment of induction of negative pressure is to produce an even and complete filling of the cup by the fetal scalp (chignon). However the correct pressure can still be achieved rapidly but there is a chance of the cup shipping off, hence a higher pressure $0.8\text{kg}/\text{cm}^2$ is recommended (Benson, 1984). The patient discussed had a slow increase of negative pressure to $0.5\text{kg}/\text{cm}^2$ and this produced the required effect after two pulls.

Once the cup is fixed and negative pressure created ($0.5\text{kg}/\text{cm}^2$ to $0.8\text{kg}/\text{cm}^2$) the direction of pull should be vertical to the cup. In the pelvic curve the pull should be horizontal while at the vulva it should be vertical. Traction should be sustained during a contraction and stopped between contractions (1,4,7,12). The patient discussed had the traction of the chain vertical to the cup.

Complications of vacuum extraction are attributed to improper selection of patients. The main complications are failed vacuum and injury to the baby and the mother (1,4,12). Failed vacuum occurs when no progress is observed in 20 or 30 minutes or after three good contractions (Pritchard, 1930) Okello-Agina (1982) reported a failure rate of 4.3% and the causes were due to undiagnosed cephalo-pelvic disproportion, faulty technique and faulty apparatus. Gachiri (1988) reported a failure rate of 3.0%. Maternal complications include lacerations and tears of the vagina and cervix and vesico-vaginal fistula (1,12). The patient discussed did not have any of these complications.

The fetal outcome is usually good. However scalp abrasions, cephalo haematoma and death have been reported (5,11). Gachiri (1988) at Kenyatta Hospital reported a fetal morbidity of 7.8% with 3.0% of babies having respiratory distress syndrome and 1.2% of the babies had scalp abrasions and cephalo haematoma. Plauchi(1979) had reported scalp abrasions and cephalo haematoma in 18.0% of his patients. The chignon and cephalo haematoma are transient and disappear with no residual ill effect to the baby (Gachiri, 1983).

Mortality associated with vacuum extraction may be due to intracranial haemorrhage. Bird (1969) reported his patients to have had sub-aponeurotic haemorrhage. He reported a perinatal mortality rate of 15.5% per 1,000 births Gachiri (1988) reported that vacuum extraction was responsible for 4.8% perinatal deaths. The patient discussed had a

healthy baby whose chignon disappeared within 24 hours.

Follow up of vacuum babies is important. They should be observed carefully before discharge after they are examined in the post-natal clinic for any neurological problems. The patient discussed was examined after birth, before discharge and at the post-natal clinic and he had no neurological deficit.

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Appleton Century Crofts, New York, U.S.A., 1980.

BREECH PRESENTATION IN LABOUR-ASSISTED BREECH DELIVERY

Name:	N. W.	LMP:	26-5-86
Age:	23 years	EDD:	2-3-87
Para	3+1	DOA:	24-2-87
IP. No.	312141	DOD:	25-2-87

PRESENTING HISTORY:

The patient was admitted through casualty with a history of labour pains for four hours and drainage of liquor for two hours. The liquor was clear and drained down the legs.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was a para 3+1. Her first delivery was in 1980, seven month old twins who died soon after delivery. Her second delivery in 1984 was term and was a neonatal death. Her third pregnancy terminated spontaneously in 1985 at five months gestation. This abortion started with vaginal bleeding and later abdominal pain. She had no living child. She attended ante-natal clinic in a Nairobi city commission clinic.

PAST MEDICAL HISTORY

She had tonsilectomy in 1975.

SOCIAL AND FAMILY HISTORY

She was a housewife. She had no family history of any chronic illness. She did not smoke cigarettes or drink alcohol.

PHYSICAL EXAMINATION

She was in good general condition. She was not pale, febrile or jaundiced. She had no oedema or lymphadenopathy.

RESPIRATORY AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

CARDIOVASCULAR EXAMINATION

Her pulse was 94 beats per minute. Her blood pressure was 130/80mmHg. Her jugular venous pressure was not raised and her heart sounds were normal.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended. The fundal height was at term. The foetus was lying longitudinally and breech in presentation. The fetal heart was heard and was 142 per minute regular. She had two contractions in 10 minutes lasting 20-40 seconds. Her estimated weight of the baby was 2.5-3kg. The spleen and liver were not palpable.

VAGINAL EXAMINATION

Vulvo-vaginal toilet was performed. The vulval-vaginal area was normal. The cervix was 7cm dilated and fully effaced. The membranes were not felt (they had ruptured spontaneously). No liquor was seen. The breech was at the level of the ischeal spines. It was a frank breech in left sacral anterior position.

The ischeal spines were not prominent and sacral promontory not tipped, sacral curve was good and sub-pubic angle admitted two fingers. According to Zatuchni and Andros prognostic scoring system (see comment) her breech score was 5.

DIAGNOSIS

A diagnosis of breech presentation in labour was made.

PLAN OF MANAGEMENT

1. The patient was planned for assisted breech delivery.
2. Discussed her with the Obstetrician on call.
3. Paediatrician was informed of the intended delivery of the breech.
4. 5% dextrose drip was started.

ASSISTED BREECH DELIVERY

The senior registrar on call was informed and a consensus for vaginal delivery was reached. The patient was allowed to progress in labour and when she was fully dilated, she was placed in lithotomy position and the perineum was cleaned and draped. She was encouraged to bear down with each contraction. 5ml of 1% procaine hydrochloride was infiltrated in the left side of the introitus and perineum. A medio-lateral episiotomy was given when the perineum was beginning to distend. The baby was delivered by maternal effort upto the time when the umbilicus was visible. The trunk of the baby was supported and with the next contraction the elbows appeared and the arms were easily disengaged. The anterior arm was delivered then the posterior arm second. The baby's trunk was guided downwards and when it was delivered upto the inferior angle of the scapula it was rotated to bring the back of the baby to the front. The foetal head was delivered using the mauriceau-smellie-veit manoeuvre. The foetal trunk was made to lie on the left arm and the left hand middle finger in the baby's mouth, the right hand was used to apply pressure on the fundus and gentle upward traction applied to the baby's head from the side of the mouth. A female baby of apgar score 8 in one minute, 10 in 5 minutes was delivered ergometrine 0.5mg was given intramuscularly after delivery of the baby. The baby weighed 3000grammes. The placenta was delivered and was complete. It weighed 450gm. The total blood loss was

approximately 200mls. The episiotomy was sutured in the usual manner.

THE BABY

The baby was seen by the paediatrician and she had no neurological deficit or any injuries. She was given to her mother.

POST-PARTUM

The immediate post-partum period was uneventful and the patient requested to go home on the first post-partum day. She was examined before discharge and was found to be in good general condition, she was not pale. The uterus was well contracted and she was not bleeding. She was advised to have daily sitz baths to facilitate healing of the episiotomy and she was asked to attend the post-natal clinic in six weeks time.

POST-NATAL ATTENDANCE:

She was seen at the post-natal clinic after six weeks and she was in good general condition. She was not pale. The uterus was well involuted and the episiotomy was well healed. She was breastfeeding the she had not started her menstruation. She was advised to start on family planning and she chose microlut which she was given at our family planning clinic.

COMMENT

This patient presented with frank breech in labour and had a successful assisted breech delivery.

Breech presentation occurs when the lower pole of the presenting part to the maternal pelvis is breech. Breech can present as frank breech (the breech with extended legs), like in this case, complete breech (the breech with flexed legs) or incomplete breech (footling breech). Complete breech and footling breech have the highest incidence of cord prolapse (Moir, 1964). This patient had frank breech and she did not develop a cord prolapse.

The incidence of breech is 3-4% (Benson, 1984). In Kenyatta Hospital, Njuki (1979) found an incidence of 3.5% and Mati et al (1983) found an incidence of 2.7% in the Nairobi birth survey. So breech is a common Obstetric problem in our set up and its management should be every Obstetrician's concern.

The factors thought to predispose to breech presentation include prematurity, fetal malformations, polyhydramnios, multiple pregnancy, uterine defects and high parity (2,4,6,9). Njuki (1979) found that preterm labour was the major cause of breech presentation as this accounted for 37.7% of all the breeches. Our patient was term and the possibility of uterine defects in view of her bad obstetric history cannot be ruled out. She was also multiparous and this could have

contributed to her breech presentation.

Breech delivery is associated with a high perinatal mortality and morbidity. This was reported by Njuki (1979) when he found that the perinatal mortality rate for all breeches was 516/1000 which was over ten times that of all vertex deliveries (48.5/1000). The same sentiments were expressed by Armon and Alwani (1978) who reported a high perinatal mortality and morbidity following vaginal breech deliveries in a developing country. Armon and Alwani (1978) observed that the major causes of mortality and morbidity are trauma and asphyxia associated with undiagnosed cephalopelvic disproportion and unnecessary haste in accomplishing delivery. The two authors suggested that to diminish this type of fetal wastage we should result to caesarean section, especially in all primigravidas. Caesarean section for all primigravidas has also been advocated by Patterson et al (1967). In Kenyatta National Hospital all primigravidas are sectioned. This patient was multiparous and she had an average weight.

Moir (1964) suggested that with an experienced Obstetrician supervising the labour and conducting delivery of the breech, vaginal breech delivery can be safe.

The management of breech should be started right from the ante-natal clinic. A history of parity, previous breech deliveries and gestation is established. This patient was para 3+1 and she was at a gestation of 39 weeks. She

She had no history of previous breech deliveries. The practice of doing external cephalic version at 34 to 36 weeks has been reported to be safe (Moir, 1964) but now losing favour with most Obstetricians due to the risk it has for the baby. Pelvic pelvimetry can be done at 36 weeks. At Kenyatta Hospital it has been found that breech should be allowed if true conjugate is 11.5cm or more and baby's weight falls between 2500gm and 3500gm (Nchifor, 1988). This patient did not have pelvic pelvimetry because she was attending another ante-natal clinic was less equipped with experienced personnel and facilities.

Zatuchni and Andros (1965) are credited with the introduction of a prognostic index for vaginal delivery in term breech presentation ($>2500g$). They clearly demonstrated that low score patients are a risk group and that complications such as fetal respiratory depression, prolonged labour and stimulation failure can be predicted to occur with greater frequency in these patients. Bird and McElin (1970) confirmed that the breech scoring index is valid and it is a guide to assist in the proper and prompt management of the patient with a breech presentation.

The following demonstrates a modified Zatuchni and Andros prognostic scoring index which was used in this patient to predict the outcome of delivery.

Parameter	Breech Score		
	0	1	2
Parity	Primigravida	Multipara	-
Previous breech delivery	None	1	2 or more
Gestational age (weeks)	39	38	37
Weight estimate	3500g	3000-3400g	<3000g
Dilatation of the cervix	2cm	3	4 or more
Station of presenting part	above ischeal spines	at level of ischeal spines	below ischeal spines

This patient had a score of 5 and according to Zatuchni and Andros (1965) a score of 0-3 is unfavourable and a score of 4 and above is favourable for breech delivery. So our patient had a good prognosis.

Once a decision is made to let the patient deliver vaginally, an experienced Obstetrician has to be present and

conduct the delivery (Moir, 1967). The breech is allowed to descend down with each contraction and when the perineum is distended by the buttock an episiotomy is made on the left lateral position. The breech is then allowed to deliver spontaneously till the umbilicus is visualised at the perineum, the trunk of the baby is supported with the operators arm and the shoulders and arms are delivered using loveset's manoeuvre as was done in this patient. The head is normally delivered using the mauriceau-smellie-veit manoeuvre (Moir, 1964). This was done in this patient.

Once the baby is delivered, ergometrine should be given to stop any haemorrhage and after the placenta is removed, episiotomy is stitched. This was done in our patient. The baby is examined thoroughly for any trauma and for any respiratory problems preferably by a Paeditrician. A Paeditrician examined the baby and she was found to be normal.

After delivery the mother is managed like any other. She is advised on breastfeeding, cleaning of the vulva and episiotomy site and the post-natal clinic. All this was communicated to our patient and she was counselled on family planning and discharged from the post-natal clinic.

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MULTIPLE PREGNANCY - DELIVERY OF TWINS

Name: T. H.	LMP: 1.8.88
Age: 33 years	EDD: 8.5.89
Parity: para 5+1	DOA: 26.4.89
IP.NO: 882382	DOD: 11.5.89

PRESENTING HISTORY

The patient was admitted from the ante-natal clinic for induction of labour but this decision was reversed and she was to await spontaneous labour. She started experiencing labour pains on 11.5.89 at 12.30a.m.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 5+1. All pregnancies were spontaneous vaginal deliveries. Her first delivery was in 1979 and her last delivery was 1985. All were hospital deliveries and she had short labours as little as 2 hours and she also gave history of large babies the lightest weighed 4kg. and the heaviest weighed 5 1/2kg. She had a miscarriage in 1987 at 7 months and it was preceded by painless bleeding and then lower abdominal pain and backache.

She had her menarche at 14 years and was having regular periods every 28 days lasting 4 days. She used contraceptive pills from 1986 to 1988.

FAMILY AND SOCIAL HISTORY

She was a married housewife. Her husband worked in the civil service as a clerk. There was no family history of diabetes, hypertension or tuberculosis. The sister in law had twins. She neither smoked cigarettes nor did she take alcohol.

PAST MEDICAL HISTORY

This was not significant.

HISTORY OF PRESENT PREGNANCY:

Her LMP was on 1.8.88 and so her EPD was 2.5.89, therefore on admission she was 37 weeks but by ultrasound of 24.4.89 she was 38 weeks. She had booked the ante-natal clinic at 15 weeks because of grandmultiparity and history of delivering big babies. On the booking day the uterus size was bigger than dates. Glucose tolerance test was done and was normal. Ultrasound was done on 18.1.39 and it confirmed twin pregnancy with a gestation of 27 weeks by B.P.D. A second ultrasound was done on 24.4.39 and it revealed healthy twins both in cephalic presentation and one placenta not low lying. Her ante-natal profile was as follows. Haemoglobin was 10.6g/dl on 5.5.39. Blood group 'O' +ve, khan test was negative. Her urine test for sugar and protein was negative.

PHYSICAL EXAMINATION

The patient was in good general condition. She was not pale and she was not jaundiced. She had bilateral leg oedema. She was afebrile. Her temperature was 37⁰c.

CARDIOVASCULAR SYSTEM

Her pulse rate was 100 per minute, her blood pressure was 110/80mmHg. Her jugular venous pressure was not raised and her first and her second heart sounds were normal.

RESPIRATORY SYSTEM AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was markedly distended. The fundal height was term. The baby was lying longitudinally and the presenting part was 5 parts up. The first twin was presenting cephalic. The fetal heart was heard and it was 140 per minute regular. The liver and spleen were not palpable.

PELVIC EXAMINATION

The external genitalia was normal. There was no bleeding. The cervix was 4cm dilated and membranes were

bulging. Artificial rupture of membranes was done and there was clear liquor.

DIAGNOSIS

A diagnosis of para 5+1 with a twin pregnancy in active phase of labour was made.

MANAGEMENT

The patient was asked to rest in the left lateral position. She was started on intravenous fluid 500mls of 5% dextrose and two units of cross-matched blood was preserved. Labour was monitored using the partogramme in anticipation of delivery by the vaginal route as the first twin was cephalic.

PROGRESS OF LABOUR

Four hours later, she was reviewed and was found to be in good general condition. Per-abdomen she had three contractions in 10 minutes lasting 20-40 seconds and the fetal heart was heard and 140 per minute regular. On vaginal examination, the cervix was fully effaced and 6cm dilated. The position of the head was left occipito-anterior. There was no moulding and no caput.

Four hours later she was in second stage and she was transferred to the delivery bed for delivery.

DELIVERY OF FIRST TWIN

A Paediatrician was summoned, then she was placed in lithotomy position. Vulvo-vaginal toilet was done and the bladder was catheterised. She was draped. The presenting part was noted to distend the perineum with the contraction and left medio-lateral episiotomy was given after infiltrating local anaesthesia (procaine 10mls of hydrochloride). The mother was encouraged to bear down and the baby was born with the next contraction. The first twin was a female and weighed 3200grammes. The APGAR score was 10/1 and 10/5. The cord was clamped with artery forceps.

DELIVERY OF SECOND TWIN

After the birth of the first foetus, ergometrine was not given. The lie was longitudinal and the presenting part was 5/5 cephalic. The fetal heart was 140 beats per minute and regular. A vaginal examination confirmed the second twin in cephalic presentation. The membranes were bulging and artificial rupture of membranes was done with an assistant stabilising the head on the pelvic brim and at the same time stimulating a contraction. There was no cord presentation. She picked up contractions within five minutes and the head descended and distended the perineum. She was encouraged to bear down and the second baby was born within 10 minutes after the delivery of the first one. The cord was clamped and ligated. The second twin was a male weighing 3400grammes and APGAR score was 10/1, 10/5. Ergometrine

0.5mg was given intramuscularly. The placenta was delivered by controlled cord traction and it weighed 1200 grammes. There were no cervical or vaginal tears. Episiotomy was repaired as in the introduction. The total blood loss was 300mls.

POST NATAL CARE

The babies were seen by the Paediatrician who certified that they were normal and they were to accompany the mother. The mother's post-delivery observations were BP. 120/70mmHg, her pulse was 80 per minute and her respiratory rate was 20 per minute. Her body temperature was 36.8⁰c.

On the second post-natal day her haemoglobin was 11.5g/dl. The mother and the baby were discharged home on the third post-natal day in good health.

FOLLOW UP

The mother was seen in the post-natal clinic six weeks later and was found to be healthy. She was breastfeeding both babies and was advised on contraception. She chose to use microlut meanwhile to discuss permanent contraception with the husband.

COMMENT

This is a patient who had a twin pregnancy which ended with a successful vaginal delivery of normal female and male babies at term gestation.

The incidence of twin delivery has been reported to be 1 in 53 deliveries in America (Berret et al, 1982). In Europe it is 10-15/1000 (Marivate et al, 1982). Nigeria has the highest incidence in the world with 35-45/1000 (Azubuke, 1980). In Kenyatta National Hospital it was reported to be 1:58.8 (Oyike, 1978).

The incidence of monozygotic twinning is said to be constant world wide occurring at 1 set per 250 births and is independent of race, heredity, parity, age and gonadotrophin therapy for infertility, while the frequency of dizygotic twinning is influenced by the above factors (Pritchard, 1980). This mother had monozygotic twins as evidenced by one placenta. She had a positive history of twins in the sister in law.

The probability of twinning increases with rising pregnancy order and increasing age (Petterson et al, 1976). In Nigeria, frequency of twins was found to be 1:50 (2%) among primigravida to 1:15 (6.6%) for those gravida 6 and above (Azukube, 1980).

The patient discussed had the 7th pregnancy and she was 33 years old.

Early diagnosis of twin pregnancy favourably alters the perinatal mortality (5,7). Oyieke (1978) found that only 25% of twins were diagnosed before 32 weeks gestation at a time when ante-partum management could in theory effectively influence post-natal mortality. Between 32-36 weeks the patients with multiple pregnancy are more prone to premature labour. Diagnostic ultrasound in early pregnancy will show two gestational sacs even as early as 6th week. The appearance of two gestational sacs diminishes later in pregnancy and the finding of two heads is more reliable. The patient discussed was diagnosed at 25 weeks by ultrasound. She was attending the high risk clinic set up at Kenyatta National Hospital due to multiparity and a history of delivering big babies.

In areas where ultrasound is not available, clinical judgement with a high index of suspicion should lead to a diagnosis (Pritchard, 1980). In multiple pregnancy, the uterus is bigger than dates, as in our patient. There is usually a smaller head in proportion to the uterine size.

The fact that 54.1% of the patients with correct diagnosis of multiple pregnancy before labour and 38.0% diagnosed either in labour or after delivery of the first twin in Oyieke's series (Oyieke, 1978) shows the degree of error in diagnosing multiple pregnancy. This could be

explained by the fact that clinicians do not put the possibility of twins in their minds (Pritchard, 1980).

Certain ante-partum complications are more common in twin pregnancy. These include pre-eclampsia, premature rupture of membranes, antepartum haemorrhage, premature labour anaemia (3,4,5,6,7). Postpartum haemorrhage is also well documented (9).

The babies are prone to prematurity and low birthweight, death and congenital malformation, cord accidents and twin to twin transfusion in monozygotic, monochronic twins has been reported (5,6,7). Our patient did not have any of these complication.

Prematurity and low birth weight is the commonest complication of twin pregnancy in Kenyatta National HOspital (Oyieke, 1978). OYieke (1978) found a marked difference in absolute perinatal mortality between primigravida and multigravida in Kenyatta National Hospital. Primigravida with twins were more likely to go into premature labour. Our patient was grand-multiparous.

Houlton et al (1982) have devised a prediction score for those at risk of developing premature labour. A regular cervical assessment is done and the dilatation of the internal cervical os in centimeters is subtracted from the length of the cervical canal. When the score is positive, the preterm labour is unlikely, whereas a negative score

indicates imminent premature labour. Hence this can form a selection of those mothers who need bed rest if a hospital is overcrowded. Uterine tocolytics may be used in this situation. This patient did not experience any problems and never went into labour until she was almost 39 weeks.

Patterson et al (1976) reported that the second twin was at a greater risk of dying than the first twin. The possible explanation is that there is an added risk of asphyxia to second twin by increasing the time between delivery and the possibility of operative vaginal deliveries due to malpresentation or cord prolapse. Oyieke (1978) showed that perinatal mortality of the second twin within an interval of 10 minutes after delivery of first twin was 4.9% and when delay to deliver second twin was 45 minutes the perinatal mortality rose to 53.8% (10 times higher). Our patient did not have problems with her babies. The second twin was delivered within 10 minutes after delivery of the first twin.

Patterson et al (1976) also found an increased perinatal mortality in the sexes. The males had a perinatal mortality of 72 per 1000 as compared to that 52 per 1000 for females. The patient discussed had both sexes and the APGAR scores and their survival and health in the perinatal period was similar.

Once the diagnosis of twins is made the aim of the management is to reduce the perinatal mortality and morbidity (5,7). This is achieved by eliminating development of premature twins, elimination of trauma during delivery and provision of expert neonatal care from the time of birth (5,7). This patient was closely followed in the ante-natal clinic to avoid any complications. The patient was advised to have bed rest in early pregnancy.

Bed rest has been found to be effective in decreasing premature labour and hence improving perinatal outcome (Van der pol et al, 1982). Oyieke (1978) found that only 18% of infants who were less than 1500grammes survived while 90.1% of those weighing more than 1500grammes survived. Therefore the aim is to prolong pregnancy until the babies' weights is at least 1500g.

If labour is established then foetal heart rate is monitored, grouping and cross-matching is done and intravenous fluid with either 500c.c. 5% dextrose or 500c.c. Normal saline started like in our patient. This is in anticipation of post-partum haemorrhage (Pritchard, 1980).

Vaginal delivery is acceptable from 36 weeks onwards if there are no Obstetric complications and both twins are vertex, as in our patient. Caesarean section is preferred if the gestation is below 36 weeks or if there are fetal or maternal complications. In Kenyatta National Hospital, caesarean section is preferred when the first twin is breech.

The second twin should be delivered as soon as the first twin comes out for reasons discussed above. If no contractions within 10 minutes syntocinon should be started and this will lead to spontaneous vertex delivery or assisted breech delivery (Pritchard, 1980). Our patient did not require syntocinon as she delivered the second twin within 10 minutes. Postpartum haemorrhage should be prevented by active management of the third stage of labour as in our patient.

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RETAINED PLACENTA: MANUAL REMOVAL

Name: M. A.	LMP: 12.8.86
Age: 30 years	EDD: 19.5.87
Parity: 3+0	DOA: 25.4.87
IP NO. 547593	DOD: 26.4.87

Chief Complaint:

She complained of lower abdominal pain for one day. She had delivered a baby at home and placenta was retained and it was accompanied by vaginal bleeding.

History of Presenting Illness:

The patient had delivered a live foetus at home the night before admission and she presented to hospital with vaginal bleeding and lower abdominal pain.

Obstetrical and Gynaecological History:

She was a para 3+0. She had no living children. All died after delivery. Her last monthly period was 12.8.86 and by dates she was 34 weeks. She did not use any contraceptives. She had retained placenta once again in the past. She did not attend any ante-natal clinic.

Past Medical History:

Not Significant.

Social and Family History:

She was married and stayed at Karatina, the husband worked with a Security Firm in the City of Nairobi.

Physical Examination:

She was in good general condition, she was not pale. She was afebrile. The temperature was 37.1⁰c. She had no oedema and no lymphadenopathy.

Cardiovascular Examination:

Her pulse was 96/minute and blood pressure was 100/70mmHg. Her jugular venous pressure was not raised and the heart sounds were normal.

Respiratory and Central Nervous System:

These were essentially normal.

Abdominal Examination:

The abdomen was uniformly distended, and moving with respiration. There was a mass equivalent to 18 weeks size of pregnant uterus. The mass was not tender. No other masses felt in the abdomen.

Vaginal Examination:

The external genitalia was normal. The cord was seen hanging from the vagina. Cervix was 4 centimetres open and the placenta was confirmed to be in the uterus, completely attached. Controlled cord traction attempted but no luck to remove it.

Impression:

An impression of retained placenta was made.

Plan of Management:

The patient was planned for manual removal of placenta in main theatre. She was started on a drip of syntocinon 20 units in 500c.c. 5% dextrose and blood for grouping and cross-matching two units taken. She signed an informed consent and pre-medication 0.6mg $\frac{1}{2}$ hour before the procedure was prescribed. Her vital signs were recorded to be normal. She was started on intramuscular ampicillin 500mg 6 hourly before theatre.

Manual Removal of Placenta:

The patient was given pre-medication and taken to theatre for manual removal of placenta. She was put under general anaesthesia and placed in lithotomy position. Vulvo-vaginal toilet was done and she was draped. She was catheterised and clear urine obtained.

Examination under anaesthesia was then performed. First a speculum was inserted to make inspection of the vagina and cervix easy. These were found to be normal. There was no cervical lacerations or vaginal tears. The cord was arising from the cervical os and on digital examination the cervix was 4 centimetres open, uterus was 18 weeks size.

The right hand was inserted into the uterus along the cord to its point of insertion on the placenta. The right hand was then used to peel off the placenta from its bed while the left hand stabilized the fundus per abdomen.

The placenta was found to be adherent to the uterine wall superficially. Exploration of the uterus done and no rents or tears felt. The placenta was completely evacuated and uterus was well contracted. Throughout the operation, the syntocinon drip was running to stop any bleeding and to allow better uterine contraction.

Post-operative Management:

The patient was observed half hourly till she was fully awake, then four hourly observations were done till she was discharged.

The syntocinon drip was continued for two hours after the operation. She was put on antibiotics (ampicillin capsules 500mgqds) and analgesics (panadol 100mg + ds) which were started six hours after the operation.

She was discharged on 26.4.87 to attend post-natal clinic after six weeks.

Follow Up

She was seen in the post-natal clinic six weeks later and her condition was good. The uterus was well involuted. She was advised to attend the ante-natal clinic for family planning counselling.

Comment:

This patient had presented with a history of retained placenta after delivering at home.

A diagnosis of retained placenta is made when placenta is not separated within 30 minutes after delivery (2). Our patient had stayed for several hours with retention of the placenta.

The causes of retained placenta include uterine inertia (5), abnormal adherence to the uterine wall (5) or formation of a "retraction ring" following intravenous use of ergometrine after delivery of baby (5). Most frequently abnormal adherence of the placenta is the true cause of retained placenta. In this case the normal decidua is absent and the chorionic villi are attached directly of varying degrees and ranges from superficial morbid adherence to the decidua basalis or deep adherence to the myometrium (accreta and percreta and percreta respectively) [Read, 1980].

Among the factors incriminated for placenta accreta are multiparity, previous placenta praevia, previous caesarean section, previous uterine surgery, previous manual removal of placenta and previous endometritis (7). This patient was multiparous and she had a history of previous retained placenta where manual removal was performed. These two factors plus the possibility of endometritis following the previous manual removal could have been the predisposing factors for the retention of placenta in this patient.

The main complication of retained placenta is post-partum haemorrhage (1,2,4). Post-partum haemorrhage has been shown to be an important cause of mortality in Kenya (Makokha, 1980). He showed that 15.2% of all maternal deaths at Kenyatta Hospital at that time were due to post-partum haemorrhage. In itself, the placenta when retained can cause death. Retention of placenta leads to infection and this causes death.

Disseminated intravascular coagulation is another possible sequelae of retained placenta leading to death. This patient did not develop any of these complications except for the ill health it caused.

The management principles of a retained placenta should include giving intravenous fluids containing syntocinon, early antibiotic treatment, grouping and cross-matching and transfusion incase of haemorrhage and manual removal in theatre as a definitive treatment (2). Our patient had all these done. Complicated retained placenta, where there is

severe bleeding and placenta accreta or percreta, subtotal hysterectomy can be done (6). Jacobs (1980) suggested the use of intra-myometrial $\text{PGF}_2\alpha$ in the treatment of severe post-partum haemorrhage before further action is taken.

Removal of placenta in theatre is not a must in all cases. In patients who may not stand anaesthesia or where anaesthetist is not available, the placenta can be removed under sedation with pethidine and valium.

Conservative management whereby the placenta is left in situ after cutting the cord in difficult removals like in placenta accreta or percreta is suggested by Moir J.C et al (1971). This is of beneficial effect to a young woman who has no other children or has not completed her family. Read J. A. et al (1980) looked at clinical aspects and outcome of placenta accretta and reported that maternal mortality following conservative management of placenta accreta fell from 37.2% in 1943 to 3.1% in the present decade. However the patient should be monitored closely to avoid the serious complication of sepsis and disseminated intravascular coagulation already discussed above.

Following manipulations for manual removal of placenta, the patient should be covered with antibiotics to avoid puerperal sepsis. This patient was put on ampicillin after the procedure.

Future deliveries should be done in a well equipped hospital to cater for manual removal as recurrence is well documented (7). Our patient was informed of this.

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WOUND DEHISCENCE - REPAIR DONE

Name: W. M. D.O.A: 10-4-89
Age: 21 years D.O.D: 25-4-89
IP.No.: 957482

PRESENTING HISTORY

The patient developed wound dehiscence on the seventh day after removal of stitches. The wound appeared clean with serous fluid oozing from it. She had an emergency caesarean section due to fetal distress. The blood loss had been 500mls. The post-operative period had been uneventful.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was a para 2+0. Her first delivery was in 1985 by spontaneous vaginal delivery. The baby was alive and well. Her last delivery was on 19th April, 1989. This was the one complicated by the wound dehiscence being discussed. She had used oral contraceptives pills from 1985 to 1987 february.

PAST MEDICAL HISTORY:

This was not significant.

SOCIAL AND FAMILY HISTORY

She was married. She worked as a counter-girl in a bar in Nairobi and the husband was a businessman. She had no family history of tuberculosis, diabetes or hypertension.

PHYSICAL EXAMINATION

She was in good general condition. She was not pale. She had no oedema or lymphadenopathy. She was afebrile. Her body temperature was 36.5⁰c.

RESPIRATORY SYSTEM:

Her respiratory rate was 22 per minute. The chest was moving with respiration and expanding equally bilaterally. She had good air entry bilaterally and she had vesicular breathing. The throat was not inflamed.

CARDIOVASCULAR SYSTEM

Her pulse rate was 72 per minute. Her blood pressure was 120/80mmHg. Her jugular venous pressure was not raised and her first and second heart sounds were normal. There were no murmurs.

CENTRAL NERVOUS SYSTEM

This was essentially normal.

ABDOMINAL EXAMINATION

The abdomen was moving with respiration. It was not distended and there were no areas of tenderness apart from the incision wound. The wound was clean with a discharge of serous fluid. It was open for 3cm length and the rest of the wound was held by a thin flap of skin.

VAGINAL EXAMINATION

The external genitalia was normal. The cervix was closed and the uterus felt normal size, non tender. There was no tenderness in the adnexa and pouch of Douglas. The lochia loss was normal and had no evidence of sepsis.

DIAGNOSIS

A diagnosis of wound dehiscence following caesarean section was made.

MANAGEMENT

The patient was started on intravenous fluids, 500c.c. 5% dextrose to run at 20 drops per minute and she was also started on ampicillin injection intramuscularly 500mg 6 hourly. She was explained the problem and the intended treatment and she gave consent. A theatre list for operation under general anaesthesia was made and she was given atropine 0.6mg intramuscularly as pre-medication.

After the theatre staff and anaesthetist were ready, the patient was taken to theatre for the repair of the dehiscence.

REPAIR OF THE WOUND DEHISCENCE

The patient was placed on the operation table in supine position then anaesthetised. She was then placed in dorsal position and she was catheterised aseptically. She was placed back in supine position and the abdomen was cleaned and draped. The wound was inspected and the dehiscence was observed to be along the whole wound longitudinally but reaching the rectus sheath downwards. There was no evidence of sepsis or haematoma. There was a skin gap of 3cm on the lower end of the wound.

The skin on top of the undermining dehiscence wound on the upper part was separated and debridement of the whole wound was done gently. Stay sutures with nylon number 2 were inserted 2cm apart from the fat layer upwards and were held with artery forceps. Some plain catgut number 0 sutures were used to approximate the fat layer and nylon number 2 was used to make more skin stitches 1 cm apart. The stay sutures were then tied and the wound was cleaned and dressed. The patient was reversed from anaesthesia.

POST-OPERATIVE MANAGEMENT

The patient was observed in the theatre recovery room 1/2 hourly until she was fully awake and then she was taken to the ward where she was observed four hourly. She was continued on intravenous fluid and injectable ampicillin as described above and nil orally. She was given pethidine 100mg 8 hourly for 48 hours then thereafter oral aspirin two tablets three times a day. On the 2nd post-operative day she was started on oral sips of water. On the third day she started soft diet and her haemoglobin was checked and found to be 10.5g/dl. On the 10th day all the stitches were removed and the patient was discharged home to come back for review after six weeks.

FOLLOW UP

The patient was seen six weeks postpartum and the wound was well healed. She was breastfeeding well. The uterus was well involuted but she had not started her periods. She was advised to attend our family planning clinic for advice on the most suitable contraceptive for her.

COMMENT

This is a patient who had abdominal wound dehiscence following caesarean section for foetal distress.

The term wound dehiscence includes separation of any of the suture layers of the abdominal wall. Complete wound dehiscence is termed as wound disruption or burst abdomen. (Mattingly, 1985). The patient discussed had incomplete wound dehiscence.

The incidence of wound dehiscence varies between 0.3% and 3% of all cases of pelvic surgery. Nsofer found an incidence of major wound dehiscence after caesarean section to be 4.37% (Nsofer, 1984). Mowart (1971) reported on incidence of 2.9%.

Factors associated with wound dehiscence include pre-operative and post-operative anaemia, post-operative and sepsis, haematoma formation, type of incision, obesity, coughing, hiccups, vomiting and emergency caesarean section (1,2,3,4,5). The operation time of more than one hour and blood loss of over 800mls and the type of suture have also been implicated (5,7). Sub-umbilical incision is more prone to dehiscence than transverse incision (Nsofer, 1984). Mattingly (1985) reported that catgut, which is absorbed by phagocytosis has a higher rate of wound disruption than the polyglycolic delayed absorbable suture material (like vicryl or dixon), while the non absorbable sutures give the lowest rate of wound disruption. The patient discussed had an emergency caesarean section, she had a sub-umbilical midline incision and her wound was sutured using catgut. She had no evidence of sepsis or haematoma and she had no anaemia as evidenced by post-operative

haemoglobin of 10.5g/dl.

The management of wound dehiscence involves covering the wound with a sterile moist gauze and then immediate closure in theatre (5,6,7). In theatre the wound should be thoroughly cleaned under general anaesthesia and gentle debridement done. The sutures should then be placed through the entire thickness of the abdominal wall including the peritoneum with a non-absorbable material preferably nylon number 2 (5,6). After being inserted the sutures are held with clamps but are not tied before all of them are placed. This procedure pulls the abdominal wall away from the viscera and guards against injury to the bowel. These sutures are normally placed 2cm apart and if more approximation is required delayed absorbable sutures are used to approximate the peritoneum, rectus and fat and non-absorbable stitch used to approximate the skin (Mattingly, 1985). The patient discussed underwent the described procedure and she had extra sutures for the fat and skin.

The sutures are removed after 14-21 days when healing is anticipated (Mattingly, 1985). The patient discussed had removal of stitches on day 10 and the wound had healed well.

Abdominal wound dehiscence following caesarean section is prevented by observing strict aseptic procedure, minimising blood loss and treating any cough or vomiting,

and decompressing the abdominal distension if present
(5). The sutures at caesarean section should be placed
1 cm apart (Jenkins, 1976). The patient discussed had a
blood loss of 500mls during the caesarean section and
she did not have any cough or distended abdomen after the
caesarean section.

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TITLE: THE MANAGEMENT OF GRANDMULTIPAROUS PATIENTS
PREVIOUSLY DELIVERED BY CAESARIAN SECTION AT
PUMWANI MATERNITY HOSPITAL AND KENYATTA
NATIONAL HOSPITAL.

SUMMARY:

118 grandmultiparous patients with previous scar were studied to see the outcome of labour in Pumwani Maternity Hospital and Kenyatta National Hospital, both in Nairobi. The study was carried out over 5 months starting from 26th November 1988 to 24th April 1989. 105 patients were registered at Pumwani Maternity Hospital while 13 were registered at Kenyatta National Hospital.

All the patients seen at Kenyatta National Hospital were delivered by caesarean section while at Pumwani 30 patients were allowed a trial of scar with 57 of these (representing 71.2%) having a successful trial and 23 of them (representing 28.8%) having to undergo an emergency caesarean section in the course of labour. 25 other patients in the same study group (Pumwani) underwent caesarean section either electively or as a result of the clinician's decision not to try the scar when they presented in labour.

No rupture of the uterus occurred and no maternal death occurred. Perinatal morbidity was low (20.9%) mainly due to mild birth asphyxia but one baby had neonatal jaundice and another had congenital abnormality.

Perinatal mortality was registered in only two babies (1.9%). One of the babies had decompression of the head due to congenital hydrocephalus while the other had unexplained death following failed trial of scar.

Maternal morbidity as judged by the febrile morbidity (6/118) and septic wound (1/118) was more common in repeat sections. Morbidity due to intrapartum haemorrhage (2/118) was also more common in this group since 2 cases were seen after they underwent emergency caesarean section. Postpartum haemorrhage and retained placenta was more common in successful trial of scar compared to repeat sections but one patient out of 57 had retained placenta.

Trial of scar in grand multiparous patients seem to be safe and this approach will definitely reduce unnecessary caesarean sections and also reduce the morbidity, associated hospital stay and drugs. The deprivation of the indispensable early maternal-infant contact after caesarean section should not be forgotten.

INTRODUCTION:

On May 12, 1916 Edward Cragin pronounced his now infamous dictum "once a caesarean section, always a caesarean section" This has now been abandoned in the U.S.A. and other developed countries following several studies that have demonstrated the safety of trial of scar in carefully selected and monitored cases (Phelan et al, 1987).

In Kenya, the rising caesarean section rate is a matter of concern to Obstetricians. (Karanja, 1980 and Wanjohi, 1989). Karanja found the caesarean section rate to be 20% while Wanjohi recorded it to be 21.1%. Another study by Sinei in 1981 showed that sepsis after caesarean section is still a major causes of maternal morbidity and mortality. He reported a prevalence of 29.5% febrile morbidity and 6.5% abdominal wound infections. Elsewhere in Riyadh (Saudi Arabia) Chattopadhyay and Associates (1987) reported a 10.5% abdominal wound infection rate after repeat caesarean sections compared to 1.2% in the vaginal delivery series. He also reported 0.5% scar dehiscence after repeat sections compared to 0.1% scar dehiscence after successful trial of labour. He suggested that trial of scar is safer than repeat sections in carefully selected patients.

At Kenyatta National Hospital the problem caused by repeat caesarean sections is made worse by the fact that all grand-multiparous patients undergo repeat caesarean section as a rule. Unlike Kenyatta National Hospital, Pumwani Maternity Hospital advocates trial of scar in grand-multiparous

patients with previous scar started in 1978 following Walton's report (Walton, 1978).

Walton (1978) had studied 184 patients who had trial of scar and the success rate was 73.9%, 20.1% had failed trial due to arrest in dilatation, 9.2% had fetal distress and 4.9% had ruptured uterus. 66.7% of these patients who ruptured uteruses did not have radio-logical pelvimetry. He did not indicate whether these patients were booked or not and he did not indicate how many of these 184 patients were para 5 and above. In his recommendation on the ante-natal and intrapartum management, he only said that patients with high risk of scar rupture should be delivered by caesarean section. Following this report, some Obstetricians felt that a grand-multiparous patient has a weaker uterine scar and hence should be one of those at risk of scar rupture if tried. Contrary to this several authors have clearly outlined that there is no risk of trying grand-multiparous scars. These studies were by Miano (1977), Wadhavan (1983), Lawler (1956) and Allahbadia (1963).

Miano (1977) reviewed 200 cases of grand-grandmultipara (para 8 and above) at Kenyatta National Hospital and of all the twelve patients who had previous scar 75% had a successful trial of scar and those patients who didn't make it one had a classical caesarean section, the other had 2 previous scars and the third had a small pelvis. This study shows that a grand multipara can have a successful trial of scar. None of those patients who had a trial of scar ruptured the uterus.

Wadhavan (1983) showed that grand-multiparous patients can have a successful trial of scar without increased scar dehescence rate, while Lawlwer (1956) reported two patients with five previous vaginal deliveries who had a successful trial and Allahbadia (1963) reported 11 deliveries of grand-multiparous patients with previous scar.

This study was carried out mainly to see the outcome of labour in the trial of scar on one hand and repeat section on the other in management of management of grandmultiparous patients in the two Nairobi City Hospitals.

GENERAL OBJECTIVE

To study the factors affecting success of trial of scar and pregnancy outcome among grand-multiparous women with a view to utilizing the information obtained to improve on their management.

SPECIFIC OBJECTIVES

1. To study the relationship between selected, socio-demographic factors and success of trial of scar in grandimultiparous women presenting at Pumwani and Kenyatta Hospital.
2. To study the relationship between various types of labour management and outcome of pregnancy in grandimultiparous women with previous c/section scar.

3. To study the relationship between antenatal care and success of trial scar in grand-multiparous women.
4. To study the relationship between selected past Obstetric experiences and success of trial scar in grand-multiparous women.

SUBJECTS AND METHODS

The study was a descriptive, cross-sectional study. All grand-multiparous patients having a previous scar and delivered at Kenyatta National Hospital and Pumwani Hospital during a 5 month period from 26th November 1988 to 24th April 1989 were studied.

The maternal characteristics, outcome of labour and mode of delivery, birthweight and complications of labour and delivery were recorded in both hospitals.

Those who were included in the study were 118 grand-multiparous mothers with previous scar who were admitted in labour or before labour whether booked or unbooked. 105

were recruited at Pumwani Maternity Hospital and 13 were recruited at Kenyatta Hospital.

The questionnaire had 8 sections. The first section asked for patients socio-demographic characteristics such as age, parity, and place and date of delivery. It also included place of ante-natal attendance and gestational age in weeks. Section 2 was asking for the date of last caesarean section and reason for it and number of deliveries after the section. Section three asked for ante-natal care and delivery. In this section, timing of hospital admission, x-ray pelvimetry and assessment of adequacy of the pelvis was enquired about. Section four dealt mainly with method of delivery whether by caesarean section or vaginal delivery. Section 5 asked for the outcome of the current delivery and section 6 asked for examination of the uterine scar. Section 7 recorded any rupture of uterus and section 8 any other problems noted but relevant to the study.

Some of this information was obtained in the patients' records. Information on parity and previous number of sections, indication for previous scar, baby's condition after birth and findings of exploration of the uterus in cases of trial of scar and mother's condition after delivery were obtained from the patients files. The patients were interviewed before they were taken for operation or before delivery for those who had trial of scar. These patients were again seen on the day of discharge.

The patients who had trial of scar were discharged one day after delivery while those who had caesarean section were discharged on the seventh post-operative day if she had no complications.

The records were reviewed on the first day of seeing the patients and before the patient was discharged or after she was discharged before I could see them in the ward.

RESULTS:

13 patients were studied at Kenyatta National Hospital but since it was thought that these were too few for statistical analysis, they were analysed together with those operated in the same circumstances at Pumwani Hospital where 105 women were studied.

TABLE 1: The age of the grand-multiparous patients with previous scar by method of delivery.

Maternal age (years)	Method of delivery				Total
	Successful trial	failed trial	Emc/s	Elc/s	
25-29	24	9	14	9	37
30-34	18	9	4	7	48
35-39	14	5	3	1	29
40+	1	0	0	0	1
Total (n)	57	23	21	17	118

Em.c/s = Emergency caesarean section

El.c/s = Elective caesarean section.

The Obstetric population was young in general as majority of the patients were below 35 years. The youngest patient was 26 years and the oldest was 42 years. Those who had failed trial of scar are evenly distributed in the age-groups studied and hence age doesn't seem to be a factor in success or failure of the trial of scar.

TABLE2: The parity of the grandmultiparous patients with previous scar by method of delivery.

Parity	Method of delivery				
	Total	Successful trial	failed trial	Emc/s	Elc/s
para 5	58	25	11	13	9
para 6	37	17	10	6	4
para 7	10	6	0	2	2
para 8+	13	9	2	0	2
Total (n)	118	57	23	21	17

Majority of the patients studied were para 5 and para 6. 13 patients were para 8 and above with 9 having a successful trial, 2 with failed trial and 2 had elective caesarean section. This represents 81.8% of successful trial in those of para 8 and above. In the para 5 to para 7 groups, 48 out of 69 had a successful trial representing 69.1% success rate.

TABLE 3: Percentage of women with successful trial of scar by age.

Age	Total trial	Successful trial	% successful
25-29	20	16	80.0
30-34	33	20	60.6
35-39	24	19	79.3
40+	3	2	66.7
Total	80	57	71.2

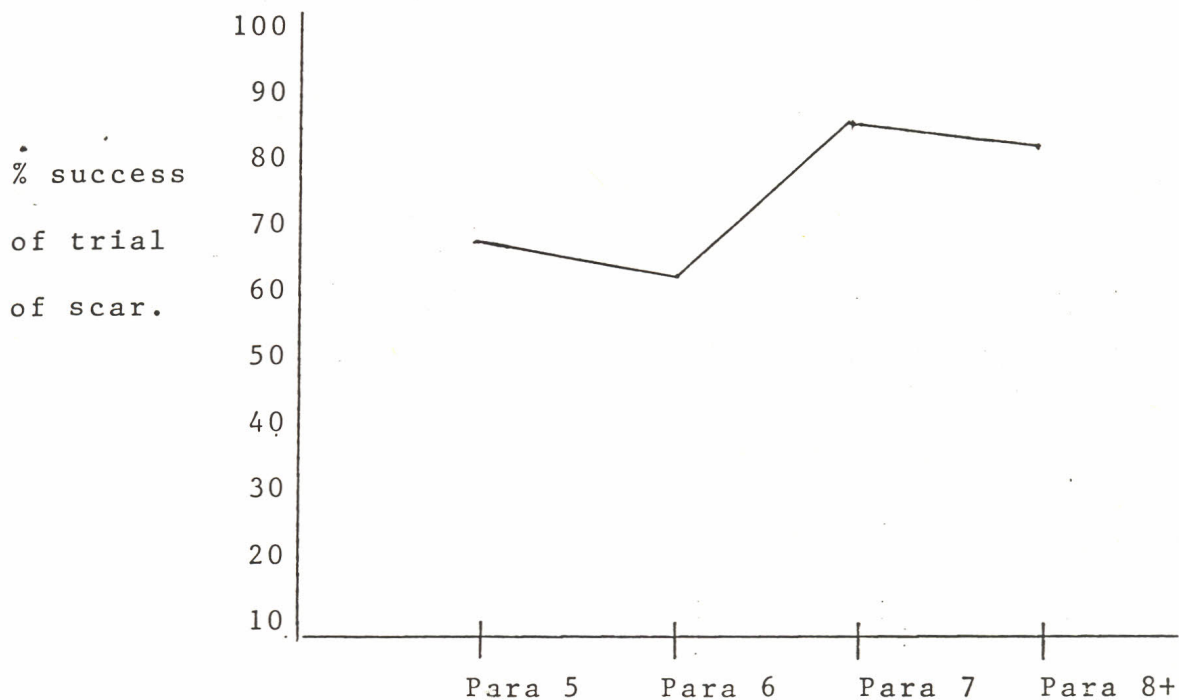
Successful trial of scar does not seem to be affected by age as there is no appreciable increase or decrease in the percentages in the various age groups.

TABLE 4: Parity by successful trial of scar.

Parity	Total trial	Successful trial	% Successful
Para 5	37	25	67.6%
Para 6	26	17	61.5
Para 7	7	6	35.6
Para 8+	10	9	90.0
Total	80	57	71.2%

Para 7 represents 85.6% success rate while para 8 represents 90.0% compared to 67.6% for para 5 and 61.5% for para 6.

FIGURE 1: Parity by percentage success of trial of scar.



It appears that the higher the parity the higher the chance of success of trial of scar but the numbers are too small to make any conclusive statement.

TABLE 5 Ante-natal care and management of labour in grandmultiparous with previous scar.

ANC	Successful trial	failed trial	Em.c/s	El.c/s
PMH	26	16	11	14
KNH	0	0	2	0
Other City Council ANC	28	7	6	2
Other ANC	2	0	2	1
None	1	0	0	0
Total (n)	57	23	21	17

Only one patient in the study group never attended ante-natal clinic. She had successful trial of labour. All the 23 patients who had failed trial of labour were attending ante-natal clinics. Emergency caesarean section refers here to caesarean section performed on those mothers who came in labour and were not booked or had not been planned for trial of scar or had been booked for elective caesarean section but went into labour. Majority of the study population attended ante-natal care at City Council Clinics.

TABLE 6: Management of grand-multiparous patients with previous scar and the time of admission

Time of admission	Successful trial	failed trial	Em.c/s	El.c/s
2 weeks before EDD	0	1	2	11
After onset of labour	57	21	18	0
Other	0	1	0	6
Total	57	23	21	17

'Other' means admission outside 2 weeks prior to expected date of delivery (EDD) prior to the onset of labour. The patients in this category were either admitted with a term or as in the case of one of the patients, 3 weeks prior to EDD due to hypertensive disease in pregnancy. Majority of the patients for trial of scar were admitted after onset of labour.

All patients who had successful trial of scar came in labour - most of those who had failed trial also came at onset of labour. The 11 patients who came 2 weeks before EDD for elective caesarean section were booked.

TABLE 7: Trial of scar and x-ray pelvimetry or clinical pelvimetry.

	Successful trial		Failed trial	
	No.	(%)	No.	(%)
X-ray done	6	10.5	5	21.7
Clinical pelvimetry done	20	35.1	11	41.4
No pelvic assessment done	31	54.4	7	31.9
Total (n)	57	100.0	23	100.0

Of those who had successful trial only 26 (representing 45.6%) had some assessment of the adequacy of the pelvis prior to labour. Only 6 of these (representing 10.5%) had adequate pelvis by x-ray pelvimetry. More than half of those who had failed trial had clinical or x-ray assessment before labour and were judged to have adequate pelvis. A greater proportion of women who had no pelvic assessment (54.4%) had successful trial of scar.

TABLE 8: Outcome of trial of scar by number of previous deliveries after the primary caesarean section.

Number of deliveries after c/section	Total tried	Successful trial of scar	% Successful
0	8	3	37.5
1-2	47	36	76.6
3-4	17	13	76.5
5+	8	5	62.5

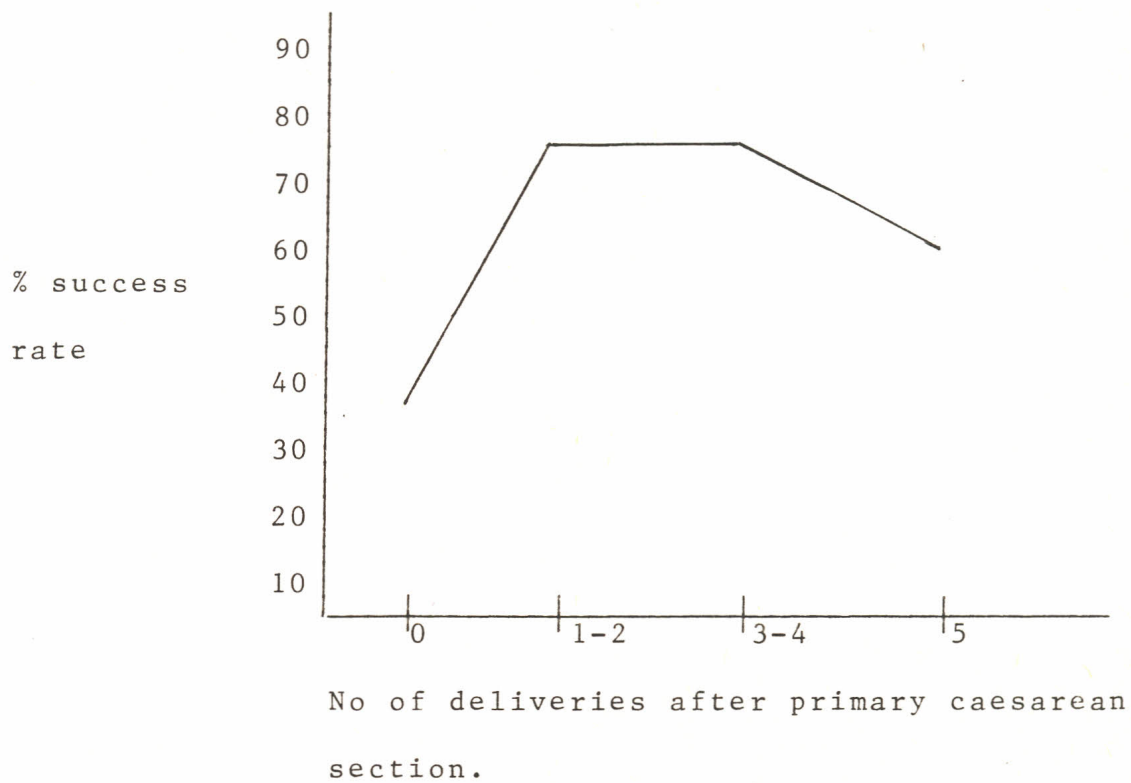
Although the study population was small, it appears that one or more deliveries after the primary section favourably affects the outcome of the trial of scar. Only 37.5% of the patients who did not have a previous delivery after the primary section had successful trial compared to 76.6% success in those who had 1-2 deliveries and 76.5% success in those who had 3-4 deliveries and 62.5% success in those who had 5 or more deliveries.

TABLE 9: Number of deliveries after primary caesarean section by success of trial of scar at Pumwani Maternity Hospital.

Number of deliveries after primary section	Total tried (no)	successful trial	(%)
0	8	3	37.5
1-2	47	36	76.5
3-4	17	13	76.5
5+	8	5	61.5

Out of 8 mothers with no previous delivery after primary caesarean section; 3 had a successful trial (37.5%). Those who had 1-2 and 3-4 deliveries after the primary caesarean section had 76.5% success rate and the success rate fell to 61.5% in those with five or more deliveries. Previous vaginal birth after the primary caesarean section seems to have some influence on the successful trial. The more vaginal deliveries one has after the primary caesarean section the higher the chance of a successful trial.

FIGURE 2:



This figure shows that the success rate of trial of scar increases with number of deliveries after the primary caesarean section but this effect wears off after 3 to 4 deliveries.

TABLE 10: Outcome of trial of scar in 80 patients according to indications for the primary caesarean section.

Primary indication	No	Successful trial		Failed trial	
		(no)	(%)	(no)	(%)
Uncertain	4	3	75	1	25.0
Malpresentation	32	28	87.5	4	25.0
C.P.D.	16	10	62.5	6	40.0
A.P.H.	4	3	75.0	1	25.0
Fetal distress	6	3	50.0	3	50.0
Arrest of labour	8	4	50.0	4	50.0
Cord prolapse	9	6	66.6	3	33.4
Toxaemia	1	0	0.0	1	100.0
Total (n)	80	57	71.2	23	28.8

Vaginal delivery rate was 71.2% of the total trial of scar patients. 62.5% of the patients with C.P.D. as indication for primary caesarean section had successful vaginal delivery.

There was high success rate in patients whose indication was uncertain (75%), malpresentation (87.5%), A.P.H. (75%) and cord prolapse (66.6%).

TABLE 11. Reason for failure of trial of scar.

Reason for failure	Total	%
Fetal distress	10	43.5
Arrest in cervical dilatation	4	17.4
Arrest in descent of presenting part	5	21.8
Incoordinate uterine action	1	4.3
Impending rupture of uterus	2	8.7
Malpresentation	1	4.3
Total (n)	23	100.0

Fetal distress was the commonest cause of failure of trial of scar and it accounted for 43.5% of these cases. Arrest in descent of presenting part was next commonest cause with 21.7%.

Two patients were operated due to impending rupture of the uterus as a result of persistent pain on the previous scar but no evidence of dehescence was noted at operation and the babies were normal.

None of the patients who had arrest labour had stimulation with syntocinon.

TABLE 12: Fetal outcome in grand-multiparous patients with previous caesarean section scars.

Fetal outcome	Method of delivery			
	Successful trial	failed trial	Em.c/s	El.c/s
Normal baby	47	13	16	15
Perinatal morbidity				
Birth Asphyxia	7	9	5	2
Jaundice	1	0	0	0
Ophthalmia neonatorum	0	0	1	0
Multiple malformation	1	0	0	0
Perinatal mortality				
Hydrocephalus	1	0	0	0
Unknown	0	1	0	0
Total (n)	57	23	21	17

Two deaths were seen in this study group. One was due to decompression of hydrocephalic head in a breech presentation and the other had no real explanation as the mother was operated due to what appeared as a deep transverse arrest but at operation, a FSB was delivered.

47 out of 57 of the babies from the successful trial were normal (this represents over 80% of the babies with successful trial of scar. 7 out of 57 of the babies with trial

a scar of Birth Asphyxia (representing about 12% of the total) but this was less than 16 out of 51 (representing 31.4%) in those who had caesarean section.

TABLE 13: Maternal complications in grand-multiparous patients with previous caesarean section scars.

Maternal complication	successful trial	Failed trial	Em.c/c	El.c/s
Febrile Morbidity	0	0	3	3
Septic wound	0	0	1	0
Intrapartum Haemorrhage	0	0	1	0
Post partum haemorrhage	1	0	1	0
Retained placenta	3	0	0	0
Maternal mortality	0	0	0	0
Total (n)	4	0	7	3

Febrile morbidity was more common after caesarean section. The cause for the fever was not established but it was assumed that it was related to the operation or interference with the throat or urethra during intubation and catheterisation respectively or sepsis of the wound after the operation.

One septic wound was seen after emergency caesarean section. Two cases of intrapartum haemorrhage were seen after caesarean section while 3 patients had retained placenta after successful vaginal delivery. None of these 3 patients developed post-partum haemorrhage.

The immediate post-natal period of all women who had successful vaginal delivery was uneventful. It was difficult to follow them up further as they were discharged from the hospital early and asked to attend the nearest City Council Clinic because of the workload at Pumwani Maternity Hospital.

DISCUSSION:

The results of this study show an overall success rate of 71.2% for patients attempting trial of labour after previous caesarean section in grand-multiparity. This rate is identical to that reported by Maureen, Jarell et al in 1985 at Vermont and Lavin, Stephens et al who reported a success rate of 66.7% in 1982 at Ohio. This trial of scar occurred at Pumwani Hospital only. No trial of scar was seen at Kenyatta Hospital because it had been abandoned since 1978 following Walton's report. Walton (1978) had recommended that to minimise scar dehescence in Kenya care must be taken in dealing with previous scars. The cut off point was placed at para 5 by Obstetricians because they felt that a grand-multiparous had a weak uterus and hence more prone to rupture. That is why no grand-multiparous was offered trial of scar at Kenyatta Hospital. Contrally to this believe, 57 out of 80 women subjected to trial of scar at Pumwani Maternity Hospital had uneventful labour and delivery. 9 of these patients were para 8 and above. One patient was reported to be para 12 and had a successful delivery.

In his series, Allahbadia (1963) reported a woman who had 9 deliveries at Rotunda Hospital after the primary caesarean section and he indicated that the risk of rupture is greatest during the first labour following caesarean section and succeeding labours are attended by a lesser risk of this complication. This means that the first labour following caesarean section causes rupture if the uterine scar

is defective, but if uterus is soundly healed it will withstand the strain of repeated labours. Other researchers have reported successful multiple deliveries after the primary section. Lawler, Mathews et al (1956) reported 2 deliveries to para 5 women with one previous scar. Miano (1977) reported on 200 cases of grand-grandmultiparous (para 8 and above) with 75% success rate of trial of scar. Our results show that those women who were para 8 and above had 81.8% success rate while those para 5 had 68.5%, para 6 61.5% and para 7 85.6%. This shows that it is even safer to try scar in para 8 and above than lower parities. The number of deliveries after the primary caesarean section has been found to be a factor of good prognosis in this study. Majority of the patients with successful trial (94.7%) had more than one delivery after the primary section. Five patients had 5 or more deliveries after the primary caesarean section. This is an indication that previous scars in grand-multiparous women are not weak. Schmitz and Gajewski (1950) reported that the more deliveries after a previous scar the easier and more successful the labour becomes. Similar views were shared by Lavin and Stephens et al (1981) and they added that a history of previous vaginal birth was a prognostic indicator of a successful trial.

The Obstetric population studied was generally a young one. 73.7% of the mothers were below 35 years of age. A similar study by Allahbadia (1963) reported those under 35 to be 57.4% which is noticeably less than in our series. It is obvious that these are the patients who are still in their prime of reproductive life and if it is at all feasible

they should be saved from having multiple repeat elective sections. This is important in some Catholic communities where tubal ligation is rejected whereas we know that doctors recommend permanent contraception after the third repeat section. In some communities it is a tradition to deliver many children and hence repeat sections would reduce the chance of the woman to deliver more or increase her risk of mortality. Of the patients who had repeat sections 61.5% were under 35 years. It is therefore advisable to recommend a trial of scar in such a population to avoid the accompanying problems of repeat sections in these young people.

Our study indicates that nearly all the mothers studied attended ante-natal care. Only one patient never attended any ante-natal care. This high rate of antenatal attendance is a result of their previous awareness of the risk involved in having a previous scar. Antenatal care forms the basis of admission time as shown in the study. All the patients for trial of scar came to the hospital in labour as had been advised. This has been advocated as the right trend by Lavin and Stephens et al (1982). The patients for elective caesarean section were admitted prior to labour because of the alleged complications and possible theoretical risk of scar rupture.

The need for x-ray pelvimetry does not come out well in this study. Only 6 out of 57 patients (representing 10.5%) of those who had successful trial had an x-ray assessment. Majority, 31 out of 57 patients (representing 54.4%) did not

have any form of pelvic assessment. Also it is noted that 5 patients out of 23 had adequate pelvis by x-ray pelvimetry while 11 out of 23 (representing 47.8%) had clinical pelvic assessment, yet these had a failed trial of scar. May be all those with non-recurrent indications of the previous scar should be given trial of scar.

A study by Wilson (1951) showed that 24 patients who had a previous section for cephalopelvic disproportion, 18 had adequate pelvis, 5 had boderline pelvis and 1 had contracted pelvis but all of them delivered vaginally. Therefore Wilson concluded that x-ray pelvimetry should not be used as the sole criterion for excluding a trial of scar. In this study 60% of the patients who had cephalopelvic disproportion as the primary indication for caesarean had successful vaginal delivery. This compares well with 54% reported by Maureen and Graham et al (1985). Paverstein and associates (1987) reported that 19(86.4%) of 22 patients previously delivered by caesarean section for cephalopelvic disproportion had contracted pelvis by x-ray pelvimetry. Eight of these (42.1%) subsequently delivered vaginally despite the abnormal pelvimetry, whereas only 1 out of 3 (33.3%) with normal pelvimetry delivered vaginally. From these observations it can be concluded that a decision regarding the mode of delivery cannot be made on the sole basis of pelvimetry and it is suggested that an adequate trial of labour is required to make this decision. However a few authors still believe that there is potential benefit of x-ray pelvimetry in patients with a prior history of caesarean section for cephalopelvic disproportion (Nyakeri, 1975). Nyakeri reviewed 103 cases of trial of scar at

Kenyatta National Hospital and concluded that x-ray pelvimetry should be done at 36 weeks to assess the pelvis. He however pointed out that a history of cephalopelvic disproportion is not justified to advise someone to go for elective c/s as 85.7% of such patients delivered vaginally.

Outcome of labour as regards failed trial of scar shows that fetal distress was responsible in 43.5%. This is far much higher than that reported by Maureen and associates (1985) which was 12%. Arrest of labour accounted for 52% while two patients gave a history suggestive of impending rupture of the uterus. They had complained of pain and tenderness along the scar but at operation, no rupture was seen. According to Maureen, Graham and Leon (1985) pain is not a reliable sign of scar dehescence. They suggested that reliable signs of uterine scar separation include vaginal bleed-ng and fetal distress. In the current study, pain on the scar line did not help in the management of the patinets concerned. However in the absence of careful fetal and uterine monitoring, caesarean section for pain along cannot be avoided at the moment.

The current data support the safety of trial of scar in grand-multiparous patients since no significant morbidity was recorded as reflected by disruption of uterine scar, haemorrhage, intrapartum complications and child morbidity. Febrile morbidity seemed to be a common feature in patients with repeat caesarean sections. No cause for the fever was

established but it was thought to be from a septic foci in the throat, breast, wound or pelvis. Other workers at Kenyatta National Hospital have reported associated febrile morbidity and caesarean sections (Sinei, 1981 and Wanjohi, 1989).

Three patients out of 57 successful trials had retained placenta. This was very low and it is an acceptable level of risk to take in a trial of scar. It is known that there is a tendency to form morbid adherence of the placenta to the uterus with a previous scar.

Perinatal morbidity and mortality was rare in this group and except for one baby, there was no other labour related death.

CONCLUSION:

It can be concluded that from the review of available literature and the results of this study that it does not appear that grand-multiparity with a lower segment scar in itself constitutes an indication for repeat caesarean section with its complications like post-operative pain, wound infection, anaesthetic risk and subsequent prolonged hospital stay and expenses is definitely not a good option to a relatively safe trial of scar as indicated by this study.

The relative safety of the trial of a previous scar in this group of patients coupled with the increased awareness of ante-natal and intrapartum monitoring is enough for

Obstetricians to review the previously believed dictum in some centres that "Grand-multiparous patients with previous scar - always repeat caesarean section".

The study is even more significant considering Pumwani Maternity is a very busy unit. If Pumwani Maternity hospital can safely try grand-multiparous patients with previous scars, other less busy units should do even better.

RECOMMENDATIONS:

Recommendations on the management of labour after a previous scar in a grand multiparous patient:

Trial of scar in these patients can be conducted under the following conditions:

1. The patient must attend an ante-natal clinic where a decision to try the scar is made depending on the size of the baby in relation to the adequacy of the pelvis.
2. The patient should be admitted to the hospital as early as possible in labour. The patient should be explained about the dangers of delaying.
3. There must be no additional indication for caesarean section in the current pregnancy or no contra-indication to vaginal delivery.
4. The operative record from the previous procedure must be available to document the type of uterine scar. It must not have been a classical caesarean section.
5. The patient should have an appropriate typed and cross-matched blood available.
6. The patient must be carefully monitored and the responsible doctor or Obstetrician must be available throughout labour.

7. Facilities and nursing, anaesthesia, surgical personnel must be available to perform immediate caesarean section.

8. The patient must be appropriately counselled regarding the risks and benefits of the trial of scar.

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INCOMPLETE (SEPTIC) ABORTION

Name: S. M. G.

Age: 14 years.

Parity: 0 + 0

Admitted: 11.11.88.

Discharge: 15.11.88.

UNIT: 92445.

HISTORY OF PRESENT ILLNESS

The patient was admitted via casualty to acute Gynaecology ward on 11.11.88 complaining of vaginal bleeding and abdominal pain for one day. She claimed to have been raped by older boys in October and had sexual intercourse also in September 1988. She had missed her periods for two months. The mother took her to a private Doctor on 10.11.88 who performed termination of pregnancy. However after one day she experienced severe lower abdominal pains and vaginal bleeding and came to hospital and was admitted.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

Her last menstrual period was in late August, 1988 and her menarche was at 13 years. She had been sexually active since age of 13 years otherwise the rest of the Obstetrics and Gynaecological history was insignificant. At admission she had an ammenorrhoea of 10 weeks.

PASTMEDICAL HISTORY

She had a road traffic accident in 1986 and was admitted in January 1988 for malaria.

SOCIAL AND FAMILY HISTORY

She was a standard five pupil at Makongeni West Primary School in Nairobi and lived with her parents in Nairobi and did not smoke or drink alcohol.

EXAMINATION ON ADMISSION

General condition was fair. She was in pain. She was not pale and not febrile. The temperature was 37⁰C. Systemic examination was as follows: Cardiavascular System: Pulse 98/mm, B.P. 110/70mmHg. Heart sounds were normal. Abdominal exam - tender lower abdomen, no masses felt.

Vaginal Examination: The external genitalia were normal, cervical os admitted one finger, the cervix was soft and short 1-2cm long. The products of conception were felt in the cervical os, uterus difficult to palpate because of tenderness, adnexae were tender both sides. The pouch of douglas was empty. There was foul swelling products of conception and mild vaginal bleeding noted.

DIAGNOSIS AND INITIAL MANAGEMENT: A diagnosis of incomplete (septic) abortion was made and the patient was put on parenteral antibiotics and planned for evacuation. She was put on intravenous fluids, intravenous flagyl 500mg +ds.,

intravenous gentamycin 80mg + ds and intravenous crystapen 2mega 6 hourly.

12.11.88: Evacuation was not done. Temperature recorded to be 39⁰C and pulse 100/min. She was still on parenteral drugs.

13.11.88: The patient was taken to theatre for evacuation. She was restless and crying of pain.

OPERATION AND THEATRE FINDINGS:

The patient was sedated with 10mg valium, she was put in lithotomy position, catheterised after drapping. Vaginal examination was done and external genitalia normal, cervix soft, open 2cm, products of conception felt, uterine size about 10 weeks, tender. Vagina was warm.

SPECULUM EXAMINATION: Cervix had some lacerations on the anterior lip but not bleeding. The cervix was held with a volselum forceps and karman canula size 6 inserted upto the fundus; Manual vacuum aspiration done in and aspiration of about 60mls of foul smelling products of conception aspirated. Vagina was cleaned.

POST-OPERATIVE CARE

Post-operatively the patient was put on I.V. gentamycin 80mg + d.s. for 3 days, then I.M. gentamycin 80mg + ds x 5/7, I.V. flagyl 500mg + ds for 3 days then tab flagyl 400mg + ds for 4 days. I.V. crystapen 2mega 6 hourly for 24 hours then caps ampicillin 500mg q.i.d. x 5/7. She was put on analgesics,

paracetamol $\overline{11}$ TDS for 3 days.

The pulse, blood pressure and temperature was to be observed four hourly.

14.11.88: The patient was feeling better with less abdominal pains. Temperature was 37.6°C and she was continuing with intravenous drugs.

15.11.88: She was discharged. The temperature was 36.7°C and she was well clinically.

FOLLOW UP

The patient was seen on 22-11-88 in the Gynaecology clinic and had no complaints. She was discharged from the clinic and advised to get family planning counselling.

COMMENT

Abortion is defined as the termination of pregnancy before twenty-eight weeks of pregnancy or viability. However more recently abortion has been defined as termination of pregnancy at 20 weeks or less or when the foetal weight is less than 500gms (W.H.O.). This patient had 10 weeks ammenorrhoea.

Abortion is classified into spontaneous and induced and can be grouped into threatened, incomplete, missed, complete or septic. This patient has septic incomplete abortion. It can also be classified as illegal or therapeutic. Using

Aggarwal and Mati's criteria (1980) for labelling an abortion illegal, this patient had illegal abortion as history of interference was positive (2). This patient also qualifies to be named as a case of septic abortion since the patient was febrile, had foul smelling products of conception and had pelvic peritonitis (2).

In Kenyatta National Hospital 60% of the acute Gynaecological beds are occupied by abortion patients (2) and the incidence of the associated risks like septic abortion is high. Wanjala (1) found that 97.4% of patients who died from induced abortion had septic abortion. He also observed that the patients with septic abortion stood the risk of dying as 87.4% of these patients who had died of induced abortion had sepsis. Makokha (4) found that 43.4% of maternal deaths at K.N.H. were due to infection. This patient had septic abortion and stood the risk of developing endotoxic shock and dying. However she made a smooth recovery after proper treatment was given.

To avoid complications arising from septic abortion, intravenous antibiotics should be started during admission and at least a few hours later evacuation of the uterus should be performed. This patient was started on intravenous drugs and evacuation was delayed for 24 hours to allow adequate antibiotic levels in the blood. However it has been reported that after intravenous administration of drugs, peak serum levels to be present within an hour of their administration (5). Therefore this patient should have been evacuated the day of

admission because prompt elimination of the necrotic and infected material is critical.

It is also thought that after evacuation the specimen should be taken for culture to get the most effective treatment regime (5). However this patient did not have such a culture and responded to the tripple therapy prescribed. In Kenyatta Hospital, tripple therapy of gentamycin, flagyl and crystapen is instituted because studies done by Formulu (1981) and Chebrot (1985) show that the causitive organism is polymicrobial which had varied sensitivity to the three drugs.

After evacuation such patients should be on contraceptives to avoid recurrence of the sepsis and subsequent hazards like infertility. This patient should have been given barrier methods or oral contraceptives since she is young and unmarried but sexually active. In Kenyatta Hospital there is an on-going study to find out the effect of post-abortal patients' use of contraceptives.

Cates and Davis (3) have also recommended that Health Education, promotion of contraceptive use and legalisation of abortion prevents sepsis associated with abortions. This patient was given health education and contraceptive counselling.

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ECTOPIC PREGNANCY - PARTIAL SALPINGECTOMY DONE:

Name: P. A. DOA: 3.4.87
Age: 35 years DOD: 6.4.87
IP. No. 819966
Parity: 5 + 1

Chief Complaint:

The patient presented to casualty department with complaints of lower abdominal pain and backache for one day.

History of Presenting Illness:

The patient was admitted to the acute gynaecological ward through casualty where she had presented with a history of lower abdominal pain and backache for one day. She said she was well prior to these symptoms which were becoming worse and she had even started feeling dizzy and was nauseated. She had no history of fever or vaginal discharge. She did not have any vaginal bleeding.

Obstetrical and Gynaecological History:

She was a para 5+1. Her last delivery was in 1980. She had a ruptured ectopic on the right fallopian tube in 1980. Her menarche occurred at 15 years of age. Her last monthly period was on 8th of February 1986 and hence she had a period of amenorrhoea of seven weeks. Her periods prior to this were regular occurring every 28 days for four days. She had not used

any contraceptives. Her other deliveries were all spontaneous vaginal deliveries and were alive and well.

Past Medical and Surgical History:

This was not significant.

Social History and Family History:

She was married with five living children. Her husband worked with a firm of advocates as a clerk in Nairobi. There was no family history of hypertension, diabetes mellitus or tuberculosis. She did not smoke cigarettes or drink alcohol.

Physical Examination:

She was in fair general condition. She looked moderately pale. She was not jaundiced. Her temperature was 36.7⁰c. She had no oedema and she had no lymphadenopathy.

Cardiovascular System:

Her pulse was 104 beats per minute and her blood pressure was 130/80mmHg. Her jugular venous pressure was not raised and her first and second heart sounds were normal. There were no murmurs.

Respiratory and Central Nervous Systems:

These were essentially normal.

Abdominal Examination:

The abdomen was slightly distended and moved with respiration. She had a sub-umbilical midline surgical scar. The abdomen was tender on palpation and there was guarding and rebound tenderness. There was a fluid thrill and paracentesis was positive of non-clotting blood. There were no obvious intra-abdominal masses palpable. Bowel sounds were heard and were normal.

Pelvic Examination:

Her external genitalia were normal. There was no obvious bleeding or discharge. Speculum examination revealed normal vagina and cervix. There was no bleeding from the cervix. On digital examination, the cervix was closed and soft. There was a positive cervical excitation test. The uterine size was difficult to delineate due to tenderness. The pouch of Douglas was full and tender. The adnexae were tender bilaterally. There was no discharge or blood on the examining finger.

Diagnosis:

A diagnosis of ruptured ectopic pregnancy was made:

Immediate Management Offered:

The patient was prepared for an emergency laparotomy. She had been started on an intravenous 5% dextrose drip from

the casualty department and blood for grouping and cross-match had been taken. She was explained about her condition and the operation and informed consent for the operation was obtained from her. The abdomen was shaved and a pre-medication of atropine 0.6mg half an hour before operation was given. She was catheterised and her urine showed no sugar and no protein. Her pre-operative observations were taken and were acceptable. She was quickly taken to the operating theatre for the emergency operation.

Laparotomy:

The preparation of the patient was carried out as in the introduction.

Examination under anaesthesia was done and the uterus was slightly bulky with a vague mass on the left adnexae. The pouch of Douglas was full with a boggy mass.

The patient was placed in supine position, cleaned and draped with sterile linen. The abdomen was opened in layers through the previous scar. There was a haemoperitoneum of dark red blood. The affected tube was identified manually and the cornual end of the tube immediately clamped. The infundibulopelvic ligament on the same side was also clamped. After achieving haemostasis, the blood in the abdomen was sucked out and clots removed manually. About one and half litres of blood was removed from the abdomen. The clamped end of the tube was tied with chronic catgut number 0 and the free end cut off. On further inspection, the right tube was found with an ampulla stamp, the site of the previous salpingectomy.

Both ovaries were identified and were normal. The other abdominal organs, namely the liver, spleen and kidneys were palpated and were normal. The appendix looked healthy.

The swabs and instrument count was done and was reported correct. The parietal peritoneum was closed with a continuous catgut number zero and the rectus was closed using catgut number two in a continuous manner. The skin was sutured with silk number two as interrupted stitches. The incision wound was cleaned and dressed with clean dry gauze. The catheter was removed and clear urine drained from the tip of the catheter.

The patient was transfused with one unit of blood which was started in theatre. She left the operating table in fair condition. The specimen of the left fallopian tube was sent for histology.

Post-Operative Treatment:

The patient was observed half hourly in the recovery room in main theatre until she was fully awake. She was then handed over to the ward staff for further observation. She continued with the blood transfusion and observations were done half hourly. She was given a second unit of blood after the first go finished. The patient was given 100mg of pethidine intramuscularly every 8 hourly for 24 hours and intramuscular ampicillin 500mg six hourly for three days and this was changed to capsules of ampicillin 500mg 6 hourly for

two days. She was on nil by mouth until bowel sounds were reported adequate on the second post operative day when she started oral sips of water. On the third day post-operatively she was put on liquid diet and later in the evening soft diet. Her haemoglobin was checked and found to be 9.6 grammes per dl.

On the fourth post-operative day, she was discharged home on haematinics for removal of stitches in casualty on the seventh post-operative day.

Follow Up:

She came for removal of stitches on 10.4.87 and the wound was well healed. She was seen in the gynaecology clinic on 20.5.87 and she was in good general condition. She looked well haemoglobinised and the abdominal scar was well healed. Her last period was 29.4.87. She was explained what was done to her and told of the consequences of the two ectopic pregnancies. She was discharged from the gynaecology clinic.

Comment

This patient had a ruptured left tubal ectopic pregnancy for which a right salpingectomy was done.

An ectopic pregnancy is one in which a fertilised ovum becomes implanted in a site other than the normal uterine cavity (Tindal, 1987). Approximately 95% of ectopic pregnancies occur in the fallopian tube, the ampula being the commonest site with approximately 55% of all tubal implantations (Mattingly et al, 1985). This patient had an ectopic pregnancy in the ampula.

The incidence of ectopic pregnancy in Kenyatta National Hospital was reported by Webala in 1979 to be 1 in 2 full term deliveries. Mwathe (1984) observed that the incidence as reported earlier by Gebbie was 4 to 5 cases per week. In Britain the incidence ectopic pregnancy is reported to be one in 300-1000 births (Tindal, 1987).

The aetiology of ectopic pregnancy can be explained by conditions of the tube such as increased tortuosity, chronic inflammation or obstruction (fimbrial adhesions or tumours), which might conceivably interfere with the passage of the fertilized ovum into the uterus (Moir C. J., 1964). Several authors have concluded that pelvic inflammatory disease is the commonest cause of ectopic pregnancy (2,3,4,7,9). In our set up. Webala (1979) in a histologic study of cases of ectopic pregnancy at Kenyatta National Hospital found evidence of

chronic salpingitis in 69% of cases. Our patient did not give a history of chronic lower abdominal pain and the histology report of the specimen was not received. Some 20 per cent of the patients give a history of an abdominal operation - usually appendicectomy (Tindal, 1987). This patient had a laparotomy in the past for another ectopic pregnancy and since she had previously delivered five children a subclinical salpingitis could have altered tissue morphology.

Recurrence of ectopic pregnancy is reported to be 10-15 per cent of all pregnancies in Britain (Tindal, 1987). At Kenyatta Hospital, Nairobi it was reported to be 8.1 per cent by Sinei and Okumu (1987). The explanation of recurrence can be given from the point of view that tubal pregnancy usually tends to be bilateral and there is a tendency for ectopic pregnancy to occur on one side and then on the other at a later date. There is also an associated poor prognosis of subsequent reproduction since the tubal damage in the initial stage was bilateral (Mattingly et al 1985). This patient had a recurrence of ectopic pregnancy and was infertile for seven years before the next ectopic.

The fact that a tubal pregnancy is more often right sided is possibly explained by the proximity of the appendix (Tindal, 1987). This patient had left sided ectopic, but the first ectopic was on the right side. However the appendix in this patient was found to be healthy.

The diagnosis of ectopic pregnancy depends on a high index of suspicion (Webala, 1979). The patient may not have the typical symptoms and signs of an ectopic pregnancy (5). As many as 15% of all tubal pregnancies rupture before the first missed menstrual period, especially if a patient's periods are usually irregular (Mattingly et al, 1985). In a typical case, the patient presents with a quiet chronic clinical picture or with an acute clinical picture (7). The former is referred to as chronic ectopic or slow leaking ectopic. This is the situation where suspicion is employed especially where the patient has an ammenorrhoea or she is admitted with abnormal vaginal bleeding and lower abdominal tenderness.

The acute presentation of ectopic pregnancy is rarely missed. The patient presents with an acute abdominal pain, a short period of amenorrhoea, appears pale and paracentesis is positive of non-clotting blood. Our patient had all but one of these symptoms and signs. She was not pale. Although paracentesis is an important diagnostic parameter, it is not always positive. Sinei and Okumu (1987) at Kenyatta Hospital reported a negative paracentesis in 30% of cases, only 21% of their cases reported with shock and 57.4% with anaemia. So lack of these signs does not mean one does not have an ectopic pregnancy. Abdominal pain, vaginal bleeding and ammenorrhoea were the commonest presenting complaints.

If the ectopic has not ruptured a positive pregnancy test and finding of no gestational sac in the uterine cavity on ultrasound scan is diagnostic (Mattingly, R. J. et al, 1985).

Laparoscopy is useful when an unruptured ectopic pregnancy is suspected (2). Laparoscopic examination is best performed under general anaesthesia to allow more detailed examination under anaesthesia and prompt laparotomy in case of positive laparoscopy or positive diagnosis from palpation. Laparoscopy is indicated after the patient has a B-H.C.G. level less than 6500m.i.u./ml or a negative pelvic ultrasound. Patients with less than 66% increase in the B HC.G. titre have a high incidence of ectopic pregnancy and should be examined by laparoscopy (2).

The management of ruptured ectopic pregnancy involves prompt laparotomy and clamping of bleeding vessels. Shock is corrected by initial use of plasma expanders like normal saline, 5% dextrose or hartman's solution (2,4,7). This patient had intravenous normal saline initially and was taken for laparotomy, bleeders clamped and she was transfused with blood while on the operation table.

At laparotomy the opposite tube and ovary should be examined before deciding on surgical treatment. This is because sometimes conservative surgery can be employed especially where the patient is young and the other tube is not normal or has been extensively damaged or cut at surgery (7). Our patient was para 5 and the other tube had been cut

due to previous ectopic pregnancy. So partial salpingectomy was done as described by Tatel Baum (1971).

There is a place for conservative management of an unruptured ectopic pregnancy. The procedures done include linear salpingectomy, manual expression of the pregnancy or segmental resection with or without repair (Mattingly et al 1985).

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HYPEREMESIS GRAVIDARUM, CONSERVATIVE MANAGEMENT

Name:	M. G.	LMP:	10.8.88
Age:	24 years	EDD:	17.5.89
Parity:	2+0	DOA:	26.10.88
IP.NO:	924600	DOD:	29.10.88

PRESENTING COMPLAINTS:

She complained of vomiting for three days and abdominal pains for two days, and of feeling weak for one day.

HISTORY OF PRESENTING ILLNESS

The patient was admitted to the acute Gynaecology ward through casualty with a history of persistent vomiting associated with nausea and aggravated by food. She started feeling weak on the day of admission. She did not have loin pains and there was no pain on micturation. She had no rigors. She had a mild lower abdominal pain.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 2+0. Her last delivery was in 1983, by spontaneous vaginal delivery. The other delivery was also normal. She did not use any contraceptives. She started her periods at the age of 15 years and her cycles were regular occurring every 30 days and lasting 5 days. She had no

dysmenorrhoea. Her last monthly period was on 10.8.88, hence the gestation was 11 weeks. She was admitted previously with the same condition in this pregnancy at 9 weeks gestation.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL HISTORY AND FAMILY HISTORY

She was married and she was a housewife. She had no family history of any chronic illness. She never smoked and never took alcohol.

PHYSICAL EXAMINATION

She was in fair general condition. She was moderately dehydrated. She was not pale and she had no jaundice. She was not febrile.

THE RESPIRATORY, CARDIOVASCULAR AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was scaphoid and moved with respiration. On palpation, no masses were felt and there was no enlargement

of the liver or spleen detectable on palpation. There was no suprapubic or loin tenderness. There was no tenderness in the other abdominal areas.

VAGINAL EXAMINATION

The external genitalia were normal. The cervix was soft, smooth and 2cm long. The internal os was closed. The uterus was about 10 weeks size. There was no vaginal discharge.

DIAGNOSIS

An impression of hyperemesis gravidarum was made.

MANAGEMENT

The patient was put on bed rest and she was started on a drip of 500mls. 5% dextrose to alternate with 500mls normal saline to run at 4 hourly rate. She was getting 3 litres in 24 hours. She was on nil by mouth and she was started on an anti-emetic, chlorpromazine 25mg + ds intramuscularly. She was then investigated as shown below.

INVESTIGATIONS DONE

1. Blood slide for malaria parasites

This was negative

2. Urinalysis and culture

No evidence of infection. Normal urinalysis.

3. Urea and electrolytes

BUN 3.2mmol/l

Na+ 145mmol/l

K+ 4.5mmol/l

4. Haemogramme: Hb 12.5g/dl

WBC $7.5 \times 10^9/l$

Haematocrit: 37.5%

5. Liver function tests: Normal levels.

6. Pelvic ultrasound was done and showed a normal singleton foetus at 12 weeks gestation which corresponded to dates.

FURTHER MANAGEMENT

The patient was kept on nil by mouth for two days and on the third day she was started on oral fluids. On the fourth day she was started on solid foods without any evidence of vomiting. She was given tablet chlorpromazine 25mg + ds and she was discharged home to attend ante-natal clinic in two weeks time.

ANTE-NATAL CARE

The patient was seen in the ante-natal clinic after two weeks and she had no complaints. She had stopped taking the anti-emetics. She continued with ante-natal care and she attended five times without any complaints. Her blood pressure remained normal throughout pregnancy.

LABOUR AND DELIVERY

The patient was admitted at 40 weeks gestation in labour and she progressed well to deliver a male baby weighing 3000grammes who scored well. He had no congenital abnormalities.

POST-NATAL VISIT

The patient was seen six weeks after delivery and both the child and the mother were in good condition. She was advised to attend the family planning clinic to be advised on a suitable method of family planning. She opted for oral contraceptives.

COMMENT

Nausea and vomiting in the first trimester is common as it affects 50% of all pregnancies and is usually referred to as "morning sickness". If vomiting persists and materially interferes with fluid balance and other phases of nutrition, it is referred to as hyperemesis gravidarum (Fairweather, 1968).

Fairweather (1968) therefore defined hyperemesis gravidarum as vomiting occurring in pregnancy for the first time before the 20th week of gestation and of such severity as to require the patient's admission to the hospital, the

vomiting being unassociated with such coincidental conditions such as appendicitis, pyelitis e.t.c.

This patient had severe vomiting which caused her to feel weak and was dehydrated moderately and these symptoms warranted her admission to hospital. On examination and investigations she had no obvious causes of vomiting.

The incidence of hyperemesis gravidarum is reported to be 0.1% of total births in western countries. (Fairweather, 1968).

The aetiology of hyperemesis gravidarum is still unknown. Current theories incriminate endocrine, allergic, nutritional and psychiatric causes. (Bryans C. I, 1982). A significant increase of human chorionic gonadotrophin levels have been demonstrated; an allergic basis has been proposed but not proven; vitamin deficiency is a result but may also be causative. The typical patient is immature dependent, and has a history of many functional complaints. However there is no defined psychiatric disorder in these patients (Bryans, C. I. 1982).

There was no obvious causative factor seen in our patient.

Predisposing factors in hyperemesis gravidarum include multiple pregnancy. There is increased hyperemesis probably due to increase in HCG. A previous history of hyperemesis

increases chance of developing same condition later. Toxaemia of pregnancy increases in cases of hyperemesis gravidarum in early pregnancy; Trophoblastic diseases are associated with hyperemesis gravidarum (Fairweather, 1968). Occult thyrotoxicosis is a well recognized feature of trophoblastic tumours and vomiting occurs in 14% of these (Jeffcoate, 1985). This patient did not have any evidence of multiple pregnancy as her uterine size was consistent with dates although an ultrasound would have been a better diagnostic tool. The patient should have had urinary or blood HCG levels to monitor its possible role and thyroid function tests to rule out a possible thyroid dysfunction could have made her investigations more complete.

Diagnosis of hyperemesis gravidarum is made chiefly from history and clinical presentation. The patient normally presents with vomiting in early pregnancy which is worsening and she develops weakness and loss of weight. On examination the patient looks dehydrated and investigations may show elevated haematocrit and BUN. There could be hyponatraemia, hypolalemia, hypochloremia and metabolic alkalosis and there might be a mild increase in bilirubin and other liver function tests (Rogge, 1986). This patient presented with a history of severe vomiting and was weak and on examination she was moderately dehydrated but she did not have electrolyte imbalance yet and her liver function tests were normal.

Before true hyperemesis gravidarum is made other causes of vomiting should be ruled out. These include hepatitis, appendicitis, peptic ulcer, cholecystitis, cholelithiasis, pancreatitis, pyelonephritis, intestinal obstruction, brain tumour, head injury and drug toxicity (Bryans, 1982). In our set up, malaria should be ruled out. Our patient did not have malaria or pyelonephritis and she had no evidence of appendicitis intestinal obstruction or peptic ulcer. She had no acute inflammatory process from her haemogramme report.

The management of the patient with hyperemesis gravidarum initially is the same. The patient should be on nothing by mouth for the first 48 hours and she should be started on a drip of intra-venous fluids, at the same time starting her on a parenteral anti-emetic (Benson, 1984). This patient was put on this regime.

After investigations have been done, the patient should then receive the appropriate treatment for a specific condition. For example those with thyrotoxicosis should be given carbimazole. Jeffcoate (1985) reported a marked improvement in vomiting on a patient who had recurrent pregnancy induced thyrotoxicosis after treatment with carbimazole. In cases of urinary tract infection the antibiotic of choice is given and for malaria, chloroquine is given. In our patient, none of this was necessary.

This patient was put on largactil injection 25mg eight hourly intra-muscularly. This drug has been found to be safe in pregnancy and our patient had a normal baby.

Some authors strongly advocate psychotherapy (Bryans, 1982) and others even say that visitors should not be allowed in (including husband) until vomiting stops (Benson, 1984). This is all because of the alleged psychological part played in pathogenesis of hyperemesis gravidarum. This patient was given some psychotherapy but no sedation and isolated as suggested by Bryans, 1982.

The outcome of pregnancy under proper management of hyperemesis gravidarum is good (Fairweather, 1968) but its ignorance can lead to termination of pregnancy or even perinatal and maternal morbidity and mortality. (Fairweather, 1968). Our patient had a good ante-natal follow up.

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BARTHOLINS ABSCESS - MARSUPIALIZATION DONE:

Name: R. W. DOA: 28.10.88
IP. No. 926746 DOD: 2.11.88
Age: 20 years Parity: 0 + 0

Presenting Complaints:

The patient complained of swelling of the left labia for four days and oozing of pus from the same site for one day.

History of Presenting Illness:

The patient was well until four days prior to admission when she started having pain and swelling of the left labia, three days later she noticed drainage of pus from the same site. She was finding it difficult to walk and she had to sit with her legs wide apart due to pain. She had no history of trauma.

Past Obstetric and Gynaecologic History:

She was a para 0 + 0. She had her menarche at the age of 15 years, and since then her periods were regular and occurred every 25 to 27 days. She had no dysmenorrhoea and the flow was normal. Her last monthly period was on 21.10.88. She had not used any contraceptives.

Past Medical History:

This was not significant.

Social and Family History:

She was single and was a student at the Kenya Polytechnic. She did not smoke cigarettes or drink alcohol. The father worked with the Ministry of Works while the mother worked with Unga Ltd.

Physical Examination:

She was a young lady in good general condition, she was not pale. She was afebrile (temperature was 36⁰c). She had no lymphadenopathy.

Cardiovascular System:

Her pulse was 72 beats per minute regular and good volume. She had a blood pressure of 120/80mmHg. Her jugular venous pressure was not raised and her heart sounds were normal.

Central Nervous System:

Her central nervous system, respiratory system and the abdominal system were essentially normal.

Pelvic Examination:

She had a swelling of the left labia with some drainage of pus. The swelling was inflamed and was tender on touching. It was fluctuant. The vagina and cervix were normal. The uterus was normal size.

Diagnosis:

A diagnosis of left Bartholin's abscess was made.

Management:

The patient was prepared for an urgent marsupialization. She was informed of the operation and she gave a consent. The vulva was shaved and her urine test showed no sugar or urine in it. She was given 0.6mg atropine sulphate intramuscularly half an hour before theatre as a pre-medication. Pre-operative observations of temperature pulse, blood pressure and respiration were normal.

Marsupialization:

The patient was taken to theatre and anaesthetised. The patient was then placed in lithotomy position and vulval vaginal toilet done. She was draped. Catheterisation was done and 150mls of clear urine obtained. A speculum exam revealed a normal vagina and cervix. Digital examination revealed a closed cervix, normal uterus and adnexae. The vagina was packed with a gauze roll. The swelling was

stabilised with the left hand's thumb and first finger and a vertical incision was made on the inner aspect of the labium along the site of drainage of the pus. The incision was extended to about 2.5cm in total length and about 20c.c. of pus drained. The wall of the cyst was sutured to the skin edges by a number 2/0 chronic catgut in an interrupted manner. She was not bleeding post-operatively and hence no packing was necessary.

The patient was reversed from anaesthesia and taken to a recovery room in theatre where observations were done half hourly until she was fully awake. She was then taken to the ward and she was observed four hourly. She was given pethidine 100mg intramuscularly after waking up and she was started on capsules tetracycline 500mg six hourly for five days.

In the first post-operative day her condition was better, her vital signs were normal and she was discharged home to be reviewed in the gynaecology clinic after one week. She was advised to have daily sitz baths from the third day post-operative.

Follow Up

She was seen in the Gynaecology clinic after two weeks and she had recovered. She was discharged from the Gynaecology clinic.

Comment

This is a patient who had a left Bartholin's abscess which was treated by marsupialization with good results.

A Bartholin's abscess is an infective process of the greater vestibular glands presenting with blockage of the duct and collection of pus (Tindall, 1987). The Bartholin's glands are a pair of compound racemose glands lined with columnar epithelium situated at 5 o'clock and 7 o'clock just external to the hymen. They secrete a mucoid alkaline fluid during sexual intercourse for lubrication. Each gland is drained by a duct of 1.25 to 2 cm in length

Both glands are affected equally at Kenyatta National Hospital (Mumia, 1980). Our patient had left Bartholin's abscess.

Bartholin's abscess is a common condition at Kenyatta Hospital. Mumia (1980) reported that it accounts for 1.7% of all emergency gynaecological admissions and two cases are admitted every week. 55% of these present in pregnancy and 82.7% occurred in ages 12-19 (Mumia, 1980). Our patient was not pregnant but was young. She was 20 years old and unmarried. This means that Bartholin's abscess is a disease of sexually active women who are at risk of contracting an infection.

Infection by gonococcus has been incriminated (Tee, 1977). Other organisms like E. coli, staphylococcus, strep. faecalis and T. vaginalis have been shown to cause Bartholin's abscess (Tindal, 1987). Bacteroides, peptostreptococcus and proteins have also been isolated (Tee, 1977). This patient did not have a pus swab for culture and sensitivity and hence no organism was isolated from it. Inspissated mucous and congenital narrowing of the duct may also be causes (Benson, 1984).

The diagnosis of Bartholin's abscess is based on a history of a painful swelling of the vulva which may be associated with walking and sitting problems and dyspareunia. On examination, a tense, fluctuant mass is found at 5 o'clock or 7 o'clock of the introitus (1,5). This patient presented with pain and swelling of the left labia at 5 o'clock position of the introitus and she had problems in sitting or walking comfortably. The swelling was tender and fluctuant and was draining a little pus.

The management of Bartholin's abscess is easily and effectively done by marsupialization (4,5). Marsupialization can be performed under local, regional or general anaesthesia (Mattingly et al, 1985). In Kenyatta National Hospital, as was done in this patient, marsupialization is done under general anaesthesia. The best result is obtained if a pus swab can be taken for culture and sensitivity for both culture and sensitivity for both aerobic and anaerobic organisms after the abscess cavity is opened. This is not

practiced in Kenyatta Hospital but rather abroad spectrum antibiotic like tetracycline or ampicillin is used after the surgery. This patient was given tetracycline capsules 500mg 6 hourly for 5 days. These patients are also encouraged to have sitzbaths starting from the 3rd or 4th post-operative day for better healing and patient's comfort (Benson, 1984). This patient sitzbath at home after discharge from hospital.

Other forms of treatment for Bartholins abscess include incision and drainage and needle aspiration combined with antibiotics (Cheetham, 1985). However these have a high recurrence rates.

Gordon (1985) has reported good results of excision with carbondioxide laser. Word catheter is the other new method of managing Bartholins gland swellings reported to be successful (Mattingly et al, 1985).

The complications that may arise after marsupialization include haematoma formation, scarring and dyspareunia. Recurrence can also occur at a rate of 10-15% in European countries (Mattingly et al, 1985). In Kenyatta Hospital Mumia (1980) reported a recurrence rate of 3%. This patient did not come back with the same problem. To avoid recurrence, excision of the duct can be done during the intervals between recurrences when the gland remains palpable as it is unwise and difficult to remove it when an active infection is present (Tindall, 1987).

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PELVIC ABSCESS FOLLOWING SEPTIC ABORTION - LAPAROTOMY

AND DRAINAGE:

Name: J. N. DOA: 2-11-88
IP. No: 927641 DOD: 24-11-88
Age: 18 years.

PRESENTING COMPLAINTS:

The patient presented with a history of vaginal bleeding and lower abdominal pain for five days.

HISTORY OF PRESENTING ILLNESS:

The patient was four months pregnant and had been taken to a woman who performs abortions in the neighbouring market centre. A stick was inserted into her vagina and she was then told to go back home. One day later she developed abdominal pains and vaginal bleeding. She had backache and later she expelled a foetus. However she continued to bleed.

PAST-OBSTETRIC AND GYNAECOLOGIC HISTORY:

She was a para 0 + 0. She was unmarried. Her menarche was at 15 years and she was receiving regular menstrual flow lasting four days and occurring every 28 days. Her last monthly period was on 10.7.83, hence she had been at a gestation of 15 weeks. She had not used any contraceptives.

PAST-MEDICAL HISTORY:

This was not significant.

SOCIAL HISTORY AND FAMILY HISTORY:

She was single and was a copy typist with a private company in Nairobi. She had no family history of tuberculosis, hypertension or diabetes. She did not smoke cigarettes or drink alcohol.

PHYSICAL EXAMINATION:

She was sick looking. She was not febrile. Her temperature was 37.2⁰c. She was not pale and she was not jaundiced. She had no lymphadenopathy.

RESPIRATORY SYSTEM:

The chest was symmetrical and moved with respiration. Her respiratory rate was 26 per minute. She had a clear chest.

CARDIOVASCULAR SYSTEM:

Her pulse was 104 beats per minute. Her blood pressure was 100/70mmHg. Her jugular venous pressure was not raised and her heart sounds were normal.

ABDOMINAL EXAMINATION:

The abdomen was not distended and it was moving with with respiration. She had a suprapubic tenderness and no masses were palpable in the abdomen.

PELVIC EXAMINATION:

On speculum examination, she had normal external genitalia. The vaginal wall was normal. She had a stick impacted at the internal os and products of conception were seen. The stick was pulled out. The stick was 2cm thick and was 4cm deep into the uterus. Digital examination was done and cervical os was open 3cm. Some placental tissue was felt attached to the cervical canal. There were no obvious lacerations of the cervix and the posterior fornix.

DIAGNOSIS

A diagnosis of incomplete abortion with interference was made.

MANAGEMENT AND PROGRESS:

The patient was started on parenteral antibiotic (I.M. ampicillin 500mg q.i.d. x 5/7). She was started on a drip of 5% dextrose and to it was added 20 units of syntocinon to run at 20 drops per minute. She was evacuated with Karman canula and syringe under no anaesthesia. On 3-11-88 she was noted to be febrile with a temperature of 38⁰c. She had

increased lower abdominal tenderness and guarding. A diagnosis of septic abortion was made and she was started on parenteral antibiotics (I.V. crystapen 2 mega 6 hourly, I.V. gentamycin 80mg + ds and I.V. metronidazole 500mg 8 hourly). On 5-11-88 her temperature was 38.2⁰c and she had marked tenderness per abdomen and a diagnosis of pelvic peritonitis was made. She continued with the same treatment. On 12-11-88 she was noted to be pale, febrile (temperature was 38.3⁰c) and she had marked lower abdominal tenderness and guarding. On vaginal examination, she had bilateral adnexal tenderness. Paracentesis was done and pus was aspirated from the left iliacfossa.

DIAGNOSIS:

A diagnosis of pelvic abscess following septic abortion was made.

FURTHER MANAGEMENT:

On 14-11-88, her haemoglobin was found to be 10.6g/dl, her WBC count was 19.8 x 10⁹/l with polymorphus being 78%, lymphocytes 21%, oesinophils 1%. There were no malarial parasites. She was planned for laparotomy and drainage.

LAPAROTOMY AND DRAINAGE ON 14-11-88

The patient was prepared for laparotomy as in the introduction. In theatre, she was placed in dorsal position, vulval toilet done and she was draped then catheterised.

She was then placed in supine position and the abdomen was cleaned and draped. The abdomen was opened in layers. She had a thick parietal peritoneum and the omentum and gut was stuck into the pelvis just above the uterus. There was no evidence of perforation of the uterus. There were two pockets of pus in the pelvis and about 50mls of pus was drained. A pus swab was taken for culture and sensitivity. Both tubes and ovaries were found to be burried in adhesions. The uterus was normal in size. Some venous oozing was noticed after releasing adhesions. The pelvis and the abdomen was cleaned with rifocin solution and a drain was left through the left flank doen to the pounch of douglas and paracolic gutter. The abdomen was closed in layers. The blood loss was 150mls. She was reversed from anaesthesia.

POST-OPERATIVE MANAGEMENT

In the immediate post-operative period she was observed closely. Her vital signs were monitored $\frac{1}{2}$ hourly till she was fully awake and then 4 hourly. She was to continue with intravenous drugs flagyl, gentamycin and crystapen. She was put on pethidine 100mg 8 hourly after she woke up. She was to receive 3 litres of fluids in 24 hours and she had an input output chart maintained.

On the 2nd post-operative day to the third post-operative day she remained febrile and bowel sounds were sluggish but she was started on oral sips on the third

day. The drain was also removed as it was dry.

On the 4th post-operative day the pus swab showed gram positive cocci with moderate pus cells. No growth was obtained on the culture. On her 5th post-operative day her temperature fell down to 37⁰c and her general condition was good. On 23.11.88, alternate stitches were removed and on 24th November, 1988 all the stitches were removed and she was discharged home to attend gynaecology clinic in four weeks time.

FOLLOW UP

The patient was seen in the gynaecology clinic four weeks later and the wound was found to be well healed. She had mild lower abdominal pains. She was given analgesics for this pain. She was explained the operation findings and she was discharged from the clinic.

COMMENT

This is a patient who presented with incomplete septic abortion complicated by a pelvic abscess and was managed successfully with parenteral antibiotics, laparotomy and drainage.

Pelvic abscess is a condition complicating pelvic infection of acute or chronic origin which a pelvic peritonitis eventually organises itself to form pus in the

cul-de-sac (Cunningham, 1984).

Pelvic infection accounts for $\frac{1}{3}$ of all gynaecologic admissions at Kenyatta National Hospital (Formulu, 1981). Pelvic abscess is a common sequale to criminal abortion or it may follow a spontaneous abortion or even a normal delivery. Chebrot (1985) reported a prevalence of criminal abortion of 13% of the patients with pelvic abscess. This patient had criminal abortion and she developed septic abortion as the termination of pregnancy was done using an unsterile procedure. Septic abortion and pelvic abscess is a major cause of death in Kenyatta Hospital (1,7). Aggarwal and Mati (1982) reported that septic abortion accounts for upto 43.4% of maternal deaths in our unit. They also found that the majority of patients were induced or likely to have been induced. This patient gave a history of induced abortion.

Acute complications of septic abortion include general ill health, endotoxic shock, peritonitis and pelvic abscess (Aggarwal and Mati, 1982). This patient had general ill health, peritonitis and pelvic abscess.

The causative organisms at Kenyatta Hospital have been studied by Formulu (1981) and Chebrot (1985). They found that the causitive organisms are polymicrobial (both aerobic and anaerobic organisms). Chebrot (1985) reported a low anaerobic yield (20%) and commonest anaerobic strain was peptococcus (10%), followed by bacteroides (8%). The

aerobic yield was 23%, the offending organisms being E. coli and staph. aureus. Formulu had reported occurrence of anaerobes like peptococcus, bacteroides and clostridium welchi and E. coli, strep. pyogenes, staph aureus and diptheroids as the aerobes. Both studies showed that pick up rate was low with Formulu reporting 3.2% in 1981 and Chebrot reported a prevalence of 0% in 1985.

The causative organisms in this patient was not isolated on the culture probably due to the initial use of antibiotics or the fact that the right media was not used to culture both aerobic and anaerobic organisms. However the pus swab indicated moderate pus cells and gram positive cocci.

The infection in septic abortion reach the peritoneal cavity through the tubes, lymphatics, blood stream and uterine wall itself. In induced abortion, there may be a perforation of the uterus or cul-de-sac or during evacuation there can be perforation (Mattingly et al, 1935). This patient probably had sepsis through the lymphatics or through the fallopian tubes. There was no evidence of perforation.

The patient with pelvic abscess appears ill, has abdominal pain and foul smelling vaginal discharge and on vaginal examination the cervix is highly excitable and there is a mass in the pouch of Douglas which is fluctuant. The pulse, temperature, wbc count are raised. Ultrasonography may give an additional objective evidence of the size of the

pelvic abscess (Mattingly et al, 1985). The patient being discussed had all these symptoms and signs. Ultrasound was not done as paracentesis indicated frank pus from the pelvis. The use of laparoscopy as a diagnostic tool is debatable (8).

The management of patients with pelvic abscess include early use of intravenous antibiotics, and analgesia once the diagnosis is made (2). This patient had intravenous antibiotics and intravenous fluids which were started on the admission day.

Antibiotics are given for 24 hours before surgery is attempted (2). The antibiotics used in our unit are a tripple therapy of crystapen 2 mega units six hourly, gentamycin 80mg + ds and I.V. flagyl, 500mg eight hourly. This tripple therapy was given because of the polymicrobial presence of organisms in our set up as described by Formulu (1981) and Chebrot (1985). Chebrot found that 86% of the anaerobes were sensitive to tetracycline, 62% of aerobes were sensitive to vibramycin, 68% were sensitive to clindamycin, penicillin 12% and flagyl 52%. Formulu (1981) found that the organisms were sensitive to tetracycline in 92.3%, clindamycin (Dalaciric), 69.2% gentamycin 53.8%, kanamycin 46.2% flagyl 46.2%.

Crystapen is added to treat streptococcus and preumococci which are sensitive to penicillins. Therefore the use of the tripple therapy in our patient was justified.

Usually there should be surgical intervention if no improvement within 24 to 48 hours of intravenous drugs. Two options are available for drainage of pelvic abscess. One is posterior colpotomy. Ideally there are three requirements for colpotomy drainage of a pelvic abscess: the abscess must be midline or nearly so; it should dissect the rectovaginal septum, it should be cystic or fluctuant to insure adequate drainage. Once colpotomy is done a rubber drain should be left for 48 - 72 hours (Mattingly, 1985). Since 30% require subsequent surgery due to recurrence of the abscess from inadequate drainage. Explorative laparotomy with conservative adnexal surgery is the other option. The laparotomy should have adequate exposure and all pockets of pus should be broken down followed by washing of the peritoneum with warm saline with antibiotic (Hunt et al 1975). Hunt et al 1975 found out antibiotic lavage reduces the mortality from severe pelvic peritonitis from 60% to 20%. This patient had peritoneal washing with rifocin solution.

The patient's abdomen should be inspected at laparotomy to check the status of the tube, inspection of the appendix and other abdominal organs. After the procedure is over a closed or open drain is left to drain the excessive fluid and the remaining pus. This patient had inspection of the abdominal organs and were found to be normal. The tubes were burried in adhesions.

The long term complications of pelvic abscess include chronic pelvic pain, dyspareunia, infertility and ectopic pregnancy (Stirrat, 1983). This patient presented with abdominal pain during her first visit post-operative. She was treated with analgesics. Alternatives for treating chronic pain include shortwave diathermy and in severe cases total abdominal hysterectomy in older patients.

New directions in management of pelvic abscess include percutaneous drainage guided by ultrasound, laparoscopically directed percutaneous drainage and laparoscopically directed colpotomy drainage. (Mattingly et al, 1987).

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Churchill Livingstone, 1983

VESICO-VAGINAL FISTULA, SUCCESSFUL REPAIR

Name: M. A.

IP. No. 813046

DOA: 1-7-87

Age: 37 years

DOD: 19-11-87

Presenting Complaint

She had complained of leakage of urine through the vagina for one and a half months.

History of presenting illness:

She was well until May 1987 when she was admitted at Maseno Hospital with labour pains on 21-5-87. She laboured for four days and on 25-5-87, she delivered a baby vaginally that died after 20 minutes. On 27-5-87 she was discharged and five days later (eight days after delivery) she noticed that she was wetting the bed. She went to New Nyanza Hospital where she was hospitalised for one week. After this she was admitted on the 1st July 1987.

Obstetric and Gynaecological History

She was para 7+0 but two children are dead. The first born died at 10 years due to malaria and the other child died 20 minutes after delivery following difficult labour. She was ammenorrhoeic since last delivery.

Past Medical History:

She had been admitted previously at Mumias Mission Hospital for two weeks in 1986 due to anaemia and abdominal pain and was given anti-helminthics and transferred with one unit of blood.

Family and Social History:

She was a housewife of a chief, otherwise no significant family and social history.

Physical Examination:

She was in good general condition. She was not pale, not jaundiced and she had no oedema. She was not febrile. Her temperature was 36.9⁰c. She had no lymphadenopathy.

Respiratory System:

The chest moved with respiration and the respiratory rate was 20 per minute. The breath sounds were vesicular on both sides of the chest.

Central Nervous System:

She was well oriented in space, time and person. Her cranial nerves and deep tendon reflexes were normal. There was no neurological deficit.

Abdominal Examination:

The abdomen was scaphoid, moved with respiration. On palpation there were no masses and no areas of tenderness.

Cardio-vascular System:

Her pulse was 60 per minute, good volume and regular. The blood pressure was 120/80 mmHg. The first and second heart sounds were normal.

Vaginal Examination:

Speculum Examination:

The external genitalia was normal. The vaginal wall and cervix were normal. There was leakage of urine into the vagina as a pool of urine was noticed in the posterior vaginal fornix.

Digital Examination:

The cervix was closed, uterus was ante-verted and normal size. There was a defect on the anterior wall in the mid-vaginal area.

Diagnosis

An impression of vesico-vaginal fistula was made.

Investigations Done:

1. Urinalysis:

There was no sugar in urine, albumin was absent and the urine PH was 6.

2. Urine Culture and Sensitivity:

Midstream specimen of urine was cultured but no growth obtained.

3. Full Haemogramme:

Her haemoglobin was 13.7g/dl, W.B.C. - 3.4×10^9 /l

4. Urea and Electrolytes:

BUN was 2.0mmd/l, creatinine was 67 mmol/d.

5. Examination under Anaesthesia

This was done on 9-7-87. The patient was explained about her diagnosis and what was to be done on her. She gave a consent. Pre-medication 0.6mg atropine was given half an hour before theatre and she was then taken to theatre for the examination. She was anaesthetised, placed in lithotomy position and speculum examination revealed a 2cm by 2.5cm fistula about 2cm from the external urethral meatus. The vulva, vagina and cervix were normal. Digitally, the cervix was closed, uterus was normal size and the adnexiae were normal. The pouch of douglas was empty. From the examination results it was decided to repair the fistula in lithotomy position 3 months after the time of delivery. This was estimated to be August 1987. She was reversed from anaesthesia and taken back to the ward. She was kept in the ward till

she was ready for repair because of the distance to her home. While in the ward, she consented to have tubal ligation in case she went for abdominal surgery.

Repair of Vesico-vaginal Fistula

The patient was taken to theatre after the pre-operative preparation described in the introduction.

She was anaesthetised, placed in lithotomy position and vulval-vaginal toilet was done, then drapings were applied. E.U.A. was repeated and the fistula was found to have decreased slightly in size. It was about 1cm by 1.5cm in size.

Procedure of Repair:

A curved metal catheter was passed into the bladder and an incision made suprapubically a silk stitch tied on it and pulled through to be attached to a Nelatons catheter which was pushed back to the bladder. The silk stitch was held with an artery forceps on the abdominal drapings. The fistula was exposed, edges mobilised and granulation tissue excised. The bladder wall and mucosa was stitched and there was no dye leak after that, then the vaginal wall and mucosa was stitched in one layer. After the operation, a repeat E.U.A. was done and dye was found to be coming through the cervix. A decision to do a laparotomy was made. She was placed in supine position, abdomen cleaned and draped, abdomen opened through a sub-umbilical midline incision and

bladder exposed. Utero-vesical pouch exposed and bladder wall retracted away from the uterine wall up to the anterior vaginal fornix without tracing the fistula. No dye leak was noticed in the abdomen. The defect created by the dissection was closed. Bilateral tubal-ligation was done and abdomen closed. The patient was reversed from anaesthesia and was planned for intravenous urography. On 1.10.87 intravenous urography was done and a vesico-vaginal fistula identified. On 15.10.87 a second repair was done this time transvesically. The patient was anaesthetised in supine position, abdomen cleaned and draped, then the abdomen was opened in layers. The bladder was opened and a fistula was identified near the trigone above the ureteric-orifices. The right ureter was catheterised to prevent damage and scar tissue was excised. The fistula was closed in two layers. Ureteric catheter was anchored to the supra-pubic region with silk and bladder closed in two layers.

POST-OPERATIVE MANAGEMENT:

Immediate post-operative observations of pulse, blood pressure, temperature, respiration $\frac{1}{2}$ hourly until she was fully awake then 4 hourly observations. She was given intra-venous fluids 500mls to run 4 hourly, intra-muscular pethidine 100mg 8 hourly for 48 hours and intra-muscular ampicillin 500mg 6 hourly was given as prophylaxis against infections. Her urinary output was satisfactory between 2 to 3 litres in 24 hours for the first 48 hours and bladder drainage was mentioned for 14 days.

On 19.10.88, urine culture grew klebsiella (10^5 organisms/ml) sensitive to nitrofurantoin and nalidixic acid. She was treated with nitrofurantoin 100mg + ds for 5 days.

On 5.11.87 she developed wound dehescence and secondary suturing was done under general anaesthesia in theatre.

On 9.11.87 bladder training started with catheter sphigotting.

On 11.11.87 the catheter was removed and wound dressed. From 11th to 17th November, she was passing urine well and was discharged on 19.11.88 after EUA revealed no leakage of dye. She was asked to abstain from sex for at least 3 months.

FOLLOW UP:

She was seen at 3 months post-operative and she had no complaints. She was seen again at six months and was discharged from the clinic and she was allowed to have sex.

COMMENT

Most of the vesico-vaginal fistula in this country are caused by Obstetric trauma (5,2). In Kenyatta National Hospital the incidence has been estimated to be 11.8% by Prof. Mati in 1967. Recently (1982) Gunaratne and Mati have reported 245 new cases in 5 years in Kenyatta Hospital (2). Vesico-vaginal fistula has been more prevalent in young primigravida in Nairobi (1,5). The patient being discussed was a grand-multipara and was 37 years old. This means that although one can have a proven adequate pelvis, monitoring of labour and proper ante-natal care are important in prevention of these fistula. Our patient had prolonged labour and she only came to hospital after labouring for four days. Orwenyo (5) has reported that 80.1% of patients in his series in 1982 had labour lasting at least two days. Normal labour lasts 12 hours as reported in the Nairobi birth survey of 1981.

The mechanism of production of vesico-vaginal fistula is that of pressure necrosis. During labour the bladder is displaced upwards into the abdomen and the bladder base and urethra are compressed between the presenting part and the posterior surface of the pubic bone. The injury can result in immediate leakage of urine or leakage occurs 2 to 3 days after

the injury. The latter results from ischaemia and sloughing (3). This patient presented eight days after delivery and hence the fistula formed by the process of ischaemia and sloughing.

The fetal outcome is almost always a still birth. Orwenyo (1984) reported a peri-natal mortality of 80.4% at Kenyatta Hospital. In this case the baby was delivered alive but died after 20 minutes. The death is due to the associated fetal distress and damage to the brain.

The management of a vesico-vaginal fistula ought to start soon after it has been discovered. Podratz et al have advocated the use of gravitational urethral catheter drainage for 4 to 6 weeks and it has been found that small fistulae heal spontaneously (6). This patient never received any catheter drainage after she came to hospital. In case the fistula has not closed at the time the catheter is removed. She should then be planned for repair three months after delivery to allow granulation tissue to form making it suitable to repair the fistula (3,4). This patient waited for 3 months to have the procedure done.

During the waiting period the patient's nutrition is improved and she is given psychotherapy and she is treated for vulval excoriation, using zinc oxide cream or vaseline cream. This patient was treated with vaseline cream which forms a barrier between the urine and the skin. All the necessary investigations were done during this period except the intra-venous urography (this was done later).

After the three months, the patient goes for examination under anaesthesia to decide on the site of the fistula, size, presence of granulation tissue, method of approach and position of the patient during repair. This was done in our patient and it was decided the position should be lithotomy but later on changed to abdominal (transvesical) since she had a vesico-uterine fistula in addition to the vesico-vaginal fistula.

This patient had a successful first fistula repair. Apart from the surgeon's technique and type of fistula, the post-operative management is essential. J. Marian Sims (1938) forwarded the three principles of successful surgical management which were utilised in our patient. There were appropriate operative exposure, tension - free closure of fresh tissue margins with minimally reactive suture material and effective post-operative bladder drainage (6).

The bladder drainage has to be carefully monitored and incase of any problem the catheter should be changed. This patient did not have problems with bladder drainage and the post-operative period was uneventful as far as urinary drainage was concerned. She had wound dehescence and urinary tract infection but this did not affect the healing of the fistula. Other complications which might occur include secondary amenorrhoea reported to be 28.4% at 6 months by Orwenyo (5) and 28.9% at 6 months by Guraratne and Mati (2). It has been attributed to cortical suppression of hypothalamo - pituitary - ovarian axis (3).

After discharge from the hospital, the advice given to this patient against sex was just a preventive measure against recurrence of the fistula before complete healing took place.

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GENITAL INJURY FOLLOWING SEXUAL ASSUALT

Name: W. M. G. DOA: 17.4.87
Age: 13 years DOD: 17.4.87
IP.NO: 822189

PRESENTING HISTORY

The patient was admitted into the Gynaecology ward through casualty with 6 hours history of having been raped and subsequently developed severe vaginal bleeding.

She had been sent to the nearby shops in the late evening to buy some milk and an unknown man raped her following which she started vaginal bleeding immediately. She was a virgin prior to this. She was brought to the hospital by the mother.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 0+0. She had her menarche at 12 years. Her periods were regular occurring every 28 days and lasting 2 to 4 days. Her last monthly period was on 3-4-87.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was single and stayed with her mother at a Nairobi estate. She left school in standard six because of financial problems. She did not smoke cigarettes nor drink alcohol. She was the second born in a family of nine.

PHYSICAL EXAMINATION

She was anxious and appeared frightened. She was moderately pale but not jaundiced. She was afebrile and had no oedema or lymphadenopathy. Her clothes were blood stained.

CARDIOVASCULAR EXAMINATION

Her pulse rate was 100 per minute thready and her blood pressure was 90/50mmHg. Her jugular venous pressure was not raised and her heart sounds were heard in all areas. There were no murmurs.

RESPIRATORY SYSTEM

The chest expansion was equal during respiration. The air entry was good bilaterally and she had no basal crepitations.

CENTRAL NERVOUS SYSTEM

There was no neurological deficit.

ABDOMINAL EXAMINATION

The abdomen was scaphoid, soft and there was no tenderness. There were no abdominal masses palpable.

VAGINAL EXAMINATION

On inspection, there were some fresh and old blood stains on the vulva. Speculum and digital examination could not be done because of tenderness and these were planned to be done under general anaesthesia. There was mild bleeding from the vagina.

DIAGNOSIS

A diagnosis of genital injury following sexual assault was made.

MANAGEMENT

The patient was planned for repair of the genital injury after examination under general anaesthesia.

Blood was taken for grouping and cross-matching and she was started on a line of 500mls normal saline to run at 30 drops per minute.

The mother gave consent for her to undergo examination and operation under general anaesthesia.

E.U.A. AND REPAIR OF THE GENITAL INJURY

After the patient was given pre-medication of atropine 0.6mg she was taken to theatre and placed on the operation table in supine position. She was anaesthetised and then placed in lithotomy position.

Vulvo-vaginal toilet was done and she was catheterised. Clear urine was obtained. Further examination revealed normal vulva with a superficial peri-urethral laceration which was not bleeding. There was a superficial perineal laceration at 6 o'clock position which was not bleeding.

A Sims speculum was inserted into the vagina and a high vaginal swab was taken for microscopy for spermatozoa and gram stain for gonorrhoea. Using a second Sims speculum to assist in inspection of the vagina, two vaginal lacerations were seen. A vertical laceration on the posterior vaginal wall of about 4cm length and a horizontal laceration just posterior to the cervix. There was bleeding from both lacerations. The bleeders were tied using chromic catgut number 00 and the lacerations were sutured using the same suture material in a continuous manner.

On digital examination, the uterus was normal size and ante-verted.

The patient received one unit of blood in theatre and another unit was started in theatre to continue with the transfusion in the ward. The patient was reversed from anaesthesia.

POST-OPERATIVE MANAGEMENT

The patient was observed in the theatre recovery room half hourly till she was fully awake and then she was transferred back to the gynaecology ward where her vital signs were observed 4 hourly.

The blood transfusion continued well and the second unit of blood finished without any reaction.

She was started on aspirin 600mg eight hourly for five days and tetracycline capsules 500mg eight hourly for 14 days. She was discharged on the first post-operative day to come for review after two weeks. She was expected to have received her periods by this time.

FOLLOW UP

She was seen in the gynaecology clinic two weeks and she had received her periods. A speculum examination was done and the repaired vaginal lacerations had healed. She had taken her course of antibiotics for two weeks. The results of the vaginal swab were negative for gonococcus

and spermatozoa. She was advised on the precaution to take to prevent future incidences of rape and was asked to come for review again after six weeks which kham test would have been done but she never turned up.

COMMENT

This is a patient who was raped by an unknown man and she sustained vaginal lacerations which were successfully repaired.

Rape is defined as the perpetration of an act of sexual intercourse with a female, not one's wife, against her will and consent, whether her will is overcome by force or fear resulting from the threat of force or by drugs or intoxication or when because of mental deficiency, she is incapable of exercising rational judgement or when she is below an arbitrary "age of consent" (Brown Miller, 1975 as quoted by Kolodny et al, 1979).

The age of consent according to common law in Britain is 18 years (Benson, 1984). In Kenya the age of consent is 18 years. The patient discussed was 13 years of age, far much below the age of consent.

The incidence of rape in Kenya is unknown but it could be quite common only that it is not reported often. In developed countries, it is one of the least reported (Marchant, et al, 1981).

Rape is a legal diagnosis and not a medical one and the clinician should look for evidence to substantiate or refute the allegation. Quite often the sexual assault is often a police case and the police have been informed about it (Tindal, 1987). The patient discussed did not report the incident to the police.

In the management of a case of sexual assault, the major objectives are to treat life-threatening injuries; obtain an informed consent for examination and surgery, obtain and carefully record a thorough history; perform a complete physical examination; effect legal transfer of specimens to the laboratory personnel; protect the patient against venereal disease, pregnancy and psychologic sequelae; and finally release information and data to the proper authorities (Marchant et al, 1981).

The consent to examine and operate on the patient discussed was obtained from the mother. Both her and the mother gave a detailed history of the time, place and circumstances of the incident. On examination the patient was found to have a positive history of agitation, there was also evidence of rape from the multiple perineal, hymenal and vaginal lacerations. Her clothes were blood stained. However the police were not involved in this case and hence there was no need of giving evidence to the police. The patient had laboratory tests to check for gonococcus and spermatozoa but this was reported to be negative. She could

have had klan test to screen for syphillis but did not turn up after six weeks for the test. Other investigations done on rape victims include acid phosphatase (to check for prostatic fluid in the ejaculate), blood group antigens of spermatozoa to distinguish sexual act by a second individual, precipitin tests against human spermatozoa and blood and pregnancy test at the time of initial examination to exclude those victims already pregnant (Benson, 1984).

It is recommended that prophylaxis against venereal disease be administered in the form of probenecid 1g followed by 4.8 million units benzathin penicillin G. or tetracycline 500mg orally four times daily for 15 days (Marchant et al, 1981). The patient discussed received tetracycline capsules 500mg four times daily for 14 days. This was to treat both gonococcus and syphillis.

Pregnancy occurs in 1% of the patients who are raped (Marchant et al, 1981) and in many cases of well documented rape there is no medical evidence of the presence of spermatozoa or seminal fluid (Kolodny et al, 1979). The patient discussed did not become pregnant as she received her periods on the expected date.

Prevention of rape induced pregnancy is an accepted phenomenon (1,3,4,5). The methods used include post-coital contraception (interception) with medroxyprogesterone

acetate 100mg intramuscularly single dose, insertion of a intra-uterine contraceptive device (1,3). Menstrual regulation after a missed period or when a pregnancy test is positive is another alternative method of pregnancy (Benson, 1984). The patient discussed was planned to have menstrual regulation incase she missed her periods or incase the pregnancy test was positive. However she never missed her periods.

Counselling to counter psychological trauma and advice to take extra precaution in future should be given to a rape victim (Kolodny et al, 1979). The patient discussed was counselled and advised on the precautions to take to prevent rape in future.

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THIRD DEGREE PERINEAL TEAR - REPAIR DONE

Name: M. A. D.O.A: 20-1-89
Age: 40 years D.O.D: 6-2-89
IP. No. 157490

PRESENTING HISTORY

The patient was admitted through the gynaecology clinic for repair of a third degree perineal tear which she sustained in 1976 after her last delivery. The repair had been repaired immediately after delivery but it broke down. On systemic enquirely she had joint and hip pains and poor sleep. She had also frequent vaginal infection causing itching.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 4+0. Her first delivery was in 1969, a term delivery. The second delivery was in 1971 and was also term, but the baby died after 3 years due to measles. Her third delivery was in 1974, also term delivery. Her last delivery was in 1976 a term spontaneous vaginal delivery after which she developed a third degree perineal tear. The babies were of average size. She had her menarche at 14 years and her periods had been regular occurring every 20 days lasting 3 to 4 days. She had used oral contraceptive pill from 1976 to 1985 and intra-uterine contraceptive device from 1985 to 1986.

PAST MEDICAL HISTORY:

She had sacroilitis for which she attended the orthopaedic clinic and she was also attending the psychiatric clinic for depression.

SOCIAL HISTORY AND FAMILY HISTORY

She was married with three children. Her husband was an accountant with a private company in Nairobi. She was working as a teacher in a Nairobi school. She did not smoke nor was she taking alcohol. She had no family history of any chronic illness.

PHYSICAL EXAMINATION

She was in good general condition, she was not pale and she was not jaundiced. She had no lymphadenopathy and she had no oedema.

CARDIOVASCULAR SYSTEM

Her pulse was 76 per minute and her blood pressure was 110/70mmHg. Her jugular venous pressure was not raised. Her first and second heart sounds were heard and there were no murmurs.

CENTRAL NERVOUS SYSTEM

The patient was well oriented in space, time and person. She however appeared depressed but she had no cranial nerve lesion and her deep tendon reflexes were elicited and were within normal limit.

RESPIRATORY SYSTEM

This was essentially normal.

ABDOMINAL EXAMINATION

The abdomen was scaphoid and was moving with respiration. The liver and spleen were not palpable. Her bowel sounds were heard.

VAGINAL EXAMINATION

The external genitalia were normal except for an old tear extending to the lower end of the anus. Cervical os was closed and firm. The uterus was normal size and ante-verted. She had a whitish discharge on the examining finger.

DIAGNOSIS

A diagnosis of third degree perineal tear was made with depression and osteoarthritis.

MANAGEMENT

a) The patient was investigated as follows:

1. Full haemogramme on 20.1.89.

Hb: 11.7g/dl

WBC: $7.4 \times 10^9/l$

HCT: 34.5

PLT: $300 \times 10^9/l$

Lymphocytes: 22.9%.

2. Urea and electrolytes on 20.1.89

K⁺: 4.1mmol/l

Na⁺ 134mmol/l

BUN: 1.6mmol/l

3. Elisa test for HIV on 20.1.89

Elisa - Negative

b) The patient was put on Tofranil 25mg BD. for two weeks for the depression and metronidazole 200mg + ds for one week and cannesten pessaries one pessary once daily for six days.

c) She was planned for repair of the tear on 1.2.89 she gave an informed consent for the operation. She was started on stool softeners (Dulcolax \ddot{i} nocte) two days prior to the surgery. On 1.2.89 she was given a soap enema and pre-medication of atropine 0.6mg was prescribed to be given intramuscularly 1/2 hourly before the operation.

REPAIR OF THE THIRD DEGREE TEAR ON 1-2-89

Pre-operative observations were done as in the introduction and the patient was taken to theatre after the pre-medication was given.

The patient was anaesthetised in supine position and then she was put in lithotomy position. She was cleaned and draped. Examination under anaesthesia was done and an old perinear tear involving the rectum at the anal ring was seen. The tear had gone through the anal sphincter

The scar tissue was excised from the anal ring and vaginal portion of the tear and the parts of the anal sphincter were identified and held by Allis' forceps. The rectal mucosa was stitched using chronic catgut number 2/0. The sphincter muscle was stitched using chronic catgut number 2/0 and the vaginal mucosa was stitched by a subcuticular stitch using catgut number 0. The same stitch was also used for the perineal skin repair.

The repair site was checked by performing a rectal examination and it was found to be well repaired. The patient was then reversed from general anaesthesia.

POST OPERATIVE MANAGEMENT

The patient was observed in theatre recovery room 1/2 hourly till she was fully awake then 4 hourly when she went

to the ward. She was started on intramuscular Amoxil 500mg 6 hourly for 5 days and intramuscular pethidine 100mg 8 hourly for the first 24 hours then tablets panadol two 8 hourly for five days. She was on intravenous fluids till the second post-operative day when she was introduced to oral fluids.

She made good progress post-operatively and on her 3rd day her haemoglobin was 11.5g/dl. The patient was asked to be cleaning the wound with saline and to have sitz baths at least once a day. She had bowel movement on the 4th day.

She was discharged on the 6th day after the wound was examined and found to be clean and well healed. She was asked to attend the gynaecology clinic after four weeks for review.

FOLLOW UP

The patient was seen at the gynaecology clinic after four weeks and she had fully recovered. She was discharged from the gynaecology clinic to continue with the other clinics, namely orthopaedic and psychiatry.

COMMENT

This is a patient who had a third degree perineal tear and had a successful repair 13 years after sustaining it.

Third degree perineal tear occurs when there is a tear involving the vaginal mucosa through to the rectum severing the anal sphincter (1,6). This patient had a tear extending to the rectum.

The presenting complaint in third degree perineal tear is incontinence of faeces and the involuntary escape of flatus (Tindal, V.R.1937). There is gaping of the vagina and these patients have sex problems. They are also more prone to recurrent vaginal infections. This patient had recurrent vaginal infections. She did not complain of sex problems or incontinence of faeces probably because of her mental status.

The conditions predisposing to perineal tears include delivery of large foetus, persistent occipito posterior position, delivery of face to pubis baby, face presentation and delivery, breech delivery and narrow sub pubic arch (2,3,4,6). The patient presented had a spontaneous vertex delivery and did not seem to have any of these predisposing factors. Her babies were of average size.

Once the tear is sustained it should be repaired immediately. If diagnosis is delayed for more than 12 hours, a waiting period of three months should elapse before attempting repair to allow oedema to settle and the low grade sepsis to be treated (2,5)

The immediate repair is easy as the various layers can easily be identified and approximated (5). This primary repair is done as an emergency and does not need any preparation of the bowel (1,2,3).

In the repair of a delayed third degree tear, preparation of the bowel should be done (3,5).

Pre-operatively the patient should use a laxative four days prior to surgery. 48 hours prior to surgery one should be placed on a clear liquid diet and stool softeners to continue. On the day of operation enema is given and the last enema should be a retention enema with 2% neomycin in 200mls normal saline (Mattingly, et al, 1985). The patient discussed was on light diet and she was put on two dulolax tablets at night for two days prior to surgery. On the morning of the operation she had a soap enema.

The standard method of repair of a complete perineal tear is the layered method of repair (Mattingly et al, (1985). This involves separation of the rectal mucosa, perineal muscles (puborectalis and transverse perineal muscles), the anal sphincter and the vaginal mucosa and stitching them separately using interrupted catgut number 0. This was done in our patient.

Other operations for third degree perineal tear include: the wahren-flap operation whereby a flap of vaginal mucosa is used to repair defect and the noble-mengert procedure which involves the dissection of the rectal wall from the vagina (Mattingly et al, 1985).

Post-operatively the patient should be observed 1/2 hourly till fully awake. She is given a suitable analgesic preferably intramuscular pethidine 100mg to start with and a broad spectrum antibiotic (Roberts,1971). She is put intravenous fluids for the first 48 hours when oral feeds can be started. The patient discussed was observed closely until she was fully awake and she was put on pethidine 100mg 8 hourly for the first 24 hours and she was given intramuscular ampicillin 500mg 6 hourly for five days and was on intravenous fluids for the first 48 hours after the surgery.

After initiation of the oral feeds, she should be on clear fluid for 24 hours, soft diet, low residue, for another 48 hours and regular diet following the first soft bowel movement (Mattingly et al, 1985). If no bowel movement is noticed by the 4th post-operative day; glycerine suppositories may be used. The patient discussed had a gradual introduction of solid diet and she opened her bowels on the fourth post-operative day.

The cleanliness of the perineum is important for the healing to take place. The patient is asked to clean the wound regularly and to have sitz baths at least once a day (1,2). Our patient was advised on this.

Follow up of repaired patients should be done to certify proper healing of the wound. The patient is seen at the post-natal clinic 6 weeks post-partum if it was a primary repair or in the gynaecology clinic if it is a secondary repair. The patient discussed was seen in the gynaecology clinic after four weeks and the wound was well healed.

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TERMINATION OF UNWANTED PREGNANCY

Name: M. M.	L.M.P: 24.10.86
Unit: 799393	E.D.D: 1.8.87
Age: 23 years	Admission: 17.12.86
Parity: 0+0	Discharge: 18.12.86

HISTORY OF PRESENTING COMPLAINT

The patient was admitted from the Gynaecology clinic where she had been referred by a psychiatrist for termination of pregnancy on psychiatric grounds. She did not want pregnancy as she had been pregnant while on mutabon D which is teratogenic in the first trimester of pregnancy.

She was a known psychiatric patient with depression and attending psychiatry clinic and had been on mutabon D for several months. Having been a nursing sister and having read that mutabon D is teratogenic, she requested a termination and the psychiatrist thought that allowing her to continue with the pregnancy would worsen her condition, let alone the risk of the drug effect to the foetus.

OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 0+0. Her last monthly period was 24.10.86 and she had an ammenorrhoea of 7 weeks. Her periods were regular and lasted 3 to 4 days every 28 days.

PAST MEDICAL HISTORY

She had never been hospitalised before. No major illnesses except the depression of which she was being followed in the psychiatry clinic.

SOCIAL HISTORY AND FAMILY HISTORY

She worked as a nurse in a provincial hospital in Kenya. She was single. There was no family history of tuberculosis, diabetes or hypertension. No one in her family had depression or any other psychiatric illness.

Physical Examination

The patient's condition was satisfactory, she was not pale and she was afebrile, temperature was 36.7⁰C. She was not jaundiced or cyanosed. She had no oedema or lymphadenopathy.

Cardiovascular System: The pulse was 80 per minute, good volume; Her BP was 110/80mmHg and her heart sounds were normal, no murmurs heard.

Respiratory System: The patient was well oriented in space, time and person. The cranial nerves were intact. She had normal deep and superficial reflexes. The cerebellar function was intact.

Abdominal Examination: The abdomen was scaphoid. No scars or distension seen, it moved with respiration. On superficial palpation, there was no tenderness and on deep palpation, no masses were palpable. The uterus was not palpable suprapubically.

Vaginal Examination: On inspection, the external genitalia were normal; The cervix was closed, soft and 2cm long. The uterus was 8 weeks size, ante-verted and not tender. The adnexae were not tender and no masses were felt. The pouch of douglas was free of any masses.

DIAGNOSIS: A diagnosis of unwanted pregnancy at 7 + weeks was made. She was planned for termination of pregnancy by dilatation and evacuation in main theatre.

Pre-operative Management: The patient gave an informed consent. Her haemogramme was checked and found to be 12.3g/dl. She was starved from midnight and the following day she was given a pre-medication of atropine 0.6mg $\frac{1}{2}$ hour before theatre.

Operation Notes: The patient was taken to theatre on 18.12.86 at 9.40a.m. She was told what was about to be done on her. She was placed in supine position and a drip of 500mls of 5% dextrose set up. She was sedated with intravenous pethilorphan 100mg and intravenous 20mg valium and put in lithotomy position. The vulva-vaginal areas was cleaned and draped. The bladder was catheterised and clear urine obtained. Examination under anaesthesia was done and the initial findings were confirmed. Auvards speculum was inserted

into the vagina to expose the cervix. The upper lip of the cervix was held with a tenaculum and a uterine sound was introduced to verify the intrauterine direction.

The cervical canal was then dilated gently using hegar's dilators and the dilatation was done upto hegar 8 dilator.

A suction currette was inserted into the cervix and suction applied and the currette used in a rotatory motion. Intravenous ergometrine 0.5mg was given at this juncture to enable good uterine contraction and a sharp currette was used to check the cavity of the uterus for any remains of products of conception.

Bleeding was minimal. The patient was placed back in supine position and taken to recovery room for observations.

POST-OPERATIVE INSTRUCTIONS

1. The patient was observed half hourly until she was discharged.
2. She was put on anti-biotics-caps, tetracycline 500mg 6 hourly for five days.
3. She was put on aspirin tablets 2 tablets three times a day for 3 days.
4. She was asked to be on contraception and she intended to use an intrauterine device.

DISCHARGE

She was discharged the same day after bed rest and the effect of pethidine and valium weaned off after about 4 hours.

FOLLOW UP

She was seen in the Gynaecology clinic on 7.1.87 and she didn't have any complaints. She had not started her periods and she was asked to visit the nearest family planning clinic for a suitable contraceptive method.

DISCUSSION

Termination of pregnancy in Kenya is restrictive only to when the life of the mother is threatened by the continuation of an index pregnancy (13). It was through this legality that this patient was offered termination of pregnancy. The grounds for legal termination are well documented by V. R. Tindall from the 1967 abortion act (14). The incidence of legal termination of pregnancy in Kenya is unknown but a recent study at KNH, by Rogo et al (13) described 58 cases over a 4 year period during which an estimated 7,200 to 10,000 incomplete abortions were managed during the same period. Other studies elsewhere indicate the incidence of abortion for the population as a whole is between 15 - 20% (1) and this rate is supported by WHO experts on abortion (WHO abortion report, 1970).

What can be said generally is that where abortion is illegal very few cases of legal termination are seen and this leads to increased induced abortion and increased infection rate (7, 18, 2, 9). In areas where abortion has been legalised like Sweden, the maternal mortality due to abortion has declined (15). In the United States only 1% have an abortion complication following legalisation of the abortion (4).

The methods of termination of pregnancy have been well outlined by savage et al (15). Interception of pregnancy before implantation can be achieved by high doses of oestrogens, combined pill (Eugynon 12 hourly x 2) used within 72 hours of unprotected intercourse; mechanical insertion of copper bearing devices and progestogens given within 3 hours of unprotected intercourse. More recently RU 486 and Gynecosid are synthetic progestogens used for this purpose. Menstrual regulation is applied between 6 - 7 weeks (10,14,15). The method of choice for first trimester termination (8-12 weeks) is Dilatation and evacuation (15) and second trimester termination is best done with prostaglandins (15, 13, 6). This patient had a first trimester abortion of 7 weeks and was done dilatation and evacuation. Menstrual regulation could also have been done but this method had not been started in KNH then.

The complications of dilatation and evacuation in first trimester include bleeding, intrauterine infection, uterine trauma, retained products and anaesthetic complication.

This patient did not have any of these. The uterus was explored after the procedure to ensure no retained products and ergometrine was given to stop haemorrhage. She was given prophylactic antibiotics and she never experienced any sepsis.

Evaluation of the safety of methods of termination has been done previously and it is suggested that morbidity is related to the stage of gestation (15, 5, 17). Luckily enough this patient falls in the category of those less likely to develop complications.

The other problems of legal termination such as psychological effect and secondary infertility cannot be ruled out in this patient. The fact that she never complained of any abdominal pain cannot rule out a possible introduction of infection after the surgery.

Also future pregnancies should be at risk of Rhesus iso-immunisation in this patient. It seems that her group and Rhesus factor was not determined prior to surgery as the case should be (4, 15). Termination of pregnancy has also been associated with delivery of preterm babies or even recurrent abortions due to cervical incompetence.

Prevention of unwanted pregnancy and its sequelae can be achieved through sex education, contraception use and liberalization of abortion (15). The latter is not without its own problems. Some of the documented problems include lowering of moral standards leading to promiscuity, increase

in sexually transmitted diseases, and discouraging the practice of contraception (14).

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DYSFUNCTIONAL UTERINE BLEEDING - DILATATION AND CURETTAGE

DONE:

Name: B. W.

Unit No. 770440

L.M.P. 15.12.88

Age: 33 years

D.O.A. 20.12.88

Parity: 2+0

D.O.D. 23.12.88

PRESENTING HISTORY

The patient was admitted through the Gynaecology clinic on 20.12.88 with history of irregular vaginal bleeding for 5 years. She had been attending the Gynaecology clinic since 1986 for the same problem and had been experiencing vaginal bleeding twice a month accompanied by low back pain. Each episode started with spotting for about 5 days and later on bled heavily for another 5 days.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

Menarche was at 16 years. Her periods were irregular and she would bleed for 5 to 12 days after the onset of the illness. She had dysmenorrhoea. Prior to the onset of the illness the periods were regular and occurred every 28 days and lasted 3 to 4 days.

She used contraceptives since her last delivery in 1975 when she was started on oral contraceptives. These were stopped 2 years later due to high blood pressure. In 1979 she opted to start on depoprovera which she used until

1985 when she stopped due to high B.P. After stopping the depo-provera she started having these complaints.

PAST MEDICAL HISTORY

She was admitted to Kenyatta National Hospital in 1978 because of swelling of both legs and hands accompanied by tingling sensation. She did not know the diagnosis or the file number for record tracing.

FAMILY AND SOCIAL HISTORY

She was unmarried and worked as a tailor (self employed). She was the 5th born in a family of 12. The last born in her family died because of jaundice. The father had diabetes. There was no family member with hypertension.

SYSTEMIC ENQUIRY

She gave no history of abdominal pain, post coital bleeding or intermenstrual spotting. Her urinary, cardiovascular, respiratory and central nervous system were inquired about but no significant symptoms were elicited.

PHYSICAL EXAMINATION

She was in good general condition, she was not pale, she was afebrile, she had no oedema and no lymphadenopathy. The thyroid was not enlarged.

CHEST EXAMINATION:

The breasts were normal. Chest moved equally both sides with respiration and was clinically clear.

CARDIOVASCULAR EXAMINATION

The pulse was 80/min. Blood pressure was 140/80mmHg. The J.V.P. was not raised. The heart sounds were heard and were normal. No murmurs heard. The Apex beat was on the 5th intercostal space.

ABDOMINAL EXAMINATION:

The abdomen was obese but uniformly distended. It moved with respiration. On palpation, no obvious masses felt. Bowel sounds were heard and were normal.

VAGINAL EXAMINATION:

On speculum examination, the external genitalia were normal, the cervix and vagina were healthy with no active bleeding. On digital examination, the cervix was long and closed. Uterus felt normal size, ante-verted. The adnexial were non-tender and pouch of douglas empty of masses.

DIAGNOSIS:

A diagnosis of abnormal uterine bleeding was made.

INVESTIGATIONS DONE

1. Pelvic ultrasound: The uterus appeared normal and no masses were seen within it. There was no ovarian masses.
2. Haemoglobin 12.6g/dl, W.B.C. $7.4 \times 10^9/l$ platelets $339 \times 10^9/l$.
3. PAP SMEAR: Pap class II (Trichomonas vaginalis seen). No evidence of malignancy. 1.10.88.
4. Pregnancy test: Negative, done on 20.12.88.
5. Diagnostic Dilatation and Curettage

This was done on 22-12-88.

She was prepared for theatre and pre-medication of atropine 0.6mg was given half an hour before theatre. In theatre, the patient was put under sedation with pethidine 100mg and valium 10mg in lithotomy position. She was cleaned and draped. Catheterisation was done and clear urine obtained.

Examination under anaesthesia was done as follows:

Auvards speculum was inserted and before this the external genitalia were found to be normal, vaginal wall and cervix looked normal and healthy; on digital exam, the cervix was closed and firm, uterus was normal size and ante-verted and there were no adnexial masses.

The cervix was held with a tenaculum and karman's canula number 5 used for curettage. About 5c.c. of endometrial scrappings were got and sent for histology. Post operatively she was discharged on capsules tetracycline and paracetamol tablets.

REVIEW AT THE CLINIC

She was reviewed at the clinic on 23.2.89 and was found to have had one normal period lasting 4 days.

Histology was reported as "Endometrial glands show moderate coiling and are lined by pseudo-stratified epithelium with mitotic figures. The surrounding stroma has a corresponding phase. Inflammation, hyperplasia, products of conception or malignancy are absent. Mild proliferative phase endometrium without diagnostic abnormalities. This is the most frequent histological finding in D.U.B."

The patient was sent home on antibiotics and analgesics. She was asked to be seen again after six weeks in the Gynaecology clinic.

FOLLOW UP

She was seen on 20.3.89 six weeks later and she didn't have any complaints. The next review on 4.5.89 was uneventful. Her third review on 5.9.89 saw her spotting after periods which were reported regular. She was re-assured for this complaint and was to be followed frequently for any worsening situation.

COMMENT

This patient was admitted with a history of abnormal vaginal bleeding. This is a common Gynaecologic problem at

Kenyatta National Hospital. Sinei (1981) reported a prevalence of 4.3%. However he noted that of all the cases admitted as Dysfunctional bleeding, 12% of them had organic causes following diagnostic curettage.

Dysfunctional uterine bleeding, which was the final diagnosis in the patient discussed, is therefore common in our set up. This condition is defined as abnormal bleeding which is not due to an organic cause (3,4). The patient discussed presented with a history of irregular use of hormonal contraceptives for 10 years after which the symptoms started. From the history it could be postulated that the cause of her bleeding was hormonal rather than organic.

Investigations were done to rule out organic causes and bleeding disorders in this patient. The ultrasound ruled out conditions such as uterine fibroids, ovarian cysts (especially polycystic ovary disease); pregnancy test ruled out pregnancy and pregnancy related complications like trophoblastic diseases. Pap smear ruled out cancer of the cervix. Diagnostic curettage ruled out endometrial cancer and indicated that she had endometrial hyperplasia. Full haemogramme was not indicative of bleeding disorders and platelets were normal.

These investigations indicated that the bleeding was due to the endometrial hyperplasia but the pathologist did not specify whether it was simple, glandular or atypical

hyperplasia. It was assumed from the report that it was simple endometrial hyperplasia.

The explanation for development of endometrial hyperplasia in this patient can be taken back to her prolonged use of hormonal contraceptives especially the depo-provera. These hormones cause anovulatory cycles in by way of their action. This anovulation is maintained for some time especially with depo-provera. There is a definite relationship between anovulatory cycles and development of endometrial hyperplasia (Sheppard, 1984). Also anovulation causes abnormal oestrogen and progesterone levels (Mattingly, 1985). Both these conditions cause abnormal bleeding.

This patient is therefore suspected to have had anovulation which led initially to irregular bleeding due to abnormal levels of oestrogen and progesterone and later on endometrial hyperplasia causing the bleeding. She ought to have some tests to rule out ovulation. Such tests as progesterone levels on day 21 of the cycle and fern test at mid-cycle could be done in this hospital.

The management of this patient was not easy since she had a history of hypertension following hormonal contraceptives including the progesterone only Depo-provera injection. It is the agreed mode of treatment by many authors that hormonal treatment should follow dilatation and currettage (1,2,3,4,8).

It is thought that curettage controls bleeding temporarily and during the few weeks while its effect is operative the underlying fault corrects itself spontaneously (8). This patient could not have hormonal treatment after the curettage because of the reason explained earlier. Curettage was resorted to as a curative procedure as stated above. Barry (1963) also reported that dilatation and curettage can cure dysfunctional uterine bleeding in 20% - 50% of cases. This patient had cure of the symptoms for 9 months before spotting started.

In the event of diagnosing anovulation in this patient, induction of ovulation by clomiphene could further regularise the menstruation since this could not be done with the conventional hormones.

Follow up in this patient was planned to be regular and frequent in order to take a more rational mode of treatment. A repeat dilatation and curettage or total abdominal hysterectomy are the two alternatives left in case of worsening symptoms in this patient. Repeat curettage is advocated by Tindall (1987) in recurrent uterine haemorrhage. This could be the choice in this patient if total abdominal hysterectomy has not been decided upon. This patient could be counselled on total abdominal hysterectomy since she had two living children and was not planning to have more.

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DISLOCATED I.U.C.D - REMOVAL BY DILATATION AND CURRETTAGE

Name: P. M. DOA: 31-10-88
Age: 53 years DOD: 2-11-88
IP.NO: 927230

PRESENTING HISTORY

The patient was admitted as a referral from the family planning clinic after an unsuccessful removal of a coil. The threads were cut while pulling out the coil and the main part of the coil remained in the uterus. A plain x-ray of the abdomen showed the coil in the pelvis. She had no abdominal pain or vaginal discharge or bleeding.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 9+0. Her last delivery was in 1969. Her menarche started at 15 years and she had been having regular periods occurring every 21 to 25 days lasting 2 to 3 days. Her last monthly period was on 17.10.88. She used the coil for the last 10 years prior to admission.

PAST MEDICAL HISTORY

This was not significant.

SOCIAL AND FAMILY HISTORY

She was married and was a housewife. The husband worked as a cashier in a hotel in Nairobi. She had no family history of any chronic illness.

PHYSICAL EXAMINATION

Her general condition was fair and she looked elderly. She was not pale and she was not febrile. Her body temperature was 37⁰c. She had no oedema and she had no lymphadenopathy.

CARDIOVASCULAR EXAMINATION

Her pulse was 72 per minute and her blood pressure was 110/70mmHg. The first and second heart sounds were heard and were normal. There were no murmurs.

RESPIRATORY SYSTEM

Her respiratory rate was 20 per minute and the chest was clear bilaterally.

CENTRAL NERVOUS SYSTEM

This was essentially normal.

ABDOMINAL EXAMINATION

The abdomen was obese. She had a soft abdomen and there was no organomegally. She had no tenderness.

PELVIC EXAMINATION

On speculum examination her external genitalia was normal, the cervix was closed and healthy. No coil threads were seen and she had no discharge or bleeding. On digital examination the cervix was closed, the uterus was normal size and there was no tenderness in the adnexae. The pouch of Douglas was also not tender.

DIAGNOSIS

A diagnosis of retained I.U.C.D. was made.

INVESTIGATION

1. Ultrasound: The uterus appeared normal with a lippsloop intra-uterine contraceptive device within it. There were no adnexal masses.
2. Haemoglobin 11.5g/dl.
3. Urinalysis: Negative for protein and sugar.

MANAGEMENT

The patient was prepared for general anaesthesia as in the introduction. She was informed that the coil was in the

uterus and she gave consent for it to be removed in theatre. After she was given pre-medication of atropine 0.6mg, she was taken to theatre. In theatre she was placed in supine position and anaesthetised. She was then placed in lithotomy position. Vulvo-vaginal toilet was done and she was cleaned and draped. She was catheterised and clear urine was obtained.

The cervix was dilated upto hegar 8 dilator and gentle curettage was performed. The intra-uterine contraceptive device was visualised at the internal os and it was retrieved using an artery forceps. Curettage was completed and endometrial specimen taken for histology. There was minimal bleeding. The coil was kept for the patient to see when she woke up. She was reversed from anaesthesia.

POST-OPERATIVE MANAGEMENT

The patient was observed 1/2 hourly in the theatre recovery room until she was fully awake. She was shown the intra-uterine contraceptive device. Her post-operative observations of blood pressure, pulse and respiratory rate were within normal limits.

She was put on caps tetracycline 500mg 6 hourly for 5 days and paracetamol tablets 1000mg eight hourly for 5 days.

She was discharged on 2-11-88 to be followed up in the family planning clinic.

COMMENT

This is a patient who had a retained intra-uterine contraceptive device following failed attempted removal and it was removed under general anaesthesia by dilatation and curettage.

All intra-uterine devices have tails some with different colours depending on their sizes. These tails are to enable the patient and the family planning attendance to confirm their continued normal position.

The major problems with intra-uterine devices is pregnancy, pelvic infection and "loss of the tails" (Johnson et al, 1988) . Heavy menstrual flow and perforation are also seen occasionally (Basu, 1977). The patient discussed had missing tails which were cut after attempted removal. She had no pregnancy or pelvic infection.

The incidence of missing tails is reported to be between 10% to 15% and it is higher in those who are inserted immediate postpartum or post-abortal period (Zakin et al 1981). These factors were not implicated in our patient. She had used the coil for over 10 years and she never developed a problem with an unexplained

missing threads.

The causes of missing tails include occurrence of pregnancy, expulsion of the device, extra uterine position following perforation of the uterus, detachment of the tails following attempted removal and retraction up into the uterus without changing its position (1,2,3,4,5). This patient's I.U.C.D. tails were cut at attempted removal.

The diagnosis of dislocated intra-uterine contraceptive device is made from a positive history of missing tails, pelvic examination and radiological and ultrasonic examinations. The history of missing tails is taken seriously as 3% to 22% have perforated the uterus (Zakin et al, 1981). Pelvic examination is performed to confirm the missing tails and ultrasound is done to localise the device (Achile et al, 1972). In the absence of ultrasound facilities a plain abdominal x-ray is taken after ruling out pregnancy. If the x-ray shows that the device is within the uterine cavity, a marker I.U.C.D. (preferably differently shaped) is inserted and a second x-ray is taken. (1,3,4,5,6). The patient discussed had positive history of cut tails, pelvic examination confirmed there were no threads at the cervical os and both abdominal x-ray and ultrasound were done to localise the device in the uterine cavity.

All misplaced intra-uterine devices should be removed. Those within the uterine cavity should first be removed by exploring the internal os for the tails (Ansari, 1974). Then if no tails are retrieved, removal should be effected by the use of a mi-mark spiral retriever, a lamicel cervical dilator or a Karman Cannula (2,4,5,6). If these fail, then dilatation and currettage under general anaesthesia is the final alternative (3,4). Those devices which are extra-uterine are removed either by laparoscopy or laparotomy. Laparoscopy is used for inert devices like the lippesloop while laparotomy is used for copper devices since they are more likely to be embeded in the omentum and intestines (4,7). Our patient had intra-uterine device which was removed under general anaesthesia by dilatation and currettage.

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PAST MEDICAL HISTORY

This was not significant.

SOCIAL HISTORY AND FAMILY HISTORY

She was a housewife. Her husband worked as a clerk in a company in Nairobi. There was no family history of any chronic illness in the family. She did not smoke cigarettes nor was she drinking alcohol.

PHYSICAL EXAMINATION

She was in good general condition. She was afebrile. Her body temperature was 36.7⁰c. She had no leg oedema and she had no lymphadenopathy.

CARDIOVASCULAR SYSTEM

Her pulse rate was 78 per minute and her blood pressure was 110/70mmHg. Her jugular venous pressure was not raised and her first and second heart sounds were heard and there were no murmurs.

RESPIRATORY SYSTEM AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

PELVIC EXAMINATION

The external genitalia was normal. Speculum examination revealed a normal looking parous cervix with coil threads arising from the os. The coil was removed successfully. The vaginal wall was normal. Digital examination revealed a firm closed cervix and uterus was normal and ante-verted. The adnexae were non-tender and there were no adnexal masses.

DIAGNOSIS

A diagnosis of grand-multiparity for tubal ligation was made.

INVESTIGATIONS DONE

1. Pap smear class 1
2. Haemoglobin level 12.5g/dl.
3. Urinalysis Negative for protein, sugar and pus cells.

MINILAPAROTOMY: BILATERAL TUBAL-LIGATION

The patient recieved atropine 0.6mg half an hour before operation and she was taken to the operating theatre. In theare, the patient was placed in dorsal position and catheterised aseptically. She was then placed in supine position and sedated with 100mg of pethidine and 10mg of

valium both given intravenously.

She was then placed in dorsal position and the uterine elevator was then placed into the uterine cavity with the assistance of a vulselium forceps and Cusco's bivalve speculum. The Cusco's speculum was withdrawn and the elevator was tied to the vulselum holding the cervix to allow for easy manipulation of the uterus. She was placed back in lithotomy position. The abdomen was cleaned and draped with the uterine elevator easily accessible and using it the uterus could be moved from side to side, up and down without contamination.

The operation site was chosen an area equivalent to two finger breaths from the pubic bone and along the anatomical crease in the suprapubic skin. Local anaesthetic consisting of 20mls 2% procaine hydrochloride was infiltrated into the skin, subcutaneous tissue and rectus sheath starting from a point in the midline. An incision of about 2.5cm was made at the site described above and abdomen opened in layers by dissection. The peritoneum was opened after infiltrating more local anaesthesia into it and the edges held with four small artery forceps. Two graves vaginal speculum were used to expose the abdominal cavity and the assistant held them in place. The uterine elevator was moved with the right hand while the fallopian tubes were fetched with the left hand using a tubal hook. The right fallopian tube was hooked out by turning the uterus to the left side of the abdomen and hooking it from behind the

uterus. The loop of the tube was held with Babcock forceps and properly held using a straight artery forceps. The two arms of the loop were then tied 1.5cm below its apex using chromic catgut number 1. The loop was then cut using a curved Mayo's scissors. The left fallopian tube was fetched out by turning the uterus to the right side of the abdomen and ligated using Pomeroy's technique as described above. The ovaries were examined and were found to be normal.

Swabs and instrument count was correct and the peritoneal cavity was a purse-string suture after removing the abdominal retractors. The rectus was closed with chromic catgut number 1 and the subcutaneous fat by plain catgut number 00. The skin was closed using a subcuticular stitch with a fine chromic catgut number 00. The incision wound was dressed and the uterine elevator and volselum forceps were removed. The blood loss was minimal.

POST-OPERATIVE MANAGEMENT:

The patient was taken to rest in restroom and her vital signs were monitored half hourly. After two hours she was fully awake. She was discharged on capsules tetracycline 500mg six hourly for five days and aspirin tablets 600mg eight hourly for three days.

FOLLOW UP

The patient was seen in the outpatients clinic on 27-10-88 and the wound had healed well. She had no complaints and she was discharged from the clinic.

COMMENT

This is a patient who had bilateral tubal-ligation as a method of contraception following request due to completion of family.

Tubal-ligation is a permanent method of contraception involving interruption and damage of the fallopian tubes (Wheless et al), 1985. Tubal ligation is one of the surgical methods of contraception currently available.

The prevalence of tubal ligation has been reported by Makokha to be 329 operations yearly at Kenyatta National Hospital (Makokha, 1984). According to the Kenya contraceptive prevalence survey of 1984 (5), surgical sterilisation forms the third commonly used method in Kenya after the oral contraceptive pills and the intrauterine contraceptive device.

The indications for tubal ligation include multiparity, completed family size, socio-economic reasons, medical diseases, diabetes, chronic pulmonary disease, heart disease, repeated caesarean sections, rhesus iso-immunisation and enzymatic diseases which may be hereditary (6,8,10). Our

patient was grand-multiparous and her income plus her husbands could not effectively support her large family.

The commonly used methods of tubal ligation in Kenya include mini-laparotomy and laparoscopy (6,8). Both are easy to perform and are effective (Makokha, 1984).

Mini-laparotomy is done under local anaesthesia by experienced Obstetricians (Kanyi, 1986) otherwise it can be done under general anaesthesia or under sedation and local anaesthesia like in the patient discussed.

Tubal-ligation can be done in both postpartum and interval or during any other abdominal operation (Emmens et al, 1978). The main difference in these timings is that in post-partum, the uterus is still palpable per abdomen and there is no need of manipulating the uterus like in the interval timing (1,4,9,10). The patient discussed had an interval tubal ligation.

Once the abdomen is opened by minilaparotomy and the tubes are identified, the pomerooy technique is the method of choice applied for the occlusion of the tubes. It is easy to perform, given the size of the laparotomy incision and it has a low failure rate (3,4,10). Pollison (1973) reported a failure rate of 0.4%. Green (1980) reported a failure rate of 0.3% compared to 0.3% to 0.7% for laparoscopic method. Methods of tubal occlusion are difficult and need good exposure and expertise. These

include irving, uchida and madlener (10). The patient discussed had her tubes occluded by Pomeroy method.

The complications of bilateral tubal ligation include psychiatric disturbances, wound infection, failure of operation and regrets and dissatisfaction (1,3,7). Emmens et al (1978) gave rates of regrets or dissatisfaction following surgical sterilisation as 3.3% for interval, 8.7% for postpartum and 11.4% for caesarean section. This shows that patients for sterilisation should be given time to make decisions and also for them to be prepared psychologically. Myre et al (1973) from a follow up study of 151 women who had been sterilised for social or gynaecological reasons have strongly suggested that adverse psychiatric sequelae could be greatly minimised if the patients are well selected and well psychologically prepared.

Following this study they recommended that women should be over 30 or if younger should have had two or more children, and the operation should not be performed at childbirth, in the neonatal period, or during a post-abortive depression.

The patient discussed did not complain of any of these complications. Recent studies show re-marriage and desire for more children is the highest cause for reversal requests and occlusion by Pomeroy technique has the highest success rate (Gomel, 1980).

Because of the poor success rate and the expertise needed for reversal operations the couples should be given time to decide on the permanent sterilization to avoid regrets, psychiatric disturbances and reversal requests (2,7).

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UTERINE FIBROIDS - TOTAL ABDOMINAL HYSTERECTOMY DONE

Name: M. A. Parity: Para 1 + 0
Age: 40 years D.O.A. 24.3.89
IP. NO. 916765 D.O.D. 26.6.89

PRESENTING COMPLAINTS

The patient complained of abdominal pain for 16 years, abdominal swelling for 15 years and abnormal bleeding for 9 years.

HISTORY OF PRESENTING ILLNESS

She was well until 1973 at the age of 24 years when she started having abdominal pain during her first pregnancy and a firm mass was noticed in the left iliac fossa. She had a normal vaginal delivery at term and the pain persisted. In 1974 the mass was more pronounced and in 1980 her periods became heavy. She had vaginal discharge and lower abdominal pain five years prior to admission which was treated successfully in her local dispensary. There was a history of dyspareunia.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 1+0 and her last delivery was 15 years ago by spontaneous vaginal delivery. Her menarche was at 16 years. Her periods had been irregular occurring every 21 to 28 days and lasting 3 to 5 days.

There was no history of dysmenorrhoea. Her last monthly period was on 4.3.89. She never used any contraceptives.

PAST MEDICAL HISTORY

She was admitted in 1973 due to Malaria during pregnancy.

SOCIAL AND FAMILY HISTORY

She was a housewife. Her co-wife had seven children. Her husband was a businessman.

PHYSICAL EXAMINATION

The patient was in good general condition and was not pale. There was no oedema or lymphadenopathy. She was afebrile with a body temperature of 37.1°C.

CARDIOVASCULAR EXAMINATION

Her pulse was 80 per minute and her blood pressure was 110/70mmHg. The first and second heart sounds were normal. There were no murmurs.

RESPIRATORY AND CENTRAL NERVOUS SYSTEM

These were essentially normal.

ABDOMINAL EXAMINATION

The abdomen was distended in the suprapubic region. It was symmetrical and moving with respiration. There were some therapeutic marks in both iliac regions. The abdomen was soft and a mass was palpable equivalent to 14 weeks pregnant uterine size. The mass was irregular and firm, mildly tender and mobile.

PELVIC EXAMINATION

The external genitalia was normal. On speculum examination the cervix and vagina were normal. On digital examination the uterus was fourteen weeks size of pregnant uterus and mobile with an irregular and firm outline. It was mildly tender. Adnexal were not tender and had no masses. There was no discharge.

DIAGNOSIS

A diagnosis of uterine fibroids with menorrhagia was made.

RESULTS OF INVESTIGATIONS BEFORE THE OPERATION

Full Haemogramme

Haemoglobin:	12.5g/dl
WBC:	$6.8 \times 10^9/l$
Platelets:	$394 \times 10^9/l$

Elisa for H.I.V. : Negative
Pap Smear: Pap 1
Stool for O/C: No ova or cyst seen.
Urea and electrolytes: BUN: 3.9mmol/L
Creatinine: 86mmol/L
Nat: 135mmol/L
K⁺ : 4.2mmol/L

MANAGEMENT

The patient was prepared for total abdominal hysterectomy on 19.6.89. She gave an informed consent and pre-medication 0.6mg Atropine was given intramuscularly half an hour before the operation.

TOTAL ABDOMINAL HYSTERECTOMY

The patient was placed in supine position, anaesthetised and then in dorsal position. She was catheterised aseptically. Clear urine was obtained. The catheter was retained.

Bimanual examination revealed a mobile, firm and irregular uterus of about 14 weeks size of pregnant uterus.

The vagina was painted with methylene blue. She was placed back in supine position and was cleaned and draped. The abdomen was opened through a sub-umbilical midline incision and encountered few adhesions between the omentum and the uterus. There were multiple uterine fibroids.

The uterus was mobilised from the pelvic adhesions. The right round ligaments were identified and clamped using a straight cockers, tied with chromic catgut number 2 and cut. The right ovarian ligament and the fallopian tubes were clamped with a curved cockers, transfixed and cut. The same procedure was done on the ^{Left}~~right~~ round ligaments, fallopian tube and ovarian ligament. The tissue in between the two sites of operation was dissected out and the bladder was pushed away from the uterus.

The posterior leaf of the broad ligament was then divided and the peritoneum of the utero-rectal pouch pushed down with a swab on a sponge holding forceps. The uterine vessels on both sides were identified and were clamped using cocker's forceps and transfixed with chromic catgut number 2. The cardinal ligaments were similarly tied, divided. The interior vaginal wall was opened just below the cervix and the cervix was circumcised out and the vaginal vault was supported using four straight artery forceps.

The vaginal vault was closed with interrupted mattress stitches with chromic catgut number 2 and the peritoneum was closed using chromig catgut number 00 in a purse string manner.

Swabs and instrument count was reported correct and the abdomen was closed in layers. The incision wound was dressed and the vulvo-vagina was cleaned. The blood loss was 500mls. The specimen was taken for histopathological report. The patient was reversed from anaesthesia and taken to the theatre

recovery room where vital signs were observed half hourly till she was fully awake.

POST-OPERATIVE PERIOD

After the patient was fully awake, she was taken to the gynaecology ward where vital signs were observed four hourly. She was transfused with one unit of blood and an intravenous line of 500mls 5% dextrose alternating with normal saline 500mls was maintained until the second post-operative day when the bowel sounds were heard. She was started on intramuscular pethidime 100mg for analgesia 8 hourly for 48 hours then paracetamol tablets for 3 days. She was given prophylactic antibiotic in the form of Ampicillin 500mg 6 hourly for five days.

The post operative period was uneventful and the stitches were removed on the seventh post-operative day.

FOLLOW-UP

She was seen in the gynae clinic on 3.8.89 and she had no complaints. The wound was well healed. The histology report showed benign intramural leiomyomata. The patient was discharged from the clinic to be followed up in the nearest hospital.

COMMENT

This is a patient who had uterine fibroids with menorrhagia, total abdominal hysterectomy was performed and she did well.

Uterine fibroids are benign tumours of the uterus composed mainly of smooth muscle cells with varying amount of fibrous connective tissue. They are relatively avascular with a pseudo capsule their consistency varying from firm to hard on touch. They are also known as leiomyomata (Mattingly et al, 1985).

Uterine fibroids are the commonest tumours of the uterus and are estimated to occur in one out of every four to five women in reproductive life (1,5). At Kenyatta National Hospital, Wanjala (1980) found that uterine fibroids accounted for 66.7% of all abdominal hysterectomies performed.

The age incidence of uterine fibroids is reported to be between 30 and 35 years with fibroids occurring at a younger age in blacks than in caucasians (Mattingly, 1985). The patient discussed was 40 years old but the fibroids were discovered at age 24.

The aetiology of uterine fibroids is unknown but it is known that oestrogens, prolactin and growth hormone promote their growth (Mattingly et al, 1985) and progesterone inhibits their growth (Goodman, 1946). Uterine fibroids is more common in nulliparous women.

Wanjala(1980) reported that 85% of the women had not had a pregnancy in the six years preceeding admission. Garcia et al(1984) also reported this relationship.

The patient discussed was para 1+0 and had not had any pregnancy in the last 15 years preceeding admission.

Uterine fibroids are classified according to their site within the uterus. There are three main groups. Submucous fibroids (arising from just below the endometrial lining) intramural (arising from the uterine muscle) and subserous (arising from the outer surface). Pendunculated fibroids and prolapsing fibroids are terms used to describe fibroids arising from the uterine surfaces (1,5,7). The patient discussed had intramural fibroids.

The complications of uterine fibroids include degeneration of various types (hyaline, cystic, fatty, red and cancerous), infection, torsion, impaction, intraperitoneal haemorrhage, obstruction of labour and post-partum haemorrhage.(1,5,7). The patient discussed did not have any of these complications.

The patients with fibroids present with menorrhagia, infertility, delayed menopause, pelvic pain and an abdominal mass (1,3,5,7). Menorrhagia is thought to be due to ulceration of a submucous leiomyoma, anovulation associated with the leiomyomata leading to endometrial hyperplasia, infection, increased bleeding surface area and congestion of veins due to compression of veins plexi of the adjacent myometrium and endometrium (1,5,7,10).

Infertility could be due to anovulation, interference with sperm transport, abnormal vascularisation hence preventing normal implantation, cervical or cornual obstruction, the associated pelvic inflammatory disease. Wanjala (1980) found that 73.8% of his patients had features suggestive of pelvic inflammatory disease. The patient discussed had menorrhagia and secondary infertility. She had a history of pelvic inflammatory disease. The causes for menorrhagia and secondary infertility were not investigated in this patient.

Diagnosis of uterine fibroids is confirmed by examination and ultrasonography. These patients may be anaemic and may be bleeding. Bimannual examination will reveal an enlarged uterus with irregular and firm or hard masses and pelvic ultrasound will show enlarged uterus with low eccho masses (1,5,7). This patient was not anaemic but had an irregular uterine mass which was equivalent to fourteen weeks of pregnant uterus.

The management of uterine fibroids depends on patients age and parity, size and rate of growth of the tumour and severity of the symptoms. When the tumour is small and the patient desires more children, myomectomy is performed. When the tumour is big and the symptoms are severe (menorrhagia or pressure symptoms) total abdominal hysterectomy should be performed (1,5,7). The patient discussed had menorrhagia and pain and she was elderly hence hysterectomy was performed.

Successful medical treatment of fibroids has recently been reported (2,6,9). Muhiu (1986) using orgametril (Lynestrenol 5mg) 10mg daily from days 11 to 25 of the menstrual cycle found that 87.5% of the patients were free of menstrual symptoms by the third menstrual cycle.

Countino et al (1986) reported regression of uterine fibroids by over 50% after treatment with gestrinone in less than 6 months. West et al (1987) reported shrinkage of uterine fibroids during therapy with Goserelin (Zoladex). Therefore these drugs can be used effectively as a haemostatic for controlling bleeding in pre-operative cases of fibroids. Unfortunately our patient did not get any of them because they were not available.

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FALLOPIAN TUBE CARCINOMA

Name: M.W.N. D.O.A. 20.9.88
Age: 35 years D.O.D. 7.10.88
IP.NO. 920172

PRESENTING HISTORY

The patient was admitted as a referral from Aga Khan Hospital, Nairobi, with a diagnosis of fallopian tube carcinoma.

She had presented at Aga Khan hospital with a history of lower abdominal pains, irregular vaginal bleeding and yellowish vaginal discharge. While at Aga Khan, a pap smear was done and it was reported as pap class one. A diagnostic dilation and curettage done on 20.1.88 showed simple glandular hyperplasia of the endometrium and a pelvic scan showed uterine fibroids with bilateral tubo-ovarian masses. A diagnosis of uterine fibroids and endometrial hyperplasia with bilateral tubo-ovarian masses was made on 1.4.88 she had a laparotomy and bilateral salpingectomy with right oophorectomy was done. The histology of the tubes showed bilateral papillary adenocarcinoma. A second laparotomy was performed on 9.5.88 in view of the new diagnosis and total abdominal hysterectomy with left oophorectomy was done. These specimens showed no malignant change in the uterus or the left ovary. However, the uterus had some fibroids with red degeneration. The patient was started on a course of alkeran 15mg once daily for five days.

She received two courses of alkeran with a break of one month between them before she was referred to Kenyatta Hospital.

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was a para 2+0. Her first delivery was in 1977 and her last delivery was in 1980. Both babies were by spontaneous vertex delivery and were alive and well. Her last monthly period was in April, 1988 and was heavy and lasted five days. She had not used any contraceptives.

PAST MEDICAL HISTORY

She was admitted to Kenyatta National Hospital in 1979 because of abdominal pains. She had a laparotomy done at the patient was not aware of what was done to her. The patient's old notes were not available.

SOCIAL HISTORY AND FAMILY HISTORY

She was a single lady and worked as a cleaner in a Nairobi hotel. She occasionally took alcohol but did not smoke cigarettes. There was no family history of tuberculosis, hypertension or diabetes in her family.

PHYSICAL EXAMINATION

She was in good general condition. She was not pale and had no jaundice. She was not dehydrated and she was afebrile.

Her temperature was 36.5°C, she had no oedema or lymphadenopathy.

CARDIOVASCULAR EXAMINATION

Her pulse was 80 beats per minute and her blood pressure was 110/80mmHg. Her jugular venous pressure was not raised and her first and second heart sounds were heard. There were no heart murmurs.

CENTRAL NERVOUS SYSTEM

This was essentially normal.

RESPIRATORY SYSTEM

The chest was moving with respiration and the respiratory rate was 22 per minute. She had a vesicular breathing and there were no crepitations on auscultation.

ABDOMINAL EXAMINATION

Her abdomen was scaphoid and moved with respiration. There was a sub-umbilical midline scar. She had slight tenderness in the right iliac fossa but the abdomen was generally soft with no palpable masses. The bowel sounds were normal.

VAGINAL EXAMINATION

The external genitalia was normal. The vaginal wall was normal and the vault was well healed. There were no pelvic masses felt and there was no tenderness in the pelvis.

DIAGNOSIS

A diagnosis of fallopian tube carcinoma on treatment was made.

INVESTIGATIONS

1. Full Haemogramme:

Hb: 12.2g/dl
Wbc: $4.4 \times 10^9/L$
Platelets: $477 \times 10^9/L$

2. Urea and Electrolytes:

Na+: 138mmol/L
K+ : 4.6mmol/L
BUN: 7.4mmol/L

3. Liver function tests:

Total protein: 90g/L
Albumin: 51g/L
Bilirubin: 3mmol/L
Alkaline Phosphatase: 7.5 K.A. units

INITIAL MANAGEMENT

The results shown above were acceptable for cytotoxic therapy and she was started on her third course of alkeran at the same dose of 15mg O.D for 5 days. The patient finished treatment without any complications.

After five days' treatment she was discharged home on 7.10.88 to come for monthly courses of alkeran until she completed 12 courses.

FURTHER MANAGEMENT

The patient was given nine more courses of alkeran at monthly intervals. She used to be admitted for five days to take her drugs while in the hospital. Before admission, she was investigated as an outpatient.

One week prior to each admission she came to the hospital for removal of blood and the results would be ready on the day of admission. These tests were to make sure the haematologic, renal and liver function were normal before commencing treatment.

During the treatment period, the patient remained asymptomatic and on 23.8.89 a pelvic examination was done which did not elicit any evidence of recurrence. She was discharged from the ward to be reviewed in the oncology clinic on monthly basis for the first six months and there-after twice every year.

FOLLOW UP

This patient was re-admitted on 28.9.89 with complaints of constipation and dysuria. On examination she was found to have a hard pelvic mass in the pouch of Douglas which was irregular. The vault also had some nodular masses. An impression of recurrence was made and she was started on a course of alkeran tablets 15mg O.D. for five days. She was also due to have a laparotomy to debulk the tumour.

COMMENT

This is a patient who presented with a pre-operative diagnosis of the tubo-ovarian masses and uterine fibroids and after surgery the biopsy report showed bilateral papillary adenocarcinoma of the fallopian tubes. She was treated with 12 courses of alkeran and was symptom free until a month after treatment when she was re-admitted with relapse.

Primary carcinoma of the fallopian tube is very rare. Its incidence is reported to be 0.06 to 1.09% of all cancer of the female genital tract (Pauerstein, 1974).

More than 90% of primary tubal malignancies are carcinomas. Mixed mesodermal tumours, leiomyosarcomas and trophoblastic tumours have been reported with much less frequency (Pauerstein, 1974). This patient had a carcinoma.

The age incidence is highest in the fifth decade of life with extremes varying from 17 to 80 years (5,7). This patient was 35 years old.

The diagnosis of carcinoma of the fallopian tube is rarely made prior to surgery (1,5,7). A high index of suspicion should be aroused (Boutselis, 1971). No symptoms are present during the early stages. The classic triad of pain, discharge and adnexal mass occurs in 50% of patients in late stages (Brutselis, 1971). Woodruff et al (1969) had reported a presence of pain, vaginal bleeding and vaginal discharge in 5 to 10% of cases and vaginal bleeding alone in 25 to 30% of the patients. Our patient had lower abdominal pain, abnormal vaginal bleeding and yellowish vaginal discharge. The association of serous, waterly, bloody or yellowish discharge and an adnexal mass in the post-menopausal patient should alert the physicians to the possibility of carcinoma of the oviduct (Pauerstein, 1974). The disease is also associated with infertility. 40-50% of patients with fallopian tube carcinoma are nulliparous (Tindal, 1987). Our patient had no pregnancy for eight years and she was not on any contraceptives.

Most tubal cancers are diagnosed pre-operatively as hydrosalpinges, pyosalpinges, tubo-ovarian inflammatory masses, myomata or ovarian neoplasms (5,7). Our patient had presented with tubo-ovarian masses and uterine fibroids. Other diagnostic tests in suspected cases include hysterosalpingography (5,7), laparoscopy, culdoscopy (5) and cytology (5,6). The latter is only positive in late stages.

Surgery is the primary treatment for the carcinoma of the fallopian tube (Woodruff et al, 1969). In view of the frequency of bilateral involvement all the internal genitalia should be removed. According to Pauerstein (1974) the tumours are bilateral in 15-30% of cases. Tindal (1987) reported bilateral involvement in 5-10% of cases. Our patient had bilateral tubal involvement and had removal of all the internal genitalia.

The histologic type and stage of the disease are accurate methods of determining the future behaviour of adenocarcinoma of the fallopian tube and should be utilized to determine its therapy (Montaze et al, 1968).

A clinical staging similar to ovarian carcinoma is advocated (Boutselis et al, 1971). Our patient had papillary adeno carcinoma and according to the F.I.G.O. staging, she had stage Ib disease.

The disease exhibits some similarity to ovarian cancer in terms of its mode of spread and response to radiation and cytotoxic agents (Montazee et al, 1968). Denham et al (1984) reported that transcoelomic spread was the main cause of treatment failure in 40 cases they managed. Transcoelomic spread occurs in 35% of stage I and 70% of stage II cases. Our patient was treated like a case of ovarian carcinoma and the cause of recurrence was probably transcoelomic spread.

As a rule post-operative radiation is given irrespective of the extent of the disease (5,7). Bontselis et al (1971) reported that external radiation had significant beneficial effects in seven out of eight of his patients. Denham et al (1984), gave post-operative radiotherapy to 24 out of 40 patients they managed and followed 22 of them for 5 years and noted that only 8 of these remained relapse free. In all the eight patients there was complete resection of the tumour initially. Among those patients they gave palliative radiotherapy for inoperable abdominal masses or supraclavicular metastasis, responses were seen in 8 out of 9 patients. Therefore, radiotherapy has been found to be of beneficial effect in patients with early and late stages of fallopian tube carcinoma. Denham et al (1984) have also reported that pelvic relapse is fewer with supervoltage than with deep X-ray therapy. Our patient could therefore benefit from supervoltage radiotherapy after the planned laparotomy.

Results of the use of intraperitoneal radio-isotopes like gold and chromic phosphate have not been evaluated adequately (2,7). Single agent alkylating agents, alone or in combination with progestins produce short term response (Deppe et al, 1980). A combination chemotherapy of adriamycin-diamminedichloroplatinum and progestins has been found more effective but cyclophosphamide was added to one of the patients' treatment (Deppe et al, 1980). Our patient was treated with single agent alkylating agent and she had a relapse one month after stopping treatment.

This could mean that the alkylating agent alone was not adequate and hence such a patient can benefit more from a combination of the available drugs namely alkeran, progestins and cyclophosphamide.

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TRANSVERSE VAGINAL SEPTUM COMPLICATED BY TUBO-OVARIAN

ABSCESS:

Name: J. A.

DOA: 22-6-89

IP. No. 971244

DOD: 28-8-39

Age: 14 years

PRESENTING COMPLAINT

The patient presented with complaints of vaginal discharge and lower abdominal pain for five days.

HISTORY OF PRESENTING ILLNESS

The patient was well until March, 1989 when she developed vaginal bleeding for the first time in her life and this continued for seven days and it was excessive. She was treated at a local dispensary with some improvement. She bled again for one month from May 26th 1989. After this last episode of bleeding she developed dizziness and headaches; three days after stopping the bleeding she developed vaginal discharge, whitish in colour and was excessive in amount. She had sex only once in November 1988 and no sexual activity prior to commencement of her symptoms.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

She was a para 0+0. Her menarche started in March, 1989 at 14 years of age. The period was excessive but not painful. Her last monthly period was on 26-5-89 and she had continuous

bleeding for one month. She had not used any contraceptives.

SOCIAL HISTORY AND FAMILY HISTORY

She was a standard five drop out due to fees problems; she was a 4th born in a family of 6 siblings. She stayed with the mother at Korogocho. The mother was a house maid at Pangani in Nairobi and she was separated from her husband. There was no history of any chronic illness in the family.

PAST MEDICAL HISTORY

This was not significant.

PHYSICAL EXAMINATION

She was in fair general condition. She had moderate palor and she was febrile. Her temperature was 37.5⁰c. She had no axillary hair and no pubic hair. The breasts were tanner stage three. She had no lymphadenopathy and she had no oedema.

CARDIOVASCULAR SYSTEM

Her pulse was 80 beats per minute. Her blood pressure was 110/70mmHg. Her jugular venous pressure was not raised and her heart sounds were normal.

CENTRAL NERVOUS SYSTEM

She was well oriented in space time and person and her cranial nerves and deep tendon reflexes were normal. There was not neurological deficit.

RESPIRATORY SYSTEM

Her chest was moving with respiration and her rate was 24 per minute. The chest was clear bilaterally with vesicular breathing.

ABDOMINAL EXAMINATION

The lower abdomen was distended and was moving with respiration. She had no palpable masses but she had moderate guarding.

PELVIC EXAMINATION

On speculum examination her external genitalia was normal, she had a greenish yellow vaginal discharge. The vagina was short measuring about 3cm deep with a small pin-hole opening on the left side superiorly. The pin-hole was probed with a fine metal probe but no pus came out. The probe went up to 4cm. Digital examination was done and vagina was short, no cervix felt, there was tenderness in the pelvis and there was an ill defined mass unit. Rectal examination was done and there was a mass protruding into the

rectum at the level of the septum; uterus not felt. Cervix was not felt.

DIAGNOSIS

A diagnosis of transverse vaginal septum and infected haematocolpos and moderate anaemia was made.

IMMEDIATE MANAGEMENT GIVEN

The patient was started on broad spectrum antibiotics (intravenous gentamycin, ampicillin and flagyl) and some investigations were ordered. She was planned for blood transfusion and examination under anaesthesia shortly.

RESULTS OF INVESTIGATIONS:

1. Full haemogram: haemoglobin 7.4g/dl
 PCV 22.2%
 WBC $9.6 \times 10^9/l$
 MCV, MCH and MCHC were reduced.

2. Pelvic ultrasound: Showed a low echo mass with debris in
 (22-6-89) it in the pouch of Douglas.

3. Urea and electrolytes: BUN 2.8mmol/l
 (5-7-89)

4. I.V.U. - The I.V.U. showed a spina bifida
11-7-89 occulta of s₁ vertebra. There was prompt bilateral excretion showing bilateral nephromegaly with right hydronephrosin. The right ureter was partially obstructed at the level of L₄ transverse process. The left renal system (pelvicaliceal system) left ureter and bladder were normal.

FURTHER MANAGEMENT:

The patient was transfused with three units of blood and her haemoglobin rose to 9.6g/dl. The fever responded to treatment on 6-7-89 and the vaginal discharge disappeared. However the patient's abdomen remained mildly tender despite the treatment and general improvement of her condition. She was taken for examination under anaesthesia and laparotomy on 21.8.89.

LAPAROTOMY AND INCISION OF SEPTUM

The patient was prepared for theatre as in the introduction. She was given pre-medication 0.6mg of atropine sulphate half an hour before theatre and she had two units of blood grouped and cross-matched for her.

She was placed in dorsal position on the operation table after having been given general anaesthesia. She was catheterised and clear urine was obtained. Examination confirmed a transverse vaginal septum and an ill defined pelvic mass. She was then placed in supine position, cleaned and draped. The abdomen was opened in layers through a sub-umbilical midline incision. The gut and omentum were found stuck to a right tubo-ovarian abscess. The left tube and ovary were buried in adhesions. The uterus was normal size. Right salpingo-oophorectomy was done and a drain was left on the right ilia fosa. The abdomen was closed in layers. The patient was then placed in lithotomy position and the transverse vaginal septum was incised and a swab left in situ. Blood loss was minimal.

POST-OPERATIVE MANAGEMENT

The patient was observed half hourly till she was fully awake then four hourly thereafter. She was put on antibiotics and analgesics. The swab in the vagina was removed after 24 hours. She recovered well post-operatively and stitches were removed from the abdominal wound on the seventh day when she was also discharged home. She was asked to come to the gynae clinic after four weeks for review.

FOLLOW UP

The patient was seen on 12.10.89 at the gynaecology clinic and she had no complaints. The abdominal wound had

healed well. She was asked to come back for another review after three months and she was expected to come on 12-1-90.

COMMENT

This is a patient who presented with transverse vaginal septum, a fistula through the septum and a tubo-ovarian abscess which were managed successfully by laparotomy and incision of the septum.

Transverse vaginal septum is a congenital problem involving a defect in embryogenesis that leads to an incomplete fusion between the mullerian duct component and the urogenital sinus component of the vagina (2,5).

The cause of this defect is obscure (Evans et al, 1981). However there are three possible origins of such defects in xx females.

1. Familial transmission (2) teratogenic interference around the thirty-seven day of gestation and 3) variable expression of an underlying recessive trait (Evans et al, 1981).

There is an incomplete vertical fusion resulting in a transverse septum. The septum varies in thickness and can be located almost at any level in the vagina. A single septum or multisepta can be present. Lodi has reported that 46% in the mid-vagina and 14% in the lower vagina (Mattingly et al, 1985). The case being discussed had a septum in the middle

1/3 of the vagina.

Transverse vaginal septum can be accompanied by a fistula through which regular menstruation can take place (Rubin et al, 1985). The patient being discussed had a fistula which was probed and the probable cause of an ascending infection which affected the right adnexa where a right tubo-ovarian abscess was found. The transverse septum has also been associated with congenital renal abnormalities (1,5). Counsellor V. S. and Davis, E. C. reported that 15 to 20% of patients with atresia of vagina, abnormalities of the urinary system is found. This patient had congenital nephromegally.

The incidence of transverse vaginal septum was reported by Evans et al (1981) to be 1 in 4,000 at the Mayo clinic, while Semmens (1962) had given an incidence of 1 in 1,8000 gynaecological patients. This implies that this condition is rare.

The discovery of this condition occurs mostly in puberty when the patient starts her menstruation. The age this occurs has been reported to be between 14 and 18 (Tindal, 1987). However presentation in the neonate has been well documented (Deppisch, 1972). Neonates and young infants with uniperforate transverse septum may develop a collection of fluid from endocervical glands and mullerian glandular epithelium in the upper vagina that have been stimulated by the placental transfer of maternal oestrogens.

(Mattingly, 1985). The patient being discussed was 14 years old and the discovery of the septum was by chance after she developed a tubo-ovarian abscess. She had a fistula where she was bleeding through and she had no retention of blood in the vaginal fornices or in the uterus.

The presentation of complete transverse vaginal septum without a fistula would be cryptomenorrhoea if the defect is lower most and haematometra and haematocolpos if it is in the middle 1/3 or upper 1/3 of the vagina (Tindal, 1987). Pelvic examination should always include rectal examination because digital examination will not be very conclusive. Our patient was suspected to have haematocolpos and haematometra because the septum was higher up (middle 1/3 of vagina) and she had a pelvic mass. However at laparotomy it was found that she did not have any retention of blood.

Investigations done on these patients should include intravenous urography to rule out renal anomalies which could range from pelvic kidney, absence of one kidney and ureteric malformations (Tindal, 1987). Ultrasound is also vital in differentiating between ultra-uterine and extra-uterine masses. Our patient had both intravenous urography and pelvic ultrasound. The patient had a nephromegally and ultrasound had showed a pelvic mass which made us more confident in opening her up rather than approaching her condition from below.

The treatment of transverse vaginal septum depends on the level of the septum and the presence or absence of the cervix (Mattingly et al, 1985). The simple-low transverse septum requires a perineal approach. Excision of the lateral margins is done and the upper and lower edges of the vaginal mucosa anastomosed using interrupted stitches. A sponge rubber covered with sterile latex. Sheath is placed into the vagina for about 10 days (Mattingly et al, 1985). Cases of cryptomenorrhoea should be treated with cruciate incision (Tindal, 1987).

Those patients with thin vaginal septum require split thickness skin graft to bridge the gap. A-plasty has been described by Garcia (1977).

Where there is absence of the cervix total abdominal hysterectomy should be performed and vaginal-plasty done after six months using either Williams or McIndoe-Read operations (Mattingly et al, 1985).

The patient being discussed had a mid-vaginal septum and she had an incision through it. She had a normal uterus and cervix, confirmed at laparotomy and hence there was no need of hysterectomy. This patient will need dilatation of the vagina. After three months post-operative a digital examination should be done to determine how the diameter of the incised hole is and if small she will be advised to have frequent dilatation.

Follow up of patients operated for transverse vaginal septum is necessary for vaginoplasty if hysterectomy was done. Follow up also is to assist them in achieving a pregnancy. The patient being discussed will require to be managed for a possible infertility problem because of the state of the only tube left after the laparotomy.

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KNOWLEDGE, ATTITUDE AND PRACTICE (K.A.P.) ON CERVICAL
CYTOLOGY IN RURAL MCH/FP ATTENDANTS IN KENYA:

SUMMARY

A case controlled study of 241 MCH/FP clinic attendants was carried out in Northern Division of Machakos District between 7th July 1988 and 28th October, 1988 to find out their knowledge and attitudes towards pap smear and cancer of the cervix.

The area chosen has a rural population of nearly 50,000 people with about 11,000 women aged 15-49 years. 80% of the women studied were married and nearly 70% of them were housewives. About 70% had attained only primary education. The cases were 39 and the controls were 202.

20.8% of the women in the group that never had a pap smear in their lifetime knew what a pap smear is, while 32.3% in the group who had normal pap smear and 41.0% in the group who had an abnormal pap smear knew what it is.

On average only 30% in all the three groups knew what cancer of the cervix is. However previous pap smear experience seems to have some positive influence on the knowledge about cancer of the cervix in these groups.

5.1% of the clients who had a pap smear with an abnormal result did not know that they had ever had a pap smear done while 31.1% of those who had never had a pap smear thought

they had had one. This seems to be due to lack of communication between the clinic attendants and the clients about the procedures which are done in these clinics.

The attitude towards pap smear was good among the women studied irrespective of their pap status. More than 90% of the study population on average had a positive attitude towards pap smear.

From the results of this study it is concluded that in this rural population the attitude is good but the knowledge is poor about pap smear and cancer of the cervix. There is need to intensify the education of such a rural population and that of the health service providers to improve on the knowledge about cancer of the cervix and pap smear which was found to be poor. It is also important to take advantage of the good attitude in such a rural population to encourage the practice of pap smear taking as a screening procedure for cancer of the cervix in similar populations.

INTRODUCTION:

Pap smear is synonymous with cytological studies of the cervix. The word is derived from the name of Dr. George Papanicolaou who is credited with the introduction of the cytological method of diagnosis of cancer of the cervix and pre-cancerous lesions of the cervix in 1928.

Cancer of the cervix is the most common cancer in women in Kenya (Ojwang and Mati, 1978). Kaguta reported that between 1974 to 1981 it accounted for 71.5% of gynaecological malignant tumours. World wide, it is number two following cancer of the body of the uterus with about 500,000 new cases each year (W.H.O. report, 1988).

In the study area, 29.5/1000 women have abnormal smears and 1.5/1000 have cancer of the cervix. This gives a prevalence of abnormal smears to be about 3% and that of cancer of the cervix to be 0.15% (Mati, 1989).

In Kenya, most of the patients with cancer of the cervix present late. Stage IIIb is the commonest presentation (Ojwang and Mati, 1978). A recent estimate gave a crude annual incidence of 45-50 cases per 100,000 women at risk (K.M.A, 1987). Most of these cases are reported to be of poor prognosis as they normally present late. Prevention of this large number of cases is a goal worthy of urgent and serious consideration.

There is an overwhelming evidence that effective cytology screening programmes result in decreased morbidity and mortality due to cancer of the cervix (Walton, 1976). This is so because the natural history of cancer of the cervix is such that it takes 10-20 years for about 60% of carcinoma in situ to progress to invasive cancer (Boyes et al, 1984). Therefore the use of pap smear to detect this pre-invasive curable stage will dramatically reduce the incidence of full-blown cancer of the cervix.

In Kenya cervical cytology screening is gaining much attention since the introduction of a programme to train cytotechnicians in 1987 (K.M.A., 1987) 20 cytotechnicians were trained by the end of 1988 academic year by the Department of Obstetrics and Gynaecology, University of Nairobi.

It has been suggested that to get a good coverage of the population at risk, awareness in both the rural and urban population is needed (Kirima, 1981). The clinic attendants should be told of the importance of taking pap smears. The doctors working in other areas of the hospital should be made aware of the presence of a trained cytologist or a referral laboratory where cytology services are offered. Private practitioners should have access to this facility probably paying a small controlled laboratory fee.

It ought to be mentioned that cervical screening programmes are somewhat expensive and selective screening has been found to be the most cost effective phenomenon in South

Indian women (Shrivastar et al, 1986). In Kenya Kibunguchi et al (1985), after a study of a high risk group in Nairobi, suggested that high risk population should be the first target due to financial constraints. High risk factors for cancer of the cervix include early sex, promiscuity, other sexually transmitted diseases, oral contraceptive use and poor socio-economic status (Rogo, 1988). Suggestions to screen target groups once every 3 years have been put forward (Rogo, 1988). Other studies elsewhere suggest periods ranging between 3 and 5 years (Draper et al, 1983 and Carlola Veechia et al, 1984). So few women in Kenya have ever had a pap smear that our primary goal should be population coverage and not repeating pap smears in the same relatively low risk urban population.

In areas where cervical cancer screening has been practiced for many years like in British Columbia (Boyes, et al, 1981) and Nordic countries (Draper et al, 1983) cervical cancer rates have dropped significantly.

Lastly, it was felt that a study to know the knowledge of cancer of the cervix and attitude towards cervical cytology in a rural population would be of help to find a suitable approach in starting an effective screening programme for cancer of the cervix in Kenya and other developing countries. The results obtained will be a basis for counselling of clients and educating the health service providers.

OVERALL OBJECTIVES

To study the knowledge and attitudes of Kenyan rural women about pap smear. The findings will be a contribution to the programmes earmarked to reduce and/or prevent cancer of the cervix in Kenya.

SPECIFIC OBJECTIVES

1. To determine the level of knowledge about pap smear and cancer of the cervix in a Kenyan rural community.
2. To determine the attitude towards the taking of pap smear as a screening procedure for cancer of the cervix.
3. To make recommendations on the improvement of rural women's knowledge attitude and practice on cervical cytology.

SUBJECTS AND METHODS

The study was conducted in the Machakos project study area run by the Department of Obstetric and Gynaecology.

The area is situated in the Norther Division of Machakos District about 60Km. East of Nairobi. There are about 11,000 women in the reproductive age group in the area.

The area is divided into a Western and an Eastern zone by a ridge. The Western side has two clinics (Kinyui and Katwanyaa) and there is a third clinic run by Government

(Matungulu). The Eastern side has two clinics (Katheka and Kathama) and a third Government clinic (Mbiuni).

The study area was started in October 1981 by the University of Nairobi's Department of Obstetrics and Gynaecology in collaboration with World Health Organization. Several projects have been carried out since 1981. These include Nutritional Survey, Norplant project and vaginal contraceptive acceptability study. Basically the projects cater for the health of women and children by providing MCH/FP services.

This area was selected for the current study because of its organised service delivery points and because the homes of the clients are marked on a map. There are fieldworkers attached to each of the areas and hence it was easy to reach the clients recruited in their homes when necessary.

Women coming for family planning had at least one pap smear since inception of the project. Those who had pap smears done participated in the study as cases and control group II.

The cases were residents of the study area with abnormalities of their pap smear (either pap class III or pap class IV). Upon tracing from the records there were 75 such cases and it was projected that at least 50 of them could be traced. These were referred to as positive pap smear.

There were two groups of controls. The first group of controls (control I) was selected from clinic attendants who had never had a pap smear. These were women attending the child welfare clinic or ante-natal clinic or new family planning acceptors who had never had a pap smear. The second control group (control II) was selected from those mothers who had had pap class I or pap class II. These were referred to as negative pap smear.

Each case was matched with two controls of the same age and parity. A total of 241 women were interviewed according to this selection criteria.

The data was collected using questionnaires written in English but administered in Swahili by trained field staff. There were four medical students and a field worker who were recruited for the exercise under the supervision of the investigator.

The questionnaire covered topics on Socio-Demographic characteristics, reproductive history, knowledge about cancer of the cervix and pap smear and attitudes towards pap smear.

The knowledge covered questions such as knowing of a test to screen cancer of the cervix, where pap is done and the knowledge about cancer of the cervix and uses of a pap smear. The part of questionnaire on knowledge was in two parts. The first part covered un-prompted knowledge on pap

smear and cancer of the cervix while the second part asked the knowledge after the client was explained what pap smear was and what cancer of the cervix was.

The attitude questions covered the importance of pap smear and whether the client recognized the importance of a gynaecological exam and if they could recommend it to a friend.

The awareness of what was done when examining or taking a smear was also included in the questionnaire. In this part the number of pap smears done in life was enquired into and correct knowledge recorded.

The data collected was coded and analysed using an SPSS package on an IBM computer.

RESULTS:

TABLE 1: Marital status by pap smear class.

Marital status	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
Single	2(5.1)	1(1.1)	1(1.1)
Married	32(82.1)	78(77.2)	85(91.4)
Separated, widowed or divorced	5(12.8)	17(21.7)	20(7.5)
Total(n)	39(100)	96(100)	106(100)

p value = 0.3054.

Most of the women in the three study groups were married.

Single women formed 5.1% of the women with positive pap smear compared with 1.1% of those with negative pap smear and 1.1% in those with no pap smear done.

The married group is represented by a uniform distribution in all the groups with 82.1% in the group with positive pap smear and 77.2% in the group with negative pap smear and 91.4% in the group who had never had a pap smear done.

Those women who were previously married but at the time of the study separated, widowed or divorced had a higher percentage in the group with negative pap smear with 21.7% compared with 7.5% in the group who had never had a pap smear done and 12.8% in the group with positive pap smear.

TABLE 2: Education by pap smear class.

Education	Pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
None	1(2.8)	7(7.4)	10(10.2)
Primary	29(80.6)	69(72.6)	69(70.0)
Post-primary	9(16.6)	20(20.0)	27(19.8)
Total(n)	39(100)	96(100)	106(100)

p value = 0.2622

Most of the women had only primary level of education represented by 80.6% in the group with positive pap smear and 72.6% in the group with negative pap smear and 70.0% in the group who had never had pap smear.

Women with no education constitute 2.6% of those with positive pap and 7.3% of those with negative pap compared with 12.3% in the group who had never had a pap smear done. It appears therefore that education may have a role in practices towards pap smear among these women but the distribution is not significantly different from that of women with some education (p value = 0.2522). Again the women with no education were too few to conclude on.

TABLE 3: Occupation by pap smear class.

Occupation	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
Housewife	24(66.7)	65(68.4)	70(71.4)
Income generating group	15(33.3)	31(31.6)	36(28.6)
Total(n)	39(100)	96(100)	106(100)

p value = 0.5440

Housewives are represented evenly in all the three groups with 66.2% in the positive pap smear group, 68.4% in the negative pap smear group and 71.4% in the group not done pap smear. However the income generating group had a higher representation in the positive pap smear group (32.3%) and in the negative pap smear group (31.6%) compared to 28.6% in the group not done pap smear although this did not seem to be statistically significant (p value = 0.5440).

TABLE 4: Religion by pap smear class.

Religion	Pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
Catholic	26(66.7)	52(54.2)	49(46.2)
Protestant	13(33.3)	42(43.8)	56(52.8)
Other	0(0.0)	2(2.0)	1(1.0)
Total(n)	39(100)	96(100)	106(100)

p value = 0.1649

More catholics in the study had pap smear done than protestants. The catholics are represented by 46.2% compared to 52.8% in those who had not had a pap smear done. More catholics than protestants had a positive pap test as represented by 66.7% compared to 33.3% protestants but this was not statistically significant (p value = 0.1649)

TABLE 5: Age at first delivery by pap smear class.

Age at first delivery	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
< 19	33(62.5)	87(71.0)	97(59.1)
> 20	6(37.5)	9(29.0)	9(40.9)
Total(n)	39(100)	96(100)	106(100)

p value = 0.5199

There was a **higher** population of women whose age of first delivery was 20 years and above who did not have a pap test done. This represented 40.9% compared to 29.0% in the group with negative pap and 37.5% in the group with positive pap. Delivery as teenagers in all the groups seem to be uniformly distributed since 62.5% had positive pap,

71.0% had negative pap and 59.1% did not have a pap done.

TABLE 6: Sexual partners in the past by pap class status.

Sexual partners in the past	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
None	1(2.6)	2(2.1)	6(5.7)
One	12(30.8)	43(44.8)	33(31.1)
Two or more	26(66.7)	51(59.1)	67(63.2)
Total(n)	39(100)	96(100)	106(100)

p value = 0.3169

Most women start sex before marriage in all the 3 groups studied since only 2.6% of those with positive pap and 2.1% of those with negative pap and 5.7% of those who did not have a pap test done did not have any sexual partner in the past.

More than 50% of the women in all the groups had multiple sexual partners before marriage. This is indicated by the fact that 66.7% of those with positive pap smear, 53.1% of those with negative pap smear and 63.2% of those with no pap smear done had two or more sexual partners.

Majority of the women with no pap smear done had two or more sexual partners in the past. This is indicated by the fact that 63.2% had two or more partners while 31.1% had one and 5.7% had no sexual partner in the past.

Considering the group of women with two or more sexual partners before marriage who had pap smear done there was a higher percentage of women with positive smears (66.7%) than those with negative smears (53.1%).

TABLE 7: Number of current sexual partners by pap class.

Number of current sexual partners	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
One	29(82.9)	61(80.3)	50(76.9)
Two or more	10(17.0)	35(19.7)	12(23.1)
Total (n)	39(100)	96(100)	106(100)

p value = 0.1560

Majority of the women in the study population have one sexual partner currently. These were uniformly distributed in all the pap classes. 82.9% with positive pap smear had sexual partners, 80.3% who had a negative pap and 76.9% of those women who had never had a pap smear had only one sexual partner at the time of study. 17.1% of those with multiple sexual partners had a positive pap smear while 19.7% had a negative pap smear and 23.1% had no pap smear done. There seems to be a higher representation of women in the group not done pap smear than in the other two groups but this was not statistically significant to make any conclusion (p value = 0.1560).

TABLE 8: Percentage of women with correct knowledge by
pap class status:

question	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)	p value
Know test to screen CACX	16(41.0)	31(32.3)	22(20.8)	0.0337
Know where pap is done	35(89.7)	76(79.2)	65(61.3)	0.0006
Know how pap is done	26(66.7)	56(58.7)	28(26.0)	0.000
Ever heard of CA cervix	22(56.4)	37(38.5)	25(23.6)	0.0027
Know symptoms of CA cervix	14(35.9)	33(34.4)	34(32.1)	0.8920
Think CA cervix is preventable	11(28.2)	28(29.2)	46(43.4)	0.0644
Think CA cervix is curable	8(20.5)	18(18.8)	48(45.3)	0.0001
What stage curable (early)	23(59.0)	59(61.5)	67(63.2)	0.8445
Know diseases ident- ified by pap	27(69.2)	75(78.1)	83(78.3)	0.4769

There is poor knowledge about pap smear in all the three study groups. 20.8% of those who did not have a pap smear done did not know the test to screen cancer of the cervix compared to 32.3% in those with negative pap and 41.0% in those with positive pap. However it seems that the knowledge of those who had had a positive pap (41.0%) was better than those with negative pap (32.3%) while the group who did not have a pap done had the poorest (20.8).

After the women were explained what a pap smear is (see subjects and methods) 89.7% of those who had a positive pap knew of a place where it could be done while 79.2% of those who had a negative pap knew where it could be done while 61.3% of those who didn't have a pap smear knew where

it could be done.

66.7% of those with positive pap smear knew better how pap is done after they were explained what it is compared to 58.7% of those who had a negative pap and 26.4% of those who did not have a pap done.

The women who had a positive pap had a better knowledge concerning cancer of the cervix. 56.4% of those with positive pap had heard of cancer of the cervix compared to 38.5% in the group with negative pap and 23.6% in the group not done pap. 35.9% of those with positive pap knew symptoms of cancer of the cervix compared to 34.4% in the group with negative pap and 32.1% in the group who did not have pap smear done.

The other knowledge questions in table 8 seem to be answered better by those women who never had a pap smear done. Most of these questions dealt with prevention of cancer of the cervix. This could mean that they were more ready to have it prevented although they have not had any pap smear in their lives.

TABLE 9: Percentage of women with correct knowledge by education.

Question	None No. (%)	Primary No. (%)	Post primary No. (%)	p value
Know test to screen	4(19.0)	50(28.7)	15(32.6)	0.7436
Know where pap is done	14(66.7)	132(75.9)	30(66.0)	0.2533
Everheard of ca cervix	4(19.0)	60(34.5)	13(28.3)	0.1892
Symptoms of ca cervix	7(33.3)	62(35.6)	33(28.0)	0.8464
Ca cervix preventable	13(61.9)	112(64.4)	27(64.4)	0.8112
Ca cervix curable	11(52.4)	117(67.2)	39(84.8)	0.1160
Diseases identified by pap	15(71.4)	137(78.7)	33(71.2)	0.3475
Total = (N)	21(100)	174(100)	46(100)	

There was a poor knowledge of what a pap smear was as indicated by 19.0% in the group with no education and 28.7% in the group with primary educational 32.6% in the group with post primary education. However those with some basic education were better off than, those with no education as concerns this first response.

After being explained what a pap smear was 66.7% of the non-educated group compared to 75.9% of primary education and 66.0% of the group with secondary education had known where the pap smear can be done.

Concerning carcinoma of the cervix, education did not seem to alter the knowledge of the clients as only 34.5%

with primary and 28.3% with post primary education had correct knowledge when asked if they had heard of ca cervix compared to 19.0% in the illeterate group. Knowledge on the symptoms of ca cervix was also poor as the group that attained primary education had maximum correct knowledge with only 35.6%. After explanation of what ca cervix was questions as to whether ca cervix is preventable and curable and of diseases identified by pap were answered well.

TABLE 10: Percentage of women with correct knowledge by occupation.

Question	H/wife No. (%)	Income group No. (%)	p value
Know test screen	43(25.3)	26(36.6)	0.2228
Know where pap is done	19(70.0)	57(80.3)	0.17147
Everheard of ca cervix	48(28.2)	29(40.8)	0.3104
Know symptoms of ca cervix	49(28.8)	33(46.5)	0.1210
Ca cervix preventable	113(66.5)	43(60.6)	0.8710
Ca cervix curable	120(70.6)	48(67.6)	0.4887
Diseases identified by pap	127(74.7)	58(81.5)	0.8042
Total (n)	170(100)	71(100)	

The group with an income generating activity had a better knowledge than the housewives. Housewives with correct knowledge towards pap smear before explanation of what it is were 25.3% while those in the income generating group were 36.6%. After explanation of what a pap smear is 70% of the housewives knew where it is done compared to 80.3% of the income group.

Knowledge about ca cervix was also poorer among housewives than among the income group since 28.2% housewives and 40.8% income generating group answered correctly to the first question of having ever heard of ca cervix. Knowledge about symptoms of ca cervix was poor also as only 28.8% of housewives and 46.5% of the income group answered correctly. However the income group had better knowledge than housewives. Upon explanation of what ca cervix was, there was no significant difference in percentages between the two groups but there was good knowledge about ca cervix then since more than 60% of both groups answered the questions correctly.

TABLE 11: Percentage of women with correct knowledge by current number of sexual partners.

Question	Current sexual partners		p value
	One No.(%)	Two or more No.(%)	
Know test to screen	56(28.4)	13(29.5)	0.9706
Know where pap is done	140(71.1)	36(81.8)	0.1883
Ever heard of ca cervix	67(34.0)	10(22.7)	0.9535
Symptoms of ca cervix	70(35.5)	12(27.3)	0.5625
Ca cervix preventable	129(65.5)	27(61.3)	0.8805
Ca cervix curable	135(68.5)	32(72.7)	0.3747
Diseases identified by pap	146(74.1)	39(88.6)	0.0502
Total (n)	197(100)	44(100)	

28.4% in the group with one partner had correct knowledge of what a pap smear is compared to 29.5% in the group with multiple sex partners although there was no statistical difference (p value = 0.9706). After being

explained what a pap smear is 71.1% with one partner and 81.8% with two or more partners knew where it can be done. As to whether they have heard cancer of the cervix, the group with one sexual partner, 34.0% had heard of it compared to 22.7% who had multiple sexual partners.

There was no notable difference in the knowledge about the other questions about cancer of the cervix, as shown in this table.

TABLE 12: Percentage of women with correct knowledge about previous paps done in life.

Pap smears done in life	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)
None	2(5.1)	9(9.4)	13(68.9)
One	5(12.8)	45(46.9)	18(17.0)
Two	8(20.5)	30(31.3)	8(7.5)
More than two	24(61.6)	12(12.6)	7(6.6)
Total (n)	39(100)	96(100)	106(100)

p value = 0.000

68.9% of those who did not have a pap smear done had the correct knowledge . This leaves 31.1% of those who were wrong to think that they had a pap smear whereas they did not have one done.

5.1% of those who had a positive pap thought they have never had a pap while 9.4% in the negative group thought also that they never had a pap smear done. This could mean that

the procedure was not explained to them when it was being done. This observation was statistically significant (p value < 0.05).

TABLE 13: Percentage of women with correct attitude and pap smear class.

Question	pap positive No. (%)	pap negative No. (%)	pap not done No. (%)	p value
Think important to have pap smear	35(89.7)	93(96.9)	93(87.7)	0.0560
Like pap smear done	36(92.3)	92(95.8)	93(87.7)	0.1129
Like gynaecological exam by doctor	36(92.3)	95(99.0)	98(92.5)	0.0732
Recommend pap smear to a friend	37(94.9)	86(89.6)	94(88.7)	0.5335
Recommend speculum exam to a friend	33(84.6)	86(89.6)	90(84.9)	0.5665
pap smear useful on normal women	38(97.4)	95(99.0)	97(91.5)	0.0218
Total (n)	39(100)	96(100)	106(100)	

These questions were asked after explanation of what a pap smear, a speculum and a gynaecological examination are.

About 90% of women thought it was important to have pap smear. Over 90% would like a pap smear done on them and over 92% would not mind a gynaecological examination by a doctor.

About 90% would recommend a pap smear to a friend and over 85% would recommend a speculum examination to a friend. More than 90% thought pap smear was useful on normal women.

TABLE 14: Percentage of women with correct attitude by education status.

Question	None No. (%)	primary No. (%)	post primary No. (%)	P value
Think important to have pap smear	17(81.0)	162(93.1)	39(91.1)	0.1325
Like pap smear done	17(81.0)	163(93.7)	41(89.3)	0.3765
Like gynaecological exam by a doctor	18(85.7)	167(96.0)	44(95.6)	0.4944
Like speculum exam done	18(85.7)	163(93.7)	41(88.7)	0.6927
Recommend pap to a friend	17(81.0)	160(92.0)	40(86.7)	0.5546
Recommend speculum exam to a friend	16(76.2)	155(89.1)	38(82.6)	0.4549
Pap smear useful to normal women	16(76.2)	165(94.8)	45(97.8)	0.1419
Total (n)	21	174	46	

A higher percentage of women with primary and post primary education had a better attitude than the illiterate group. More than 80% of these patients had a good attitude. About pap smear and cancer of the cervix compared to 76.2% in the illiterate group. None of these results showed a statistical difference.

TABLE 15: Percentage of women with correct attitude by current sexual partners.

Question	One No.(%)	Two or more No.(%)	P value
Think important to have pap	180(91.4)	41(89.1)	0.0169
Like pap smear done	181(91.9)	40(86.9)	0.0198
Like gynaecological exam by a doctor	186(94.4)	43(93.5)	0.9187
Like speculum exam	182(92.4)	40(86.9)	0.8747
Recommend pap to a friend	175(88.8)	42(91.3)	0.7387
Recommend speculum exam to a friend	169(85.8)	40(86.9)	0.8229
Pap smear useful on normal women	184(93.4)	42(91.3)	0.9946

The percentage of women with correct attitude is similar in the two study groups. Those who had single partners are more than 85.8% and the group with multiple sexual partners had 86.9%. The results of the first two questions showed some statistical significance as p value is < 0.05 .

COMMENT

Most of the women in the study population were married as represented by over 77% in any one of the pap smear class. However, marriage did not seem to be a risk factor of an abnormal pap smear as there was a uniform distribution in all the three pap smear classes. On the other hand, being single could be a risk factor of an abnormal pap smear since 5.1% of the women were represented in the group with positive pap smear compared to 1.1% in those with negative pap smear and 1.1% in the group with no previous pap smear. This finding was not statistically significant but other studies have suggested being single leads to promiscuity and subsequent abnormal pap smear (Barker, 1987). The group of women who were separated, divorced or widowed had a higher representation in the negative pap smear group (21.7%) compared to 12.8% in the positive pap smear group and 7.5% in the group not done pap smear. May be the majority of these were actually widows who had one sexual partner all their lives until their husband left them or died and therefore were less likely to have multiple sexual partners.

The study also shows that women with no education contributed a higher percentage in the group who had never had a pap smear done. This could mean that basic education plays a role in the practice of having a pap smear.

Occupation had some effect on pap smear class as shown by the fact that the income generating group had a higher chance of having a pap smear done. The reason for this could be that they were more educated or their interaction while engaging in the income generating activity could influence their knowledge.

Catholics and protestants made the majority of clinic attendees in the study population during the study period, the catholics utilised the services more than the protestants. Protestants have been reported to utilise the family planning services more than catholics in the study area (Mati, 1989). It is also known that in the study population, protestants form 55.0% while catholics compose 40% of this population according to the latest statistics from this study area (Mati, 1989). It is therefore surprising to note that the women using less family planning services are more likely to have had a pap smear than their counterparts.

This study has also shown that the majority of women had initiated sex below 19 years of age as shown by the age at first delivery. This finding is important to us since it is established that early sex is a risk factor of developing abnormal smears and cancer of the cervix (Barker, 1987).

More than 59.1% of women studied delivered their first babies as teenagers. However this did not influence the pap status as much as 59.1% of them did not have a pap done and 71.0% had a negative pap while 6.2.5% had a positive pap. Also delivering after age twenty had a similar distribution of pap status. This means that age at first delivery had no influence on pap smear class.

Most of the women in the study population who had multiple sexual partners before marriage did not have pap smear done. Yet it is also shown that a higher percentage of these women (66.7%) had positive pap smear compared to 53.1% of these with negative pap smears. It can be concluded that there is a risk of developing a positive pap smear with multiple sexual partners in the study population but these women did not utilise the pap smear services fully.

The number of current sexual partners did not influence the pap class status. The majority of the women in the study area were housewives. They were not promiscuous and hence chances of contracting sexually transmitted diseases which may be responsible for carcinogenesis such as the human papilloma virus were remote.

The clients who had a pap smear done and especially those who had a positive pap seemed to have better knowledge on what test was used to screen for cancer of the cervix. This means that their knowledge was influenced by the class of pap smear in the past. The clients who had a positive

pap smear were in a better position to know where pap smear was done than those who had a negative pap smear or those who did not have a pap smear done. Previous pap experience has some influence on knowledge on pap smear. This is shown by the fact that those who had a positive pap had 66.7% correct knowledge compared to 58.7% in those with negative pap and 26.4% of those with no previous pap. The study also shows that previous pap experience has some influence on the knowledge about cancer of the cervix. Those who had a pap smear done knew better what cancer of the cervix was and its symptoms than those who had not had a pap smear done in their lives. This may also suggest that discussions about cancer of the cervix/pap smear in the clinics is only held with women who have had a pap smear ignoring those women who have never had a pap smear.

Overall there was a general lack of adequate knowledge concerning pap smear in all the three study groups.

Basic education of the client contributed alot to the knowledge of pap smear and cancer of the cervix. Those who never attained any education had a lower percentage than those who had primary and post-primary education. However there was no significant difference in knowledge between the primary and post-primary basic education.

Explanation of some of the factors about pap smear and cancer of the cervix stimulated the clients to think and eventually gave better answers on the knowledge questions as

shown by the study.

The knowledge of the women was influenced by their occupation. However there was little influence since less than 50% had the correct knowledge about pap smear and cancer of the cervix before they were enlightened on what these were. The income generating group had better knowledge of pap smear and cancer of the cervix. This was probably due to their interaction when they go about their business. These women with an income generating activity are probably more educated than the housewives and hence more informed about pap smear and cancer of the cervix.

Having multiple sexual partners did not alter much the knowledge about pap smear and cancer of the cervix.

As many as 31.1% of the women with no pap smear done thought that they had pap smear done. It was also found that 5.1% of the women with positive pap smear thought they never had a pap smear done while 9.4% in the group with negative pap smear thought they never had a pap smear done. This can be explained by the fact that the procedures done on these women were not properly explained irrespective of whether they were for curative, preventive or diagnostic value.

The attitude towards pap smear was good in the study population. Most of the women had no objection to a gynaecological examination by a doctor. 90% of these women

thought a pap smear is important to them and their friends and they would recommend it to them. This would mean that such a rural population can be an ideal target population to enlighten and to recruit in a cancer control programme because of their willingness to participate.

Education seems to play a recognizable role in the women studied as pertains to their attitude. Those with primary education had better attitude than those with no education at all. However it can be said that since the attitude was more than 76.2% in the illiterate basic education played a minor role in the attitude of rural women at the time of the study.

The attitude was not changed much either by marital status, age at first delivery, occupational status and number current sexual partners.

CONCLUSIONS

1. The unprompted knowledge of women about pap smear and ca cervix in the study population was poor.
2. The attitude of women towards pap smear and cancer of the cervix in the study population was good.
3. Good awareness was not created in the minds of clients when a procedure was done on them.
4. Basic education, religion, multiple sexual partners, previous pap experience and occupation status had a positive influence on the knowledge on pap smear and cancer of the cervix.
5. Basic education plays a minor role on the attitude towards pap smear in rural women. The attitude did not change much with marital status, age at first delivery, occupational status and current sexual partners.

RECOMMENDATIONS

1. Campaigns should be instituted to raise pap smear awareness among the rural women through public barazas, mass media and target group counselling.
2. To train service providers in government hospitals and private sector on pap smear. Those in training service providers should be adequately trained on counselling techniques.
3. Since the problem of cancer of the cervix in our set up is common and the demand for pap smear is set to increase, there is need to expand the services provided for diagnosis and treatment of cancer of the cervix.
4. Health providers should be educated on importance of explaining patients about all medical and investigative procedures done on the patients.
5. Awareness (refresher) seminars for health workers should be carried out especially on counselling techniques.

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