

// **Case Records and Commentaries**

In

Obstetrics and Gynaecology 21

Submitted by

Dr. Sammy Kyalo Josphat

**For the Examination of Masters of Medicine in
Obstetric and Gynaecology**

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DEDICATION

This book is dedicated to my dear wife, Esther and our children Sam and Diana. They truly stood by my side at times of difficulties. They were my driving force, and readily available when my spirits were low. I sincerely appreciate their patience and understanding.

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8. To Doctor Amos Otara for his academic encouragement which enabled me to take up the course.
9. To Norah Otara for devoting her valuable time in typing and organizing the write up.

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, Kenyatta National Hospital.

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CERTIFICATE OF SUPERVISION

This is to certify that the long commentaries in this book by Dr. Sammy J. Kyalo were researched upon under our guidance and supervision and that this book is submitted with our approval.

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This is to certify that Obstetric Cases Nos. ...4..., 11 ,14 ,and
Gynaecology Cases Nos. ...2 , 14.....
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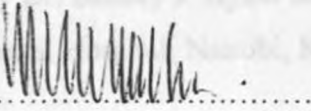
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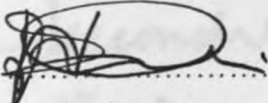
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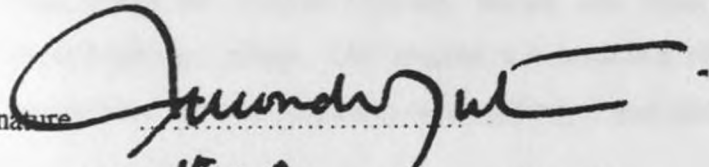
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CERTIFICATION

This is to certify that Obstetric Cases Nos. ...2 , 6 , 9.....and.
Gynaecology Cases Nos.7 , 12...
Were managed by Dr. Sammy J. Kyalo under my supervision
At Kenyatta National Hospital, Nairobi, Kenya.

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INTRODUCTION

Kenyatta National Hospital

Kenyatta National Hospital (KNH) is situated in the capital city of Kenya, Nairobi. It was started in 1901, when it was then known as the Native Civil Hospital. It serves as a national referral centre as well as serving the population within and around the city. It occasionally handles patients from the countries in the East and Central African regions.

It is currently administered as a State Corporation by a Parastatal Board established in 1986 by an Act of Parliament. It is a training centre for undergraduate and post-graduate students from the College of Health Science of the University of Nairobi. It is also a training centre for clinical Officers, Nurses and other paramedics from the Kenya Medical Training College. The hospital is housed in a 10 storey building complex with extensions that serve as outpatient clinics, theaters and laboratories.

Obstetric and Gynaecology Unit

The Obstetric Unit of the KNH was commissioned in 1965. Initially it catered for 1,500 deliveries per year, but now it caters for about 8,000 deliveries annually. Outpatient services are provided at clinic 18 (antenatal screening and follow-up, adolescent clinic, gynaecology outpatient clinic, and fertility clinic), family welfare clinic, and the casualty department. The in-patient department is comprised of the labour ward, lying-in wards, a neonatal unit and mothers hostel.

The department is divided into three Firms, each headed by a senior consultant obstetrician/gynaecologist, with a team of senior registrars, registrars, interns, nurses and paramedical staff. The senior medical staff is from both the University and the KNH.

The department utilizes the KNH laboratories and a departmental laboratory that also serves other University departments, whose facilities include, radio-immunoassay,

semenanalysis, cytology, surfactant bubble test, glucose tolerance test, bilirubin spectrophotometry, and chromosomal analysis.

The Casualty Department

This section has a receiving area for all obstetrical and gynaecologic emergencies. A Medical Officer under the supervision of senior members of staff screens all patients and admits those requiring emergency admission. Others are treated and discharged home. Those who require specialized consultation are referred to relevant clinics.

Antenatal Care (ANC)

Selection of patients with high risk factors in pregnancy and also booking of those mothers who wish to be followed up at Kenyatta National Hospital is done at the Monday ANC booking clinic by each of the three Firms alternately. The patients are first interviewed by the midwives who record personal history, obstetric history and medical/surgical history. Blood pressure, weight, height measurements, and urinalysis are done on every patient. A Senior registrar reviews all the patients and makes selection of high risk patients for follow-up in the ANC. This is done according to the following criteria.

1. Bad obstetric history (BOH); Recurrent abortions, previous still birth, neonatal deaths.
2. Previous obstetric complications; Postpartum hemorrhage, uterine rupture, and obstetric fistulae.
3. Medical conditions complicating pregnancy; anaemia, diabetes mellitus, thyroid diseases, renal disease, and deep venous thrombosis.
4. Primi-gravidae who are teenagers, elderly, short or have pelvic deformity.
5. Grand multiparity – para 5 and above.
6. Previous operative delivery, caesarian section, vacuum extraction.
7. Others, prolonged relative infertility period, rhesus incompatibility, multiple gestation.

The patients have to pay a deposit, for them to be followed up in this clinic.

For those patients booked in the ante-natal clinic, investigation forms are completed for ante-natal blood profile including, Hemoglobin level, serology test for syphilis, and blood grouping. The blood specimens are taken from the client by the phlebotomist at the routine laboratory. They are clerked by the Senior House Officers who record medical, gynaecological, obstetric and family history. About 40 high risk patients are selected every Monday. Those not booked are advised to attend the various peripheral health units for their ANC.

Antenatal Follow-up

The patients are seen four weekly up to 28 weeks gestation, two weekly up to 36 weeks and weekly till delivery. Each patient is treated on her won merit, and may be seen more or rarely less often.

Health education lectures are given to the patients in the antenatal clinic by medical personnel in appropriate clinical disciplines. This is done first thing in the morning when the patient reports to the antenatal clinic. Emphasis is on better nutrition, the importance of regular clinic attendance, psychological and factual preparation for labour and delivery, postpartum care and the need to make family planning decisions in the antenatal period. At each visit, the following are done;

1. The patient is weighed. The total weight gain since the last visit are calculated.
2. The blood pressure is recorded and compared with previous readings.
3. A urine specimen is examined for protein and sugar.
4. The patient is questioned regarding symptoms.
5. Any change in treatment as related by the findings is suggested.

The abdomen is examined at each visit. During the first 30 weeks, the principal information gained from abdominal examination is the rate at which the uterus is enlarging. The fetal heart can be heard with the fetoscope after 24 weeks of gestation,

and the fetal position and presentation can be determined with reasonable accuracy after 30 weeks of gestation.

Breasts are examined at least once during the third trimester of pregnancy. Those with inverted nipples are taught how to evert them in preparation for breast feeding. This provides a good opportunity to discuss the importance of breast feeding after child-birth.

Patients with severe medical complications e.g. Diabetes Mellitus, Preeclampsia, Deep Venous Thrombosis, cardiac disease etc. during pregnancy are admitted to the various maternity wards for observation, investigation and management.

At 36 weeks, clinical pelvimetry (pelvic assessment) is done on all primigravida. Radiological pelvimetry is performed on patients with one previous caesarian section with cephalic presentation, and those with breech presentation who have been assessed and found favourable for vaginal delivery. At 38 weeks amniocentesis for fetal lung maturity is done for patients planned for induction of labour or delivery by caesarian section.

Maternity Unit

The maternity unit is made up of labour ward, three antenatal wards and the newborn unit. Over 7,000 deliveries are conducted in labour ward annually.

The labour ward has the first stage cubicles each with one bed, and three delivery suites with two couches each. In addition there is an acute room for close monitoring of very sick patients. There are two operating theaters used for both emergency and elective obstetrics surgery, however only one is functional. There are two incubators in labour ward for transfer of preterm babies to nursery. There is an ultrasound machine used for inpatients. A cardiotocogram used for fetomaternal monitoring during labour for the fetus at risk is available.

Each antenatal ward has 32 bed capacity and there is usually no distinction between how many are allocated for antenatal patients and how many are for post-natal patients. Registrars review patients and do daily ward rounds, while major ward rounds are conducted once a week by the consultant in charge of each firm.

The newborn unit is managed by the Pediatrics Department. It has five nursery cubicles – one is an isolated nursery for infected babies and those born before arrival. There are 30 incubators and 10 cots in the newborn unit. All the newborn babies with problems or whose mothers are very sick are taken to the newborn unit for management. The obstetrics team work in close cooperation with the Pediatricians and combined weekly Postnatal Mortality meetings are held.

Patients admitted to the maternity unit are booked or referred. The booked patients present to the labour ward directly for admission. Those unbooked or referred are admitted through casualty. Patients who are not in labour or requiring emergency care are transferred to the various antenatal wards for observation and management.

Labour ward is managed by the firm on call each week. The team is composed of nurses, midwives, intern-doctors, registrars, senior registrars, and consultants. On admission the intern-doctors and registrar respectively take full history and conduct a thorough examination of the patient. The antenatal care card is also reviewed.

Aseptic digital examination is performed on all patients in labour except where history of antepartum hemorrhage or premature rupture of membranes is present. Instead, a sterile, gentle speculum examination is done in these cases. Pelvic capacity is also noted.

First Stage of Labour

Patients in acute labour, are admitted into the first stage, where a partogram is started at once. The partogram indicates the patient's particulars and unit number, blood pressure, pulse rate, respiratory rate and her body temperature. The fetal heart rate and its regularity, cervical dilatation, drainage and colour of liquor, the portion of presenting part above the pelvic brim, duration and frequency of uterine contractions, medications and urine examination are also recorded. The alert and action line are already drawn and therefore the cervical dilation at the time of admission is recorded and thereafter four hours apart. The partogram is charted every thirty minutes for the other parameters.

The patient is nursed in left lateral position, and is reviewed at regular intervals by the registrar, during which appropriate interventions are effected if the progress is poor. Amniotomy is done as soon as active phase labour has been diagnosed by cervical dilation, uterine contractions and descent of the presenting part. Analgesia if indicated is provided by parental pethidine. Patients with meconium staining liquor but regular fetal heart rates are maintained on oxygen by mask, 5% dextrose infusion and nursed in left lateral position. In those with poor progress, labour is augmented with oxytocin infusion.

Routinely induction of labour is started in the morning, usually by amniotomy and oxytocin drip. Prostaglandin vaginal pessaries/swab may be inserted the night before to ripen the cervix where indicated. Extra-amniotic prostaglandin induction is used for cases with intrauterine fetal death.

Second Stage of Labour

Once confirmation of full dilatation of the cervix is done in the first stage section, the patient is then taken to second stage (delivery room) where normal delivery is conducted in the dorsal position. Asepsis is observed throughout the conduct of this stage of labour. The vulva and perineum are prepared by doing a vulvo-vaginal toilet, and the

perineum draped with sterile towels. The patient is then instructed to bear down with each uterine contraction.

The perineum is supported by the right hand with a sterile pad, while the left hand keeps the head in flexion, and prevents sudden expulsion. This prevents sudden trauma of the perineum and to the fetal head in preterm babies. Once delivery of the head has occurred, the mouth and nares are wiped with a sterile gauze to prevent aspiration of blood or amniotic fluid. A finger is passed at the neck to check for the umbilical cord. When found and if loose, it is slipped over the head. If it is tight, it is double-clamped and divided. After restitution and external rotation has occurred, the anterior shoulder is delivered by downward traction of the baby, then the posterior shoulder by upward traction. The rest of the body easily follows. The cord is clamped and divided. The mother is shown the baby briefly before the baby is handed over to another midwife who will carry out oral-pharyngeal suction as required. In high risk cases, a paediatrician is usually in attendance.

Third Stage of Labour

At delivery of the anterior shoulder, 0.5mg ergometrine is given intramuscularly to effect contraction of the uterus. For patients with history of postpartum hemorrhage and grandmultiparity it is given intravenously for a more rapid action. For cardiac and hypertensive patients, oxytocin 5 units intravenously is given if uterine contraction does not occur spontaneously.

The placenta and membranes are delivered by controlled cord traction after signs of separation, (rise in uterine fundus, lengthening of the umbilical cord and a gush of blood), have occurred. The birth canal is inspected for any tears and episiotomy repair. The patient is encouraged to empty the bladder. Post delivery blood pressure, pulse rate, uterine contraction and lochia loss are observed and clearly recorded. The patient is further observed for 1 hour and then transferred to the lying-in wards for subsequent

Observations. Patients with normal delivery are discharged after 24 hours due to pressure of bed space. They are nursed together with their babies to establish good lactation.

The patient is advised on perineal hygiene and frequent sitz baths until healing occurs.

Operative Procedures

Episiotomy

A mid-line or medio-lateral episiotomy is performed at crowning of the fetal head at the perineum in all cases where the perineum is tight and for some cases of operative vaginal deliveries and pre-term delivery. A medio-lateral episiotomy is commonly used in this unit. It has less risk of extension to the anal sphincter and rectum.

During repair a gauze pack is inserted into the vagina. The apex at the vaginal mucosa is identified. From the apex, repair of the vaginal epithelium is carried out with continuous chromic catgut 2/0. The perineal muscles are then approximated by deep interrupted sutures. The skin edge is then apposed using interrupted or continuous catgut 2/0 burying the knots and starting from the lateral edge. The patient is advised on perineal hygiene and frequent sitz baths until healing occurs.

Vacuum Extraction

The common indications for assisted vacuum delivery are poor maternal effort, fetal distress or cord prolapse with a fully dilated cervix, and in patients with cardiac diseases or hypertension.

The patient in lithotomy position, a digital examination is done to confirm a fully dilated cervix and cephalic presentation. The largest ventouse cup that fits into the vagina is applied to the fetal scalp close to the occiput. The index finger of the right hand is passed around the perineum to ensure that no maternal tissue (cervix and vagina) is trapped

within the cup. The vacuum suction pressure is gradually increased at a rate of 0.2Kg/cm^2 to $0.5 - 0.8\text{Kg/cm}^2$. This allows for the formation of an artificial caput or "Chignon." A medio-lateral episiotomy is made under local anaesthesia, if required, at the time the head is crowning.

The traction pressure is applied along the midline of the pelvis and simultaneously with the uterine contractions. Once the baby's head is delivered, the ventouse cup is released immediately and the second and third stages of labour conducted as usual.

Caesarian Section Deliveries

The lower uterine segment caesarian section is the commonest major obstetric operation, done either electively or as an emergency. Classical caesarian section is rarely done except for cases of transverse lie with ruptured membrane.

Pre-Operative Management

The hemoglobin estimation and blood grouping and cross-matching are done. Those undergoing the operation electively are starved for 6 hours prior to the operation. Informed consent for the operation and for general anaesthesia is obtained. Two units of compatible blood are obtained. The abdominal wall, vulva and perineum are shaved clean. Premedication is given in the form of Atropine sulphate 0.6 intramuscular half an hour before going to theater. For cardiac patients, 0.4mg hyoscine is used instead.

Surgical Procedure

In theater the patient is placed in a supine position, and an intravenous infusion is started through a large bore needle. In semi-lithotomy position, the vulva and perineum are cleaned with 1% savlon solution. Aseptic catheterization is carried out and all the urine drained and the catheter retained. The patient is repositioned to supine position. The anterior abdominal wall is cleaned with antiseptic solution and spirit/iodine solution then

draped with sterile drapes exposing only an area bound by the mons pubis below to 4cm or so above the umbilicus 2cm on each side of the mid-line.

100% pre-oxygenation is given for 5 minutes. General anaesthesia is then induced with intravenous Thiopentone sodium 250 – 500mg and a short acting neuromuscular blocking agent – suxamethonium 100mg. Anaesthesia is maintained with Nitrous oxide and oxygen in a ratio of 1:1 before the baby is born and a ratio of 2:1 after delivery of the baby, a total of 6 – 8 litres per minutes is used depending on the circuit used.

Throughout, Halothane 0.5% or Trilene 0.35% is used to maintain unawareness. When the effects of suxamethonium has worn off, pancuronium or d-tubocurarine, long acting muscle relaxant is used.

The abdomen is then opened in layers through a Pfannensteil incision or a mid-line subumbilical incision or rarely a paramedian incision. With a clean knife the incision is deepened, the rectus sheath is divided and elevated with two long artery forceps and the muscles are separated from their attachment to it by blunt dissection, then drawn to one side to expose the peritoneum. The latter is held with two long straight artery forceps and opened taking care not to injure the gut. The incision limits, avoiding injury to the bladder and bowels.

The uterus is then identified, wet sterile warm abdominal packs are placed on either side of the uterus to prevent spillage of blood and liquor into the general peritoneal cavity and also to protect the gut. A Doyen's retractor is then used to reflect the bladder downwards as well as to expose the utero-vesical fold of peritoneum. Using a non-toothed dissecting forceps the loose peritoneum over the lower uterine segment is picked up and incised with curved scissors in an elliptical manner. The peritoneum is then stripped off the lower uterine segment with a mounted swab. The Doyen's retractor is shifted to include the lower part of the peritoneal fold in retraction of bladder away from the lower uterine segment. The lower uterine segment is then incised in the middle about two centimetres below the uterine attachment of the utero-vesical peritoneal fold. Once the membranes

are reached the incision is extended laterally on either side in an elliptical manner using curved scissors directed by two fingers of the left hand and the incision is enlarged enough to allow delivery of the head and trunk. The retractor is removed. The membranes are then ruptured and using either hand which is slipped into the uterus between the fetal head and the symphysis pubis the head is lifted gently with the fingers and palm through the incision while a modest fundal pressure is applied. After delivery of the head the nostrils and mouth are wiped. The shoulders are then delivered using gentle traction, the trunk delivery follows readily. Intravenous Ergometrine 0.5mg is given by the anaesthetist at delivery of the shoulders. The cord is then clamped and divided and the baby handed over to the assistant for resuscitation.

The placenta and membranes are delivered manually or by controlled cord traction. Green Armytage uterine clamps are used to hold the cut edges of the uterus to control bleeding and the inside of the uterus is wiped of clots. If the cervix was not dilated in labour it is now dilated with a swab or sponge holding forceps to allow postpartum lochia drainage. The uterus is then repaired, it may be lifted out through the incision. It is closed with number two chromic catgut in two layers, a continuous stitch for both layers, the second layer burying the first and extending beyond its lateral edges. The visceral peritoneum is then closed with number one chromic catgut continuous stitch.

The abdominal packs are removed, the abdomen is mopped and the pelvic viscera then inspected for any abnormality. Instruments and swabs are counted, if reported correct with the initial count, the abdomen is closed in three layers; the peritoneum with Number 1 chromic catgut, the rectus sheath with Number 2 chromic catgut, and the skin with interrupted Nylon or silk suture. The wound is cleaned with Hibitane solution 1, covered with gauze then closed. The catheter is removed, and the colour of urine noted. The uterus is massaged and any blood clots expressed and evacuated from the vagina and a clean vulval pad applied.

General anaesthesia is reversed with 1.2mg Atropine sulphate, and 2.5mg Neostigmine. Extubation is done and oro-pharyngeal suction carried out. Blood loss is estimated and recorded, the patient is then transferred from the theater into labour ward/recovery room.

Post Caesarian Section Care

The pulse, blood pressure, temperature and respiratory rate are observed and recorded half hourly till the patient is fully awake then 4 hourly. Parenteral pethidine 50 – 100mg is given 4 – 8 hourly for 48 hours for the relief of pain, the dose is dependent on the patients weight. When the patient is allowed oral intake, further analgesia, usually oral paracetamol is given in a dose of 1000mg three times per day. Prophylactic antibiotics are administered routinely to all patients. Initially the patient is observed in labour ward. If her general condition remains stable and satisfactory, she is transferred to the lying-in wards. Early ambulation is encouraged. Hemoglobin and urine bacteriological examination are done on the third post-operative day. Two litres of intravenous fluids are given in the first 24 hours (with at least 500mls of normal saline).

Normal diet is gradually introduced after free fluids and light diet. All stitches are removed on either 6th or 7th postoperative day when the patient is discharged home with a case summary. She is advised to attend the child welfare clinic, and the postnatal clinic in two and six weeks respectively.

Care of the Newborn

All the newborn babies who are normal join their mothers after delivery unless the mother is moribund. The babies with problems, or where complications are anticipated together with babies delivered by operative vaginal delivery or by caesarian section are all reviewed by a pediatric registrar. Those having problems or who may develop some problems are transferred to nursery in a warm incubator.

The premature babies are managed in nursery until their weight is about 2000gm when they are discharged. All babies are immunized with BCG, before discharge. The normal mothers who have babies in nursery are lodged in a mothers' hostel.

Postnatal Follow-up

The clinic is held on every Friday. Only those patients who had a complicated or operative delivery are seen. The rest are followed up in their nearest health facility.

The blood pressure and weight are taken, analysis is performed, history is taken of the puerperium, lactation and immunization of the baby. The patient is then examined and any problems managed, family planning advice is given and the patient referred to a family planning clinic for various methods.

Family Planning Clinic

The clinic is at Family Welfare Centre – Clinic 66. Oral and injectable contraceptives, Norplant implants, Intrauterine contraceptive devices and barrier methods are offered. Patients requiring postpartum sterilization are prepared for operation in labour ward theater after informed consent. Patients requiring interval sterilization are counseled and referred to Clinic 66, for the procedure by mini-laparotomy or laparoscopy.

The Gynaecology Unit

This is comprised of an outpatient consultant clinic, wards 1B, and 1D on the first floor of the tower block; In ward 1D, emergency services are provided throughout the 24 hours and is manned by the Acute gynaecology team.

The Gynaecology Clinics

There are three outpatient clinics per week; Firm I on Tuesday, Firm III Wednesday and Firm II on Thursday. At any time, there are 1 or 2 consultants, several senior registrars, registrars, medical students and nurses.

There is an additional oncology clinic on Friday mornings for oncology patients on follow up. A colposcopy clinic is held. A fertility clinic every Friday morning, infertility on Monday afternoons. The majority of patients attending the gynaecology clinic are referred from other specialist clinics in Kenyatta National Hospital, other hospitals in and around Nairobi and from District and Provincial Hospitals.

Infertility cases constitute about two thirds of the gynaecology consultation, followed by uterine fibroid, abnormal uterine bleeding and adnexial masses. In the clinic, history is taken, thorough physical examination is conducted and most of the investigations are done in the clinic to eventually reduce the hospital stay. These investigations include, haemogram, semen analysis, pap smear and pregnancy test among others.

Cold Gynaecology Admission – Ward 1B

This is the non-emergency ward, to which patients are usually admitted from the clinic or are transferred from the Acute Gynaecology ward for further management. The ward has 32 beds. Commonly, the patients admitted here have uterine fibroids, genito-urinary fistulae, gynecology malignancies and infertility among others.

Acute Gynaecology Admission – Ward 1D

The emergency gynaecology ward is ward 1D on 1st floor of the main block. It has over 33 beds, each room has 8 beds.

On average 20 – 30 patients are admitted per day majority of whom are cases of abortion admitted through casualty department. They are clerked by the houseman and reviewed by the registrar who undertakes the management in consultation with senior members of the firm. Other common cases include ectopic pregnancies, acute pelvic inflammatory disease (PID) and pelvic abscess.

Uncomplicated cases of incomplete abortion have uterine evacuation done in one of the rooms in ward 1D, using Karman's cannula and syringe. They are discharged home on the same day if stable or the next day after observation in the ward. These patients are counseled for contraception and those willing are put on a method of contraception before discharge.

Patients who have undergone emergency laparotomy for e.g. pelvic abscess, or mass, ectopic pregnancy have a minimum stay of four days postoperative.

Patients with suspected carcinoma of the cervix are admitted to this ward. They receive emergency care, blood transfusions, antibiotic treatment etc. Routine clerking and laboratory investigations are done. Thereafter the patients are prepared for examination under anaesthesia (EUA) in theater for staging and biopsy. They are then transferred to the oncology ward for definitive management on receiving the histology report.

Laparoscopy Theater

Besides serving as the Family Welfare Clinic for Family Planning methods, the theater in clinic 66 is used for interval sterilization by minilaparotomy or laparoscopy, and diagnostic laparoscopy.

Commonly dye laparoscopy is done for patients referred from the outpatient gynaecologic clinics with infertility. Before laparoscopy the patient should have a seminalysis result and a hysterosalpingogram.

Gynaecologic Operations

A theater is reserved for emergency gynaecological operations. Laparotomies for ectopic pregnancies, ovarian cysts, tubo-ovarian masses, pelvic abscesses are done and other minor operations e.g. marsupialization, removal of misplaced intra-uterine devices, diagnostic and suction curettage of the uterus.

Each of the 3 (three) firms has a day for Elective operations from 8 a.m. – 5 p.m. The operations are done under General anaesthesia as outlined below: -

- i. Intravenous sodium thiopentone and succinyl choline are used for induction of anaesthesia.
- ii. Nitrous oxide, Oxygen and Halothane are used for maintenance of anaesthesia.
- iii. Curare is given intermittently for muscle relaxation.
- iv. Atropine and Neostigimine are used for reversal.

Preoperative Management

Patients for emergency laparotomy are prepared for theater immediately. Premedication is given as atropine 0.6mg intramuscularly half an hour before operation. Blood is cross-matched and intravenous drip started.

For elective operations, routine (baseline) and special investigations are done and the date for surgery determined. The patient is starved from midnight on the evening prior to operation. A soap enema is given in the evening. The abdomen and pelvic hair is shaved. Premedication is given in form of atropine 0.6mg and pethidine 50mg intramuscularly half hour before theater.

Postoperative Management

Vital signs are observed half-hourly till the patient fully recovers from anaesthesia and then 4 hourly. Prophylactic antibiotics usually crystalline penicillin 2 mega units 6 hourly and Gentamicin 80mg 8 hourly for the first two days, then oral amoxicillin 500mg 8 hourly for five days is given. The patient is maintained on intravenous fluids, 2.5 litres in the first 24 hours. Oral feeds are then re-started after ascertaining presence of good bowel sounds. Early ambulation is encouraged. Pethidine is given intramuscularly for analgesia. Postoperative hemoglobin level is checked on the third postoperative day. The wound is hence inspected on the sixth post-operative day and when well healed, alternate stitches are removed. All stitches are removed on the following day. The patient is then discharged to be followed up in the gynaecology out patient clinic.

Common Operations

1. Uterine Evacuation

This procedure is performed on emergency basis for incomplete abortion to empty the uterus of products of conception. A Karman cannula and syringe is used under no sedation.

The patient is positioned to a lithotomy position. The vulva and perineum are cleaned with antiseptic solution. The patient is then draped with sterile linen. The bladder is catheterized to drain urine. A pelvic examination is done to determine the size of the uterus and cervical dilatation. A speculum is then introduced gently into the vagina and the cervix is grasped with a tenaculum forceps (volsellum) and the appropriate size of cannula gently inserted into the uterus. Negative pressure is applied to the syringe which is then connected to the cannula and the valve opened.

The contents of the uterus are sucked into the syringe as the canulla is moved up to the fundus of the uterus and rotated through the four quadrants. Completeness is noted when there is a gritty feeling in the four quadrants.

The patient is then discharged home on oral antibiotics and analgesics. If the products of conception are found to be septic the patient is started on parenteral broad spectrum antibiotics.

2. **Total Abdominal Hysterectomy**

General anaesthesia and induction is done as described above. A Vulvo-vaginal toilet is performed with hibitane lotion. Under septic conditions the bladder is catheterized and the catheter left insitu to maintain continuous bladder drainage during the operation. Pelvic examination under anaesthesia is performed and findings noted. The vagina is painted with methylene blue dye. The abdomen is cleaned with hibitane and painted with iodine, and draped with sterile towels.

The abdomen is opened in layers as described for caesarian section. The round ligaments are identified and on either side, using straight long artery forceps the round ligament is clamped and divided between the two forceps. The lateral stump is transfixed with No. 2 chromic catgut. The interior leaf of the broad ligament is parched forwards and incised with scissors.

The next step depends on whether the tube and the ovary are to be conserved or removed. If they are to be conserved, the tube and the ovarian ligament are double clamped en masse and cut using a scalpel. The distal clamp holds the ovarian vessels as they approach the anastomosis with the uterine vessels. This stump is ligated using a transfixing chromic catgut No.2 suture. The same is done on the opposite side. If the tubes and ovaries are to be removed with the uterus, the infundibulopelvic portion of the broad ligament is doubly clamped with long curved artery forceps with the tips reaching the open window in the

broad ligament. The ligament together with the ovarian vessels are divided between the clamps and ligated using chromic catgut No. 2. The same is done on the opposite side.

The reflection of the bladder positioned onto the uterus is then freed by extending the incision in the anterior leaf of the broad ligament towards the midline.

The bladder is thus separated from the lower uterine segment, the cervix and the vagina by careful sharp and blunt dissection of the fascial fibres beneath the bladder wall. Usually the bladder can be displaced into the lower pelvis quite early, but if it is adherent, it is surgically released.

The posterior leaf of the broad ligament on either side is cut parallel with the side of the uterus to better demonstrate and skeletonize the uterine vessels between the leaves of the broad ligament for clamping. These are doubly clamped and cut using a scalpel and freed from the uterus by extending the incision around the tip of the distal clamp. This enables adequate ligation. Care should be taken to avoid freeing the tissue beyond the tip of the clamp, as this could permit bleeding from vessels that are not included in the clamp. Before clamping and cutting the uterine vessels it is always advisable to palpate the lower portion of the pelvic ureters as they cross beneath the uterine artery, lateral to the internal os, and pass medially through the base of the broad ligament to the trigone of the bladder. The uterine vessels are ligated with chromic catgut No. 2.

The uterus is retracted forward and upward to demonstrate and stretch the uterosacral ligaments posteriorly. A transverse incision is made through the uterine reflection of the cul-de-sac peritoneum between the attachment of the two uterosacral ligaments. The peritoneum is then incised with the scalpel and reflected, mobilizing it past the cervix to the position vaginal fornix. Usually this procedure is associated with hemorrhoidal vessels which are inserted into the rectum. Each uterosacral ligament is double clamped, cut and ligated with No. 2

chronic catgut suture. Here particular care is exercised to avoid the pelvic portion of the ureter as it courses along the base of the broad ligament. The cardinal ligaments of either side of the uterus are then clamped, cut and ligated.

The anterior vaginal fornix is opened with a scalpal and the vagina is circumcised by sharp knife or dissection by scissors. As the anterior, posterior and lateral angles of the vagina are opened straight artery forceps are used to secure the vaginal margins. These margins are then closed using a series of figure-eight sutures. Particular care is taken when tying the lateral angles to ensure that the descending vaginal branches of the uterine vessels are securely ligated.

Suspension of the vaginal vault is done by tying the peritonization suture to the lateral and mid suture of the vault. Peritonization is accomplished by means of a continuous No. 1 chronic catgut sutures that first pierces the vaginal walls near the midline and passes through the posterior leaf of the broad ligament, the free margin of the uterosacral ligament, then through the infundibulopelvic ligament, the free margin of round ligament and the anterior bladder peritoneum. The suture is tied at the centre. The same is done on the opposite side with the suture being tied at the midline.

The abdominal viscera are inspected. If haemostasis has been achieved, and instrument and swab counts are normal, the abdomen is closed in anatomical layers. General anaesthesia is reversed and the patient is then managed as described in postoperative care above.

... (faint text) ...

14.5	10/14/14	12/14/14
14.5	10/14/14	12/14/14

... (faint text) ...

OBSTETRIC SHORT CASES

... (faint text) ...

Case No. 1

Human Immunodeficiency Virus infected Mother At Term On AZT Prophylaxis - Elective Caesarean Section

Name : N. K. Parity : 0 + 0
DOA : 23/08/2001
IPNO. : 0756714
Age : 28 Years DOD : 02/09/2001

Presenting Complaints

Patient had a positive HIV test in pregnancy.

History of Presenting Illness

The patient was admitted from antenatal clinic at 38 weeks gestation for elective cesarean section. She had started her ANC at a gestation of 26 weeks at Kenyatta National Hospital. She had no complaints but when her routine antenatal profiles including HIV test were done, she was found to have a positive ELISA for HIV. She had 9 visits and at 36 weeks gestation she was started on AZT prophylaxis. She was counselled about her status and the risks of transmitting the disease to her child. She was informed that antiretroviral drugs and delivery by cesarean section would greatly reduce this transmission. She was also advised against breastfeeding and agreed not to breastfeed her baby. She was to use commercial feeds. Her husband did not show up for the test and therefore advised to use condoms to avoid reinfection and also to avoid spreading the disease. She consented for an elective cesarean section. She was scheduled for admission at 38 weeks gestation.

Past Obstetric and Gynaecological History

She attained menarche at 14 years. Since then her periods have been regular coming after every 30 days and lasting for 3 days. She was para 0 + 0 gravida 1. Her last menstrual period was on the 17/11/00 and therefore her expected date of delivery was 24/08/2001. Therefore she was at 39 weeks plus 6days at the time of admission. She had not used any contraceptive method.

Past Medical History

This was not significant.

Family and Social History

She was a married lady working with GlaxoWellcome as a Cook. Her husband worked with an Insurance Firm in town and he had no chronic illness. She never used to take alcohol or smoke cigarettes. There was no family history of any chronic illness in the family.

Physical Examination

She was a young woman in good general condition. She was not pale, not jaundiced. She had no oedema or lymphadenopathy. She was afebrile with a temperature of 36.9⁰C. Her blood pressure was 100/60mmHg and respiratory rate of 22/minute. Her pulse rate was 76 beats per minute regular and of good volume.

The respiratory, cardiovascular, and the central nervous systems were essentially normal.

Abdominal Examination

She was gravid with a fundal height corresponding to term. The fetal lie was longitudinal and the presentation was cephalic. The head was 5 fifths above the pelvic brim. The fetal heart tone was 136 per minute and regular. She had non-contractions. The liver and spleen were not palpable.

Diagnosis

An impression of a HIV positive mother on AZT Prophylaxis at 39 weeks gestation on ARV prophylaxis was made.

Investigations

Blood Group	:	A Rhesus "D" Positive
VDRL	:	Negative
Haemoglobin	:	11.8gm/dl
Urnalysis	:	Normal
Urea and electrolytes	:	Na ⁺ - 140/mmo/l
		K ⁺ - 3.7 mmo/l
		Urea - 1.7mmo/l
		Creatine - 80 µmol/l

Management

The patient was prepared for elective cesarean delivery. Informed consent was obtained. Blood was taken for cross-matching and 2 units of compatible blood was available on the operation day. She was pre-medicated with 0.6mg atropine sulphate 30 minutes before she was wheeled to theatre.

In theatre vulval toilet was done and the bladder catheterised. Pelvic examination found a closed cervix. She was placed in supine position. The abdomen was cleaned and draped with sterile towels. She was then put under general anaesthesia and abdomen opened through a sub-umbilical midline incision. A lower uterine segment cesarean section was performed. A life female infant weighed 3060gm was delivered. The baby's cord was double clamped and cut using a pair of scissors different from those used to operate the mother. The baby was wiped with antiseptic solution. The Apgar score was 8 at one minute and 10 at five minutes. Amniotic fluid was clear. 0.5gm of engometrine was given intravenously. The placenta was fundal anterior and was delivered manually in toto. The uterus was closed in 3 layers. Swabs and instrument count was found correct. The abdomen was then closed in layers. The placenta weighed 550gm and the estimated blood loss was 600mls. Vulvo-vaginal toilet was done. The urine was noted to be clear and the catheter was removed. Anaesthesia was successfully reversed.

Post Operative Management

The temperature, pulse and blood pressure and respiratory rate were observed half hourly till when she was fully awake and then 4 hourly. The vital signs remained normal. Intravenous fluid were continued for 24 hours. Pethidine 100mg 8 hourly was given intramuscularly for analgesia for 24 hours. Intravenous crystalline penicillin 2mu 6 hourly and gentamycin 80mg 8 hourly was given as antibiotic cover for 48 hours then changed to oral antibiotics. The post operative period was uneventful. The baby was well and was no to be breast-fed ,was started on formula feeds. Due to this the mother was started on oral Bromocriptine 2.5mg 12 hourly for 5 days. Check haemoglobin was 10.5g/dl on her third post operative day. The wound was healing well and was discharged on the fiftyth post operative day for removal of stitches in the nearest health institution on the 7th post operative day. She was discharged to attend postnatal clinic after 6 weeks. The baby was started on prophylaxis with AZT for 6 weeks at 2mg/Kg/day. At the time of discharge the baby's serological status was not known.

Postnatal Clinic

She was seen in the postnatal clinic after 6 weeks and both herself and her child were doing well. The incision site had healed well. She was advised on contraception and safe sexual behavior. She was referred to our family planning clinic.

Discussion

Presented is a 28-year-old para 0 + 0 who was admitted for elective cesarean section at term due to HIV infection. Both mother and baby remained health.

The seroprevalence of Human Immunodeficiency virus (HIV) infection in pregnancy among screened antenatal mothers in East Africa is as high as 20 – 32% (1, 2). Seroprevalence as high as 41% has been reported from South Africa (3).

At the end of 1998 more than Thirty three million people were living with HIV, almost half of whom were women in their reproductive years (4, 5). Over one million children are living with HIV contracted predominantly through infection from their mothers.

There are two main types of HIV: Type I (HIV) is the most common, with Type II (HIV - 2) found predominantly in West African (6, 7). The clinical course of HIV – 2 infection is slower than that of HIV – I. Dual infection with HIV-1 and HIV – 2 is possible although it has been suggested that HIV – 2 infection may confer some protection against HIV – 1 acquisition (7).

The issue of screening for HIV in Antenatal Care (ANC) clinics is contentious but can be resolved with careful consideration. At Kenyatta National Hospital overall acceptability of 99.4% was found, when HIV testing was offered during ANC (8). However this testing was found to interfere with continuance of care for these women (6). Our patient had been counselled for the importance of HIV testing in ANC and she agreed. The test showed she had ELISA Positive for HIV. ELISA test is the commonest used screening

test for HIV. Other diagnostic test for HIV test include, Western blot, Viral Culture, CD4 lymphocytes count. The last 2 are important in assessing the severity of the disease and viral load quantification. Our patient was not done these other investigations.

In pregnancy, immune function is suppressed and there is decrease in immunoglobulin, complement levels, and cell mediate immunity (9). These normal changes during pregnancy have led the concern that the effect of pregnancy among HIV infected women could be to accelerate the progression of the infection. Earlier reports seemed to support this (10, 11). Prospective studies have failed to confirm these findings (12). In a Kenyan study the difference in the changes over pregnancy in CD4 and CD8 cells and their ratio were not statistically significant between HIV Positive and negative women (13). Our patient had no complications during her ANC follow up.

Pregnancy in HIV infected women is a high risk pregnancy. Increased rates of abortion, and prematurity have been reported in these women (1). No increase in the rate of congenital abnormalities has been reported in the HIV infected women over the general population (1).

Reported rates of transmission of HIV from mother to child ranges from around 15% - 25% in Europe and USA, to 25% to 40% in some African and Asian Studies (14, 15). Transmission of HIV-I can occur in utero, at time of labour, and delivery or postnatally through breast-feeding. In early pregnancy it is thought to occur by invasion of the virus through the villus stroma into the fetal circulation via Hofbaner cells or by invasion of trophoblast (16).

Majority of vertical transmission however occurs during labour and delivery (1, 4). There is increased risk of vertical transmission in prolonged labour chorioamnionitis and this seems to be related to the length of time during which the baby is on contact with cervical and vaginal secretions (1, 4).

The successful use of antiretroviral therapy and replacement feeding in developing countries has led to suggestions that it may eventually be possible to reduce prenatal transmission rates to less than 2%.

The only interventions proven to be effective in reducing mother – to-child transmission of HIV at present are the use of Zidovudine (either as a long course through pregnancy and labour and for six weeks to the infant or as a short regimen), Cesarean section and avoidance of breast feeding.

The success of the pediatric, AIDS clinical trial group (PACTG) trial PACTGO 76, of the use of Zidovudine in pregnancy in asymptomatic women has been a major advance in prevention of mother – to – child transmission of HIV – 1 (17). This comprises of antepartum Zidovudine (100mg orally five times daily and intrapartum Zidovudine (2mg per kilogram per hour until delivery) and Zidovudine for the newborn (2mg/Kg orally every 6 hours for six weeks). This reduced the risk of material infant transmission by approximately two thirds (17). However, because of its complexity and costs, this regimen has not been implemented in most developing countries.

The short drug regimens in pregnancy would be more feasible in resource – poor settings, in this regimen zidovudine 300mg orally twice daily from 36 weeks gestation until onset of labour, and 300mg every three hours from the onset of labour to delivery is used. Mothers are advised not to breast feed. The Bangkok Prenatal AZT study used this regimen with an outcome of 50% reduction in transmission risk (18). Our patient was started on this regimen and elective cesarean was scheduled to further reduce the chance of transmission during labour. Nevirapine (NVP) a non nucleoside benzodiazepine derivative, potent inhibitor of HIV replication has also been used as a single oral dose given to HIV infected mothers during labour and a single 2mg/Kg, infant dose at 2-3 days of life, and is thought to be superior to AZT (19).

Other methods on trial include use of passive and active immunization to the mother and or child with Hyperimmune intravenous immuno globulin (HIVIG). Reports linking low

vitamine A Levels in HIV Positive mothers to an increased risk of infections have lead to suggestions that vitamin A administration may help to prevent vertical transmission (20).

Recent studies have established that, elective cesarean delivery; prior to labour and membranes rupture reduces perinatal transmission (14, 21, 22). Cesarean delivery reduced the risk of prenatal transmission by 50% in addition, elective cesarean delivery combined with the three part AZT prophylaxis regimen reduced transmission by about 85% compared with other modes of delivery (21, 22). Our patient had AZT since 36 weeks gestation and hence was done elective cesarean section at term.

Chlorhexidine has been shown to neutralize HIV in vitro. Vaginal cleansing with 0.25% Chlorhexidine during labour combined with infant washing after birth has been used in the reduction or prenatal transmission (1, 4). During labour avoidance of invasive procedures like fetal scalp sampling and scalp electrodes is advised (1, 4).

Antenatal HIV screening should be emphasized so that many mothers can be picked and started on the above regimen of prophylaxis to reduce vertical transmission. Contraceptive advice should be given and early arrangements made to start with an appropriate method. Contraceptive advice is particularly important when a mother does not breast feed because of the loss of the contraceptive properties of breast feeding (23).

This mother accepted to be done HIV screening during her ANC. She received the positive results with difficulties but with farther counselling, she accepted her status. Therefore antenatal mothers should be encouraged to do HIV test, so as to take the necessary precautions to reduce mother to child transimmisoin.

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Case No. 2

Severe Malaria in Pregnancy – Successful Chemotherapy – Live Baby

Name	:	M. M.	DOA	:	18/07/2001
IPNO.	:	0750754	DOD	:	28/07/2001
Age	:	25 Years	Parity	:	2 + 0

Presenting Complaints

She was admitted through casualty with complaints of fever, chills, headache, easy fatigability and palpitations for a duration of 2 weeks.

History of Presenting Complaints

She was well until 2 weeks prior to admission when she developed headache and fever. This was followed by chills and generalized body pains. She had occasional vomiting. Later she developed general body weakness with easy fatigability and palpitations. There was no history of travelling from her residential area prior to the onset of this problem. There was no history of vaginal bleeding or drainage of liquor.

Obstetric and Gynaecological History

She had attained her menarche at 18 years. She had regular menstrual cycles every 30 days with the duration of flow lasting 4 days. She never experienced any dysmenorrhea. She was para 2 + 0. Her last delivery was 1999 by spontaneous vertex. Her last menstrual period 04/11/2000 and her expected date of delivery was 11/08/2001 giving her a gestation of 36 weeks at admission. She had used oral contraceptive pills in 1996 for three months but stopped due to nausea.

She had attended antenatal clinic at Kahawa Health Centre. She had four visits and was treated for malaria a month prior to admission with Amodiaquine but she was not started on prophylaxis treatment for malaria.

Past Medical History

This was not significant.

Family and Social History

She was a married housewife staying with her husband at Githurai. She did not smoke cigarettes or drink alcohol. There was no history of any chronic illness in the family.

Physical Examination

She was sick looking. She was markedly pale and with slight jaundice. Her temperature was 38⁰C, and a pulse rate of 112 beats per minute of low volume but regular. Her blood pressure was 110/70 mmHg and a respiration rate of 28/minute. The central nervous, respiration and cardiovascular systems were essentially normal.

Abdominal Examination

The abdomen was uniformly distended and moved with respiration. The fundal height was corresponding to 34 weeks gestation. The fetus was in cephalic presentation, longitudinal lie. The head was five fifths above the pelvic brim. The fetal heart tones were heard at 138 beats per minute and were regular. There were no palpable contractions. The spleen and liver were not palpable.

Pelvic Examination

Vaginal examination revealed normal external genitalia. The vagina was moist and warm. The cervix was soft and central with the os parous. There was no drainage of liquor or vaginal bleeding.

Diagnosis

An impression of severe malaria in pregnancy was made.

Management

Patient was admitted in the acute room of our labour ward. She was propped up in bed and started on oxygen due to the respiratory distress. Wide bore intravenous line was established using canular size 18. Blood was taken for grouping and cross-matching and 2 unit of compatible blood availed.

Investigations

- | | | | |
|----|----------------------|---|-----------------------------|
| 1. | Blood slide | - | Heavy parasitaemia seen |
| 2. | PCV | - | 17% (HB 5.6gm/dl) |
| 3. | Urea and Electrolyte | - | Na ⁺ - 123mmol/l |
| | | | K ⁺ - 3.7 mmol/l |
| | | | Creatine - 114 μmol/l |
| 4. | Blood group | - | A Rhesus "D" Positive |
| 5. | Random Blood Sugar | - | 5.0mmol/l |

She was immediately started on intra-muscular injections of artemum 300mg stat, and there after 100mg once a day for 4 days. Blood transfusion was started under cover of an intravenous injection of Lasix 40mg stat. She also started on oral folic acid 5mg daily and oral ferrous sulphate 200mg 8 hourly. She was transfused the two units of blood

with no transfusion reaction noted. The temperature remained at 38, and the patient was still in respiratory distress.

Eight hours after admission while patient was on transfusion she complained of a urge to open bowels. She was re-assessed and found to be in 2nd state of labour with membranes bulging. Patient was transferred to the delivery room while still propped up in the delivery couch. Artificial rupture of membranes was done and thick muconium encountered. Assisted vacuum delivery was done and a live female infant who scored 8 in 1 minute and 9 in five minutes was delivered and weight 2.5Kg. The baby was noted to be pale and hence was admitted to the New Born Unit (NBU).

On the second day the patient was found to be in fair general condition. The temperature was still high but she was mildly pale she was transferred to the postnatal wards to continue with artemum. On the 3rd day a repeat blood slide revealed moderate malarial parasites and the antimalarial drug continued. The temperature settled and by the fifth day a repeat blood slide showed no malarial parasites. Check heamoglobin was 8gm/dl and hence patient discharged on the 10th day to continue with haematenics and prophylactic sulphadoxine pyrimethamine 2 tablets weekly for six weeks. Her baby who was in NBU was also discharged after blood transfusion. The baby had no congenital malaria. The mother was to be seen in the postnatal clinic in six weeks time.

Follow Up

She was seen after 6 weeks. She was found to be doing well, not pale. The chemoprophylaxis was stopped and the patient discharged from the clinic.

Discussion

Malaria continues to be one of the many public health problems in the world especially in the majority of the African countries. It affects young children, pregnant women and internationally itinerant groups of populations moving into malaria endemic areas (1).

Malaria is a disease, which has affected man since time immemorial. The causative organism is a protozoa called plasmodium with various species namely: *P. Falciparum*, *P. Ovale*, *P. Vivax* and *P. Malariae*. *P. Falciparum* is the commonest in Kenya and accounts for 98% of the cases (2). In a study at Kilifi District, *P. Falciparim* was found in 21.7% of pregnant women (3).

Three elements must be present for endemic malaria. These are infected humans, susceptible mosquitoes and a suitable climate. Malaria is usually transmitted from the infected humans by female anopheles mosquito and rarely by transfusion of infected blood (4).

Malaria in a community may be either stable or unstable (5). Stable malaria occurs in regions where there is constantly repeated infections (Holoendemic areas), there is high immunity and epidemic do not occur e.g. Coast and Lake Regions (2). In unstable malaria regions e.g. Aberderes and Mt. Kenya areas, Transmission is intermittent, there is poor community immunity and epidemics occurs (2). Our patient was from Githurai hence from an unstable malaria region.

A World Health Organisation report indicates renewed activity of this endemic disease with 300 to 500 million cases per year per 2.3 billion persons at risk and 1.5 to 2.7 million deaths. Africa is most affected with an estimated incidence of 700 cases per 1000, while South America and Asia the incidence varies around 4 to 5 cases per 1000 (6). In Kenya the overall prevalence of malaria in pregnant women was noted to be 41.8 – 60.5% in studies in Kilifi and Kisumu respectively (3, 7). Malaria has been shown to

have high prevalence in primigravidae than in secundigravidae and multigravidae (3, 7). Our patient was para 2 + 0 and had severe malaria.

Malaria is usually characterized by headaches, chills and rigors, fever and vomiting. The clinical signs may include pallor, pyrexia and splenomegally. Hepatomegally and Jaundice occur but are not common features. Severe malaria in pregnancy may present with convulsions, coma and albuminuria hence difficulty to differentiate it from eclampsia. A peripheral blood slide helps in identifying the malaria trophozoites and their quantification. Our patient had heavy parasitaemia which means 10% of red blood cells in peripheral blood film were infected.

Malaria has been shown to be a cause of anaemia in pregnancy. In a study done in a District hospital in Coastal Kenya, the prevalence of anaemia was 9.8% among all parities; 15.3% of the primigravidae were severely anaemic as compared to 7.9% of multigravidae (8). Our patient was severely anaemic with a haemoglobin level of 5.6gm/dl. Anaemia results from rupture of parasitised erythrocytes, opsonization of these cells by the lymphoid – macrophage system, and possibly by production of auto-antibodies which result in intra-vascular hemolysis.

Outcome of pregnancy is usually measured in terms of still births, number of neonatal deaths, number of preterm deliveries, lower birth weight and number of maternal deaths. Malaria has been the commonest cause of poor pregnancy outcome both to the mother and her baby. Our patient had an early delivery at 36 weeks and delivered a baby of 2500gm who was admitted to NBU due to anaemia.

The poor fetal outcome is due to the effect of malaria to the placenta. This is more common in areas of stable transmission and it is particularly frequent and severe in primigravidae. Histologically placental malaria is characterized by the presence of parasites and leucocytes within the intervillous space; Pigment within macrophage, fibrin deposits and trophoblastic proliferation of cytotrophoblastic cells, and thickening of the trophoblastic basement membranes. This may lead to impairment of materno-fetal

exchange. The placental malaria determines low birth weight, mainly mediated by intrauterine growth retardation and increase the risk of death and disease during the first year of life. It is likely that in areas of high endemicity, the placenta is where the drama of maternal malaria is mostly played (9).

The aim of treatment in malaria is to reduce pyrexia and stop the attack as quickly as possible. Our patient had severe malaria, so she was hospitalized and commenced on parental artemisinin. This is the commonest treatment in severe cases in pregnancy (2, 3, 5). In mild forms, 4 aminoquinolones; chloroquine, and amodiaquine are the drugs of choices. However Rukaria reported a 45 – 9% resistance of *P. Falciparum* to chloroquine during in vivo test and 34.8% in vitro tests but 89.3% these responded to amodiaquine (3).

In severe attack the state of the mother may indicate shortening of second stage of labour by forceps or vacuum extraction. Care to avoid postpartum haemorrhage which is badly tolerated by the very ill in labour is needed. Cardiac failure may occur in the severely anaemic immediately postpartum due to sudden increase in the circulatory blood volume after delivery. Our patient was severely anaemic and in respiratory distress. She had been propped up in bed and she had vacuum extraction when in second stage of labour. She did not go into cardiac failure in her postpartum period.

The fall in acquired immunity caused by pregnancy indicates the initiation of chemoprophylaxis as early as possible and its continuation at least 6 weeks postpartum (2, 3). Antimalarial chemoprophylaxis early in pregnancy prevents the development of severe degrees of anaemia and folic acid must be given to correct deficiencies.

Intermittent presumptive treatment with sulfadoxine pyrimethamine (SP) is safe and efficacious for the prevention of placental malaria in pregnant primigravidae and secundigravidae in Sub-Saharan Africa. While a two-dose SP regimen may be effective in areas with low HIV seroprevalence, administration of SP monthly during second and third trimesters of pregnancy should be considered in areas of high HIV seroprevalence to prevent the effects of maternal malaria on the newborn (10).

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Case No. 3

Placenta Previa Type III: Emergency Caesarean Section – Live Baby

Name : F. N. DOA : 04/08/2001
Age : 27 years DOD : 15/08/2001
IPNO : 0754303 Parity : 1 + 0

Presenting Complaints

Presented with complaints of painless per vaginal bleeding for a duration of 2 weeks.

History Of Presenting Illness

The patient was admitted through casualty as a referral from Athi River Medical Services where she had presented with complaints of lower abdominal pains, and episodes of painless vaginal bleedings for a duration of 2 weeks. She presented at Athi River Medical Services with history of lower abdominal pains and painless episodes of per vaginal bleeding 2 weeks before admission to our unit. She had no history of trauma or excessive straining. Bleeding initially was in spots but increased and she had to use 2 – 3 pads per day and hence she was referred to Kenyatta National Hospital, since an ultrasound done had showed a low lying placenta.

Past Obstetric and Gynaecological History

She had her menarche at 14 years. Her menses were regular with a cycle of 28 days and the flow lasting for 3 days. She had used oral contraceptives since 1995 to 2000 when she stopped, so that she could get another child. Her L.M.P. was on 18/01/2001 and hence her EDD was 25/10/2001. Therefore her gestational period was 26 weeks. She had not started attending antenatal clinic. She was para 1 + 0. Her last delivery was in 1995 SVD and the baby was alive and well.

Past Medical History

This was not significant.

Family and Social History

She was a married business-lady. She lived with her husband in Athi River. She did not smoke cigarette or drink alcohol. There was no chronic illness in the family.

Physical Examination

She was in fair general condition. She was mildly pale but afebrile. She had no oedema or lymphadenopathy. Her temperature was 36.8°C ; pulse rate was 88 per minute regular and of good volume. Her blood pressure was 100/80mmHg, and a respiratory rate of 20/minute. Cardiovascular, Respiratory and Central Nervous Systems were essentially normal.

Abdominal Examination

The abdomen was uniformly distended. The fundal height was corresponding to 26 weeks gestation. The fetus was in cephalic presentation, longitudinal lie, and fetal heart rate was 136/min. There were no contractions noted. The presenting part was 5/5 above the pelvic brim.

Speculum Examination

Aseptic vaginal examination was done which revealed normal external genitalia with no obvious active bleeding per vagina. A speculum (cuscos) examination revealed normal vaginal walls and cervix, with a blood clot at the cervical os. There was no active bleeding.

Diagnosis

An impression of Antepartum Haemorrhage secondary to placenta previa in a patient at 27 weeks gestation was made.

Management

The diagnosis and plan of management was explained to the patient. She was for conservative management and was therefore admitted for bed rest. Blood was taken for grouping and cross matching and two units of blood kept ready for her. An intravenous line was established with a wide bore canular size 18, and a normal saline drip started. Her vital signs were monitored 4 hourly and was started on oral folic acid 5mg daily and ferrous sulphate 200mg 8 hourly. An obstetric Ultra Sound was booked to localise the placenta since the earlier on Ultra Sound had not indicated the degree of the placenta previa.

Investigation

Ultrasound	-	(16/07/2001)	-	Shown a single intra-uterine fetus in cephalic presentation. Heart rate of 132 beats/min. Placenta was posterior and low lying. The gestational age was 26 weeks + 5 days using BPD.
Urinalysis	-	Blood trace		
		SG	-	1.025
		Leucocytes	-	3 +
		Nitrate	-	Positive
		Protein	-	Nil
		Sugar	-	Nil
Haemogram	-	WBC	-	$9.5 \times 10^9/l$
		HB	-	9.0gm/dl
		Platelets	-	$518 \times 10^9/l$
		RBC	-	$2.79 \times 10^9/l$

Blood Group - O Rhesus "D" Positive.

While in the Ward

The patient remained well while in the ward. She did not report any PV bleeding or spotting until 08/08/2001 at 28 weeks gestation, when she reported severe per vaginal bleeding. She was immediately transferred to labour ward for evaluation.

Review and Delivery

An intravenous line of normal saline was started. Two units of grouped and cross-matched blood which was already preserved for her at admission was requested. On examination she was found to be in fair general condition. She had mild pallor but no oedema.

The fundal height was corresponding to 28/40 gestation, the fetus was in the longitudinal lie, cephalic presentation. Fetal heard tones were heard at 148 beats per minute and regular. She was bleeding profusely per vagina and hence difficulty to perform a speculum examination. Since she was known to have placenta previa, she was informed of the new development and an informed consent taken for casearean delivery. She was premedicated with intra-muscular atropine 0.6mg and wheeled to theatre.

In theatre she was put in semi lithotomy position and vulvo vaginal toilet done. She was catheterised and 100ml of clear urine obtained. She was repositioned supine and abdomen cleaned and draped with sterile towels. She was put under general anaesthesia.

The abdomen was opened in layers via a subumbilical midline incision. The lower uterine segment was identified and lower transverse incision made. A live female infant who scored an Apgar of 10 in 1 minute and 10 in five minutes and weighed 1250gm was delivered. The placenta was found to be posterior and low-lying, partially, covering the internal os. The placenta and membranes were delivered and weighed 250gms.

The uterus was cleaned and the cervical canal dilated to allow easy flow of lochia. The uterus was then closed in 3 layers. The abdomen was closed in layers after a correct instrument and swabs count. Anaesthesia was successfully reversed. She was transfused one unit of blood while in theatre. The baby was reviewed by the pediatrician and admitted to NBU due to prematurity and RDS. The baby scudded on day two of life due to severe prematurity.

Post Operative Care

When fully awake she was wheeled back to the ward. Her vital signs were observed four hourly and they remained within the normal range. She was maintained on intravenous normal saline and 5% dextrose each running four hourly until the second day post operative when bowel sounds were noted to be present.

She had antibiotic cover of intravenous crystalline penicillin 2 mega units six hourly and gentamycin 80mg 8 hourly. Intramuscular pethidine 100mg 8 hourly was given for analgesia for 24 hours. On her 3rd post operative day she was changed to oral amoxycillin 500mg 8 hourly for five days.

On the third post operative day, a check haemoglobin was done and found to be 8.2gm/dl. She was commenced on oral haematinics. The wound was exposed on the fifth post operative day and found to be dry and healing well. She was then discharged home for removal of stitches on the seventh post operative day at the nearest clinic, Since her premature baby had succumbed after 48 hours of life. She was to be reviewed in the postnatal clinic after six weeks.

Follow Up

She was seen in the postnatal clinic after six weeks. She was well and had no complaints. She was not pale and the wound had healed well. She was counselled about the problem she had and informed that it may recur in the future pregnancy and therefore she was advised to start antinatal clinic early in her future pregnancy. She was referred to the family planning clinic for contraception.

Discussion

Patient presented is a 27 years old para 1 + 0 who developed antepartum haemorrhage due to placenta previa at 27 weeks. She was managed conservatively but she developed severe per vaginal bleeding which warranted an urgent delivery of a premature baby by an emergency caesarean section.

Placenta praevia can be defined as a condition where the placenta is located over or very near to the internal os. Four degrees of this abnormality have been recognized based on relationship of the placenta to the cervical os (1, 2). The four degrees of placenta previa are; Type I (-Low laying) - The placenta just encroaches on the lower uterine segment but does not reach the internal os; Type II (Marginal); the edge of the placenta is at the margin of the internal os; Type III (Partial), the placenta covers part of the internal os, Type IV (Total), the placenta completely covers the internal os (1). Placental migration may occur as pregnancy advances.

The incidence of placenta previa at Kenyatta National Hospital was found to be 1 in 400 deliveries (3). Other studies have shown an incidence of 0.3 – 0.5% (1, 2, 4).

The etiology of placenta previa remains obscure but theories of the disease abound with no strong supporting evidence. A number of factors may affect the place of implantation in any pregnancy. Multiple pregnancy may predispose to placenta previa because of increased surface area of placenta or placentas. In patients who have a scar from uterine incision, it is quite common to find that subsequent placental site include the area of the scar (1, 2, 3, 4). Other predisposing factors include previous dilatations and curettage and advanced maternal age. The patient presented was a 27 years old para 1 + 0 and none of the above risk factors were noted.

Patients with placenta previa present with painless per vaginal bleeding which is rarely profuse near the end of second trimester as was the case in our patient but may be profuse in 3rd trimester. Physical findings per abdomen would include a soft relaxed and non

tender uterus with a high presenting part. There is high incidence of malpresentation with the infant oblique or transverse in 15% of the cases (2). Digital vaginal palpation to ascertain position of the placenta in relation to the internal os may incite severe hemorrhage and is therefore avoided as was in our patient unless immediate delivery is desirable and appropriate facilities are in place.

An antenatal obstetric ultrasound is useful in diagnosis of placenta previa. It localizes the placenta with accuracy in upto 98% of cases (1, 2, 5). It is also useful in assessing the fetal well being and estimation of gestational age. Transvaginal, ultra-sonography is confirmatory if placenta previa is suspected by a trans-abdominal scan (1, 5). X-ray palpentography has long been abandoned since the discovery of ultrasound due to teratogenicity. Magnetic resonance imaging has also been employed with accuracy (1).

It must be emphasized that ultrasonography has no place in cases with severe haemorrhage, where immediate delivery by caeserean section is indicated (6). In our patient ultrasound was done because at admission the bleeding had stopped and fetus was immature hence expectant management involved.

Expectant management involves a period of observation and bed rest in hospital until bleeding stops or the onset of labour which is nearly always accompanied by bleeding. If bleeding is not sufficient to terminate expectant treatment, amniocentesis at 37 weeks gestation is done to determine fetal maturity, and if found mature then a caeserean section is done (1, 2, 3, 4). Our patient was for expectant management but this kind of treatment was terminated when she got severe haemorrhage warranting an emergency caeserean section.

Immediate delivery usually by caesarean section is indicated when there is severe haemorrhage irrespective of gestational age or when the fetus is mature and there is bleeding. Caeserean section is the accepted mode of delivery in most grades of placenta previa except type I, if bleeding is minimal (1, 2).

Patient with placenta previa may undergo examination under anaesthesia to confirm the position of the placenta, and decide on mode of delivery. Theatre is prepared in a “double set up” for examination and possible caesarean delivery. Vaginal delivery is reversed for patients with low lying placenta (Type I) in cephalic presentation. Among the hazards of vaginal delivery are profuse maternal haemorrhage, malpresentation, cord accidents, placental separation, fetal haemorrhage and dystocia resulting from posterior placental implantation (3). A caesarean section rate of 82% was noted amongst patients with placenta previa at Kenyatta National Hospital (3). It is indicated for cases of profuse bleeding and in cases of placenta previa type IIB, III and IV.

The lower uterine segment incision may pass through the placental site cause significant fetal blood loss, therefore a classical incision may be preferred. Our patient underwent emergency caesarean delivery at 28 weeks because she had severe hemorrhage; she had type III placenta previa.

Pelvic infection, anaemia and postpartum haemorrhage are common postpartum complications. Our patient was put on antibiotic and haematenics post operative.

Overall prenatal mortality rate of 15 – 20% has been noted and is mainly due to prematurity, cord accidents, hemorrhage, and abruptio placenta (2, 3, 6). Our patient had an extreme premature baby who succumbed after 48 hours of life.

Availability of antibiotics, adequate blood transfusion, anaesthesia and caesarean delivery have caused a marked reduction in maternal mortality and improved maternal prognosis.

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Case No. 4

Pre – Eclampsia – Caeserean Section Live Baby

Name	:	N. N.	IP No.	:	991759
Age	:	31 Years	DDA	:	18/4/2001
Parity	:	3 + 0	DOD	:	15/5/2001
LMP	:	10/9/2000	EDD	:	17/6/2001

Presenting Complaints

Patient was admitted through antenatal clinic (ANC) due to elevated blood pressure.

History of Presenting Illness

Patient was admitted from ANC due to high blood pressure of 160/120 mmHg at 30 weeks gestation. She had been referred to Kenyatta National Hospital ANC from a private clinic with a diagnosis of PET at 21 weeks gestation. During her follow-up in the private clinic she had been started on Aldomet 250mg 8hourly, Junior Asprin (75mg) 12 hourly and hydrallazine 25mg 8hourly, these drugs were continued in her ANC follow-up. On two occasions in her ANC follow-up she was noted to have proteinuria of +1 though the blood pressures were controlled. Prior to admission she had noted progressive swelling of legs and puffiness of the face. She had no headache, blurring of vision dizziness or epigatric pain.

Past Obstetric and Gynaecology History

She was para 3 + 0 with no living child. Her first delivery was in 1998 through caeserean section which resulted in a macerated still birth at 6 months due to high blood pressure After she had failed induction. The second delivery was in 1999 at 5 months, she got a macerated stillbirth after she went into preterm labour and also had high blood pressure in pregnancy. Her 3rd delivery was in 2000 at 34 weeks. She had her second

caeserean section due to high blood pressure and a live baby was delivered but succumbed on the 6th day of life. She was not hypertensive outside pregnancy. She attained her menarche at 14 years. Her cycles were regular with flows lasting 3 days and comes after every 28 days. There was no history of contraceptive use.

Past Medical and Surgical History

This was not significant.

Family And Social History

She was a married, primary school teacher staying with her husband in Kiambu. Her husband was also a teacher. She did not smoke cigarettes nor take alcohol. There was no history of any chronic illness in the family.

Physical Examination

She was in fair good general condition, not pale, not jaundiced, not cyanosed or febrile. She had edema but no lymphadenopathy. The pulse rate was 82/minute good volume and regular. The blood pressure was 160/120 mHg, the respiratory rate was 20 per minute.

The respiratory and central nervous systems were normal.

Abdominal Examination

The abdomen was noted to being moving with respiration. The abdomen was uniformly distended and gravid and there was a sub-umbilical mid-line surgical scar noted. The liver and spleen were not palpable. The uterine size was 30 weeks, fetal lie was longitudinal with cephalic presentation. The head was five fifth above the pelvic brim. There were no contractions noted. The fetal heart rate was 136 beats per minute and regular.

Pelvic Examination

This was not done as there was no indication.

Diagnosis

An impression of severe P.E.T. with BOH at 30 weeks was made.

Management

Patient was admitted to labour ward's acute room, for control of blood pressure. She was given a stat dose of 20mg hydrallezine as an intravenous bolus. She was started on Aldomet tablets 500mg 8hourly and valium 10mg 12 hourly and was to be observed half hourly. She was observed for 12 hours and the blood pressure came down to 130 – 150 mmHg systolic and 100 – 105 mmHg diastolic. She was then transferred to the lying in wards for further investigation and management.

Investigations

Haemogram	-	HB	-	11.2gm/dl
		WBC	-	$6.7 \times 10^9/l$
		RBC	-	$3.68 \times 10^9/l$
		Platelets	-	$247 \times 10^9/l$
Urea and Electrolytes	-	Na ⁺	-	126mmol/l
		K ⁺	-	4.32 mmol/l
		Cl	-	108 mmoll
		Creatinine	-	0.6 μ mol/l
Uric acid	-	6.2 mg/d		
VDRL	-	Negative		
Blood Group	-	O Rhesus(D) Positive		
Urinalysis	-	Protein +++ (+3)		
	-	Sugar	-	Nil
HIV	-	Negative		

Ultrasound:

- 23/4/2001 - a single viable intra uterine fetus in cephalic presentation at 31 weeks gestation.
Estimated fetal weight (EFW) -
1761gm
Biophysical profile score of $^{10}/_{10}$
- 3/5/2001 - Fetus in cephalic presentation. Normal fetal cardiac activity fetal Biophysical profile score of 6/10.
BPD - 85mm corresponding is 34 weeks
FL - 63mm in 33 weeks + 4 days
AC - 94mm in 33 weeks + 5 days
Average gestation was 34 weeks.
EFW - 2.108 Kg
- 4/5/2001 - Repeat scan for umbilical artery Doppler flows.
- Doppler flow index was 0.615 which was normal for the gestation.
- S/D ratio was 2.6, which was normal for the gestation.
- Cerebral artery flow was checked and found to be within normal range.

Stay in the Ward

Patient had been put on bed rest. She continued with anti-hypertensives. The blood pressures were not well controlled and this necessitated upward adjustment of aldomet to 500mg six hourly, hydrallazine 50mg 8hourly and Adalat 20mg 12 hourly. Despite the above drugs the blood Pressure remained uncontrollable. It was therefore decided to monitor the patient and fetus closely and if possible to try to get the pregnancy to 34 weeks. On 3rd May 2001 the blood pressure was noted to be too high and therefore patient was started on I.V dexamethasone 12mg weekly. Also an urgent ultrasound was ordered. This scan showed a viable fetus at 34 weeks gestation with a biophysical profile score of 6/10. Due to the poor biophysical profile another scan was ordered to show the

umbilical Doppler flows. This was shown to be within normal limits. On 4th May 2001 a decision to deliver the patient was made and patient was taken to labour ward for emergency caesarean section.

Emergency caesarean section was done on 5th May 2001. Alive male infant with Apgar score of 6 at one minute, 7 at five minutes, and 8 at ten minutes, and weighed 1700gm was delivered. Placenta was noted to have areas of calcification. The baby was admitted to NBU due to prematurity. The baby was managed in the NBU and gained weight up to 2000gm and discharged to the mother.

Post Operative Period

Post operatively the general condition of the patient remained satisfactory. She was on intravenous fluids of normal saline and 5% dextrose for 24 hours; intra muscular pethidine 100mg 8hourly for analgesia. Her input and output of fluids was well balanced. Post operative Blood Pressure ranged between 150/90 – 150/100 mmHg She was maintained on Aldomet 500mg 8hourly and hydrallazine 25mg 8hourly. The urine proteinuria gradually reduced to nil. She was covered with intravenous antibiotics Crystalline Penicillin 2 mega unit 6 hourly and gentamycin 80mg 8hourly. She did well post operatively and was discharged to the mothers hostel on 10th Post operative day after removal of stitches. The incision site was well healed. She was scheduled for review in the postnatal clinic at two weeks.

Follow up

She was seen in the postnatal clinic after 2 weeks and found to be in good general condition. She had no complaints. She was not pale and the wound had healed well. Her blood pressure was 150/100mmHg. Her breasts were active and not engorged and was still breast feeding. Lochia loss was normal. She was advised to continue with Aldomet 500mg 8 hourly and to be reviewed after 4 weeks. She was counselled on the recurrence of the problem and therefore advised to seek antenatal care early.

She did not turn up for her appointment at 6 weeks post-delivery.

Discussion

A 31 year old para 3 + 0 with no living child, admitted with severe P.E.T. and delivered at 34 weeks gestation is presented.

Pre-eclampsia is a major cause of maternal and perinatal morbidity and mortality world wide (1). The patient presented had 2 previous caeserean section done. In one occasion she had IUFD at 6 months due to P.E.T. The other she had premature baby delivered at 7 months also due to severe P.E.T. The second pregnancy she had spontaneous vaginal delivery at 5 months while she still had P.E.T.

Pre-eclampsia is a triad of edema, hypertension and proteinuria occurring primarily in nulliparas after the 20th gestational week and most frequently near term (2). Hypertension is defined as a diastolic pressure of at least 90mmHg or systolic blood pressure of 140mmHg or a rise of diastolic blood pressure by 15mmHg or rise in systolic blood pressure by 30mmHg. This readings should be taken in two occasions at least 4 hours apart.

Pre-eclampsia occurs in about 8% of the general population. The incidence varies with geographical location. The predisposing factors are: multi parity, black race, maternal age below 20 or over 35 years, low socio-economic status, multiple gestation hydatidiform mole, non immune fetal hydrops, diabetes, polyhydramnios, chronic hypertension and underlying renal disease (2). In Kenya the incidence was reported to be 1.5% to 9% of all pregnancies by Mati (3). Kabarú found a prevalence of 5.6 per 1000 deliveries at Kenyatta National Hospital (4).

There are three levels of pathology of pre-eclampsia. The primary pathology must be placental or of the placental bed (Redman 1991), (5) because the condition is pregnancy specific, always resolves after delivery but does not require the presence of the fetus as it can develop with hydatidiform mole (6). The secondary pathology comprises the sub critical signs of the placental problem, both maternal and fetal. These disturbance can

progress to decompensation of one system or another leading to the tertiary pathology (7).

Etiology of pre-eclampsia is unknown and only theories have been advanced. Until recently the best explanation for the vasospasm of pre-eclampsia was the hypothesis that it resulted from an imbalance in the production of prostanoid: Prostacycline and thromboxane (8). Pre-eclampsia involves a relative deficiency of Prostacycline and a relative excess of thromboxane. Circulating Prostacyclin is probable mainly derived from the vessel wall whereas the principle source of circulating thromboxane are platelets.

Pre-eclampsia can be classified into mild and severe. In severe pre-eclampsia the blood pressure is greater than 160mmHg systolic or 110mmHg diastolic recorded on 2 occasions at least 6 hours apart, Proteinuria exceeding 5g in a 24 hour period or 3 – 4 + on dip stick testing; oliguria (<500ml) in 24 hours period, cerebral or visual disturbances epigastric pains and pulmonary oedema or cyanosis (2). The patient presented had protein +3, blood pressure spiking to 160/110mmHg but she never had blurring of vision, nor epigastric pain.

In 10% of patients with severe pre-eclampsia they end up getting the HELLP syndrome which is characterized by haemolysis, elevated liver enzymes, and low platelets (2, 7). The patient presented was found not to have this syndrome.

The principles of management are early diagnosis, early admission to hospital, well timed delivery to pre-empt complications (7). Our patient was admitted at 30 weeks gestation and delivered at 34 weeks due the uncontrollable Blood Pressure and poor biophysical profile score.

Multi-parity is the best way of avoiding pre-eclampsia but this cannot be prescribed (7). Calcium and other dietary supplement e.g. zinc appear to be more effective in the prevention of pre eclampsia. It has been postulated that calcium deficiency predisposes to pre eclampsia, (9, 10). Vitamin E of which blood concentration is significantly reduced

in pre-eclampsia may be used to reduce the onset of pre-eclampsia. As an anti-oxidant it may help prevent the formation of free radicals, which could initiate endothelia or other forms of tissue damage (11, 12). The use of anti platelet agents in particular low dose aspirin is important in preventing pre-eclampsia (13). The patient presented was put on junior aspirin at her early gestation.

It is very important to monitor the fetal well-being, hence serial abdominal circumference measurements should be done every 2 weeks. In severe pre-eclampsia it is important to monitor the fetus on a daily basis. The methods of monitoring includes fetal heart rate analysis, ultrasound biophysical profiles and Doppler wave form analysis of the fetal circulation. Both Biophysical profiles and Doppler flow waves were done in the case presented.

Once the diagnosis of pre-eclampsia has been made, definitive therapy in the form of delivery is the desired goal, since it's the only cure for the disease (14). The decision for immediate delivery versus expectant management is usually dependent on one or more of the following: the severity of the disease process, fetal condition, fetal gestational age, maternal condition, and Bishop score (14).

Severe pre-eclampsia is associated with many maternal complications e.g. Abruption placenta, thrombocytopenia, HELLP syndrome, Eclampsia, Disseminated intra-vascular coagulation and acute renal failure (14). Patient presented though had severe pre-eclampsia she never got any of these complications.

Long et al (15) reported the pregnancy outcome in 2,434 singleton, pregnancies with pre-eclampsia during a 7 year period. They found that patient with preterm pre-eclampsia had a worse perinatal outcome than those with pre-eclampsia at 37 weeks or later. Our patient had a preterm baby of weight 1700gm and was admitted to the NBU with RDA. The baby improved well as per the time of the mothers discharge.

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Case No. 5

Premature Rupture of Membranes-Vaginal Delivery – Live Baby

Name	:	L. W. N.	Parity	:	2 + 0
IP NO	:	0733252	DOA	:	8/5/2001
Age	:	31 Years	DOD	:	10/5/2001

Presenting Complaints

Patient presented with complaints of drainage of liquor for a duration of 13 hours.

History of Presenting Complaints

Patient was admitted on 8/5/2001 at 6.00 p.m. as a referral from Kikuyu Mission Hospital with a diagnosis of premature rupture of membranes at 34 weeks gestation by dates. She had started drainage of liquor since 5.00 a.m. of 8/5/2001. Therefore she had drainage of liquor for a duration of 13 hours by the time of admission. She was woken up by a feeling of wetness in her bed, then followed up by a gush of liquor. The colour of the liquor was clear. The drainage was alot and trickled to the legs and spread to the floor. There was no history of abdominal trauma, coitus or straining prior to the episode of drainage. She was not having any lower abdominal pains. She had no history of vaginal discharge or dysuria prior to the drainage. Her last monthly period was on 12/9/2000 and expected date of delivery was supposed to be on 21/6/2001. At time of admission she was at 34 weeks gestation. She had been attending antenatal clinic at Kikuyu Mission Hospital. The antenatal records were not available at the time of admission. She could not remember the dates when she had her quickenning.

Past Medical History

This was not significant.

Past Obstetric and Gynaecological History

She had her menarche at 13 years. Her periods used to be regular with normal flow and it used to be painless, with a cycle of 21 days and flow of 3 days. She was para 2 + 0 all deliveries were by spontaneous vertex delivery and all were alive and well. The last delivery she had premature rupture of membranes at 34 weeks gestation. Had used oral contraceptive from 1996 to 2000, and stopped to conceive.

Family Social History

She was a married housewife, stays with husband at Uthiru. She had no history of having consumed alcohol, nor smoked cigarettes. Her husband was a driver. There was no history of chronic illness in the family.

Physical Examination

The patient was in fair general condition, and clinically she was afebrile (Temperature 36.8°C). She was not pale and she did not have any leg edema. Respiratory and cardiovascular system were essentially normal. She had a pulse rate of 82 per minute, which was of good volume and regular. Her blood pressure was 100/60 mmHg. Respiratory rate was 22 per minute.

Abdominal Examination

On inspection the abdomen was uniformly distended, on palpation the fundal height was found to be corresponding to 36/40 and the baby felt bigger than her dates. The lie of the fetus was longitudinal and the presenting part was cephalic. The presenting part was $\frac{3}{5}$ above the pelvic brim. There was no uterine contractions. The fetal heart rate was 134 beats per minute.

Pelvic Examination

The patient was prepared for a sterile speculum examination. She had normal external genitalia She was found to have a pool of liquor in the posterior vaginal fornix, cervix was

short and open. Gush of liquor was seen when the patient was told to cough. The liquor was clear. There was no cord prolapse noted. Because of the above findings digital examination was done, which revealed a central cervix, 60% effaced and 4cm dilated. There was no cervical defect noted.

Diagnosis

A diagnosis of premature rupture of membranes at 34/40 gestation was made.

Management

Patient was admitted to labour ward for delivery since the baby felt of good size, and patient had drained a lot of liquor. She was started on intravenous Ampicillin 500mg 6 hourly. The patient was started on 5 IU of oxytocin in 500mls of 5% dextrose to run at 10 drops per minute. The number of drops were increased by 10 drops every half hour till she got three strong contractions in 10 minutes. She started getting the required number and strength of contractions at 20 drops per minute. Labour progressed well and at 3.00 a.m. of 9/5/2001 she went into 2nd stage of labour. She was then transferred to the delivery room and delivered at 3.10 a.m. to a male infant of weight 2300gm and scored 9 in one minute and 10 in 5 minutes. The baby was reviewed by a Paediatrician and recommended that the baby to stay with the mother. Ergometrine had been given on delivery of the anterior shoulder. The placenta was delivered by controlled cord traction and on inspection was found to be complete. The placenta weighed 350gm. On exploration the cervix, the vagina walls and perineum were intact. The uterus was well contracted.

Post Delivery Management

After delivery the patient was transferred to postnatal wards for observation of vital signs. She also continued to receive antibiotics. The patient remained afebrile and she had no signs of puerperal sepsis during the time of stay in the ward. She was discharged the 2nd day on oral antibiotics. She was discharged to come again in the postnatal clinic after six weeks.

Postnatal Follow-up

Patient found to have recovered well. Uterus was well involuted and the cervix was found to be 0.5cm long, with no defect noted. She was counselled about this condition. She was informed that the condition may recur in her future pregnancy and therefore a need for early booking of her antenatal clinic and close follow-up. She was also counselled on family planning method and referred to family planning clinic.

Discussion

Patient presented was a 31 year old para 2 + 0 gravida 3; admitted with premature rupture of membrane at 34 weeks by gestation and delivered a live male infant weighing 2300gm with a good Apgar score. She had induction of labour with 5 units of syntocinon in 500mls of 5% dextrose because she had drained a lot of liquor at the time of admission and the baby felt bigger than her gestational dates.

PROM is defined as leakage of amniotic fluid through the cervix before onset of labour. Premature rupture of membranes becomes a problem if the fetus is premature or in the case of a mature fetus, if there is prolonged period of time between rupture of the membrane and the onset of labour (1).

Generally PROM occurs in 10% of all pregnancies (2) with the majority of cases occurring after 37 weeks gestation. The incidence of PROM at Kenyatta National Hospital was reported to be 8.2% by Wanjala (3). While Mati et al (4) found an incidence of 1.5% in the same hospital. If PROM occurs before 37 weeks of gestation then the condition is referred to as preterm premature rupture of membranes (PPROM). The patient presented had rupture of membranes at 34 weeks gestation by dates and hence had PPRM.

Prematurity is the most significant factor in the increased perinatal morbidity and mortality associated with premature rupture of membranes, because delivery occurs within 7 day of PPRM in over 80% of the cases (5, 6). Wanjala in his study found an incidence of 17.2% perinatal mortality (3).

Oligohydramnios may result in the neonatal "Oligohydramnios tetrad" of facial anomalies, limb position defects, pulmonary hypoplasia, and impaired fetal growth, all which will add to the neonatal morbidity (5). The patient presented had drained a lot of liquor and therefore prompted her delivery immediately on admission to avoid these complications.

Fetal distress is also common due to the greater possibility of cord prolapse, cord compression and abruptio associated with PPRM (5). In the case presented the patient was examined and there was no evidence of fetal distress, even during labour.

The exact cause of PROM is not known although there are many associated factors e.g. maternal infection, cervical incompetence, multiple previous pregnancies, polyhydramios, nutritional deficit, decreased tensile strength of membranes and family history of premature rupture membranes (1). The recurrence rate for PROM has not yet been examined in depth, but Naeye's observations in 1982 suggested a 21% recurrence rate (7). The patient presented here had a history of previous PROM at 34 weeks and on examination was found to have a short cervix which seemed open on speculum examination, hence thought to be incompetent.

The diagnosis of PROM may be obvious if the patient presents with a gush of fluid from the vagina followed by persistent, uncontrolled leakage, as was the case in our patient. Some patients will report small intermittent leakage and therefore may require sterile speculum examination. These allow visualization of amniotic fluid draining through the cervix. In case of doubt the fluid can be tested with a Nitrazine yellow paper which turns black in alkaline situations e.g. amniotic fluid. Ferning on microscopy is also a useful sign (1). The above tests were not done in the case of the patient presented because on speculum liquor was noted to gush from the cervical canal on opening the speculum.

The management of PPRM remains one of the most controversial areas in obstetrics. In general the risk of preterm birth outweigh the risk of infection and cord compression below 30 – 32 weeks gestation, while the risk from PROM outweigh prematurity after 34 – 35 weeks gestation (8).

If the expected gestational age is between 34 – 36 week and fetal weight is about 2000 – 3000 gm, induction with oxytocin infusion is indicated though some people may prefer to wait 24 – 48 hours in the expectation of accelerated lung Surfactant production (1). The patient presented was immediately set on an oxytocin infusion drip and delivered a

healthy baby who weighed 2300 gm, and the baby was not admitted to New Born Unit. For estimated gestation age of 36 weeks with fetal weight over 2500gm induction by means of oxytocin infusion is indicated to minimise the risk of infection. For those at gestational age of 26 – 34 weeks and fetal weight of 500 – 2000gm, if there is evidence of lung maturity labour should be induced. If no evidence of lung maturity patient should be put on bed rest with fetal signs taken every 4 hours and white blood cell count done daily. Adrenocorticosteroid drugs for lung maturity may be beneficial. In case of patients with gestational age under 26 weeks and fetal weight under 500gm then the medical personnel and the family has to discuss the outcome, since there is very little chance of fetal salvage, and considerable maternal risk (1).

Several randomised trials of antibiotics in the presence of PPRM have demonstrated benefits in terms of pregnancy prolongation and or fetal morbidity (9). Antibiotics used include Ampicillin, Mezlicillin, Gentamycin and erythromycin. Our patient was started on intravenous Ampicillin on admission.

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Case No. 6

Hydrocephalus with Severe Holoprosencephally and Polyhydramnios – Fresh Still Birth

Name : A. W. DOA : 07/08/2001
Age : 28 Years DOD : 09/08/2001
IPNo. : 0753432 Para : 1 + 0

Presenting Complaints

Her chief complaints were excessive abdominal distension and difficulty in breathing for a duration of 4 weeks.

History of Presenting Illness

The patient first presented at Kenyatta National Hospital antenatal clinic at 29 weeks and was noted to have a fundal height bigger than the dates she gave. She was requested to have an obstetric ultrasound, but she delayed in doing so until when she was 34 weeks. The ultrasound showed severe holoprosencephally, severe polyhydramnios and intra uterine hydrocephally. She was informed that the baby had severe malformations, which were not compatible with life. She was therefore advised to have the baby delivered at that gestation. She was unable to make such a decision and therefore she was allowed to go and discuss the same issue with her husband and if possible to come with him to the Hospital for further counselling. At the time of admission the patient came with the spouse. They were both explained the nature of the problem the foetus had and they both gave consent for the termination of the pregnancy.

Obstetric and Gynaecological History

She was para 1 + 0. Her last delivery was in 2000, delivered SVD to a FSB at Machakos District hospital due to a prolonged labour. Her last menstrual period was on 2/11/2000

and her expected date of delivery was on 9/8/2001. This gave her 35 weeks of maturity at the time of termination. She had started her antenatal clinic while she was at 27 weeks gestation. Antenatal profile had been done and showed: HB – 12.5%, VDPL - Negative, blood group of A Rhesus (D) positive, urinalysis was normal. She had her menarche at 15 years of age and her period used to come after every 28 days and lasted for 4 days. She had not used any method of family planning.

Past Medical History

This was not contributory.

Family and Social History

She was a married lady in a teacher training college. Her husband was a teacher in Machakos. She did not smoke cigarette or drank alcohol. There was no family history of any chronic illness.

On Examination

She was in fair general condition. She was afebrile and not pale. She had no oedema or lymphadenopathy. Her blood pressure was 110/80mmHg, Pulse rate was 100 beat/min. regular and of good volume. The respiratory, cardiovascular and central nervous systems were essentially normal.

Abdominal Examination

The abdomen was grossly distended, non-tender, fundal height was at term fetal parts were not easily palpable. Presentation was cephalic and fetal heart rate was heard but deep. The liver and spleen were not palpable.

Diagnosis

An impression of polyhydramnios with fetal malformation was made.

Management

Since she had been informed about the state of the baby and the outcome, she was recounselled and planned for termination of the pregnancy.

Induction of Labour (8/8/200)

In labour ward the patient was assessed. Her cervical Bishop score was 3. This was not favorable for vaginal delivery. The pelvis was assessed and felt adequate. Then a prostaglandin PGE-2 vaginal pessary was inserted in the posterior vaginal fornix (10.20 Am of 8/8/2001). She was sent to the maternity ward and was to be reviewed after 8 hours. Review after 8 hours showed that the patient was getting 3 contractions every 10 minutes lasting 40 seconds. The cervical os was 6cm dilated membranes were intact. Artificial rupture of membranes was done and 6 litres of clear liquor was obtained

She progressed well and at 10.00 p.m. (8/8/2001) she was found to be fully dilated. The presenting part was still high. The anterior fontanel was punctured to drain C.S.F. so as to allow vaginal delivery. About 1.2 litres of C.S.f. were drained. At 10.30 p.m. the mother delivered SVD to a FSB female of weight 3.2Kg. Ergometrine was given during the 3rd stage of labour and mother remained stable. Estimated blood loss was 150mls. The fetus had cleft lip and palate, malformed tongue and eyes, and hydrocephalus.

Post delivery she was transferred to the maternity ward where she remained well and therefore discharged on Bromocriptine 2.5mg 12 hourly orally for five days to stop lactation and hence prevent breast engorgement. She was to be reviewed in our postnatal clinic after 6 weeks.

Post-natal Clinic

She was seen in this clinic after 6 weeks. Her uterus had totally involuted at her puerperium was uneventful. She was informed that the condition may recur and she was advised to have chromosomal studies done before her next pregnancy and to seek medical attention early after she conceived for close follow up.

Discussion

Presented is a 23 year old para 1 + 0 who had severe cranial fetal malformations and therefore termination of her pregnancy was done at 35 weeks gestation.

The patient presented with three conditions, which necessitated the termination of her pregnancy. She had hydrocephalus, which is defined as an abnormal increase in the volume of the cerebral ventricles compared with brain tissues (1). This leads to the enlargement of the fetal head circumference above 50cm and even sometimes it reaches 80cm (2). She also had holoprosencephally, which is a variety of cerebral abnormalities resulting from incomplete cleavage of the primitive prosencephalon (1). The above two conditions were in association with polyhydramnios which can be defined as amniotic fluid volume in excess of 2000mls (3).

Hydrocephalus will therefore be discussed in more details. The incidence of hydrocephalus is 1 in 2000 fetuses and accounts for about 12 per cent of all severe fetal malformations found at birth (2). The incidence of hydrocephalus at Kenyatta National Hospital is not known.

There are many and varied causes of hydrocephalus. This may result from abnormal formation of central nervous system structures. This hydrocephalus can be inherited along a medelian pattern or may be associated with a malformation syndrome. Hydrocephalus may also develop due to acquired defects in the brain e.g. infection with scarring or inflammation and C.S.F. obstruction, intraventricular hemorrhage or intracranial tumors and mass lesions (1).

In general there are 4 ways that the ventricles enlarge to an abnormal size: (i) obstruction to C.S.F. flow usually at the aqueduct of sylvius or foramina of Lusaka or Magendie (ii). Impaired resorption of C.S.F. by the arachnoid granulations (iii) over production of C.S.F. and (iv) under development or destruction of cortical tissue with a relative increase in the size of the ventricle (1). Spina bifida is frequently associated with fetal

hydrocephalus. This is probably due to the frequent association of spina bifida with the arnold – chiari malformation.

The diagnosis of hydrocephalus can be made on physical examination. The fundal height may be bigger than the gestational dates, and in cephalic presentation, a broad firm mass above the symphysis is evident from abdominal examination. The high head forces the body of the infant upward, with the result that the fetal heart is often loudest above the umbilicus. Vaginally the broader dome of the head feels tense but more careful palpation may disclose very large fontanelles, wide suture lines and an indentable thin cranium characteristic of hydrocephalus (2). Our patient presented with a fundal height bigger, than her dates and on physical examination a big fetal head in the cephalic presentation was noted. Radiography or sonography provides confirmation by the demonstration of a large, globular head as was the case in our patient.

Once fetal hydrocephalus is identified, a careful sonographic search for associated anomalies including meningomyelocele is indicated (1). Our patient was found to have associated holoprosencephally.

The obstetric Management of fetal hydrocephalus depends on gestational age at the time of diagnosis, the association of other anomalies and the view of the parents (1). If the diagnosis is made prior to fetal viability, then the parents can be advised for termination of the pregnancy. The same also is done if there are associated fetal malformations. In cases where conservative management of isolated hydrocephalus is given, then ventriculo amniotic shunting can be done to relieve the ventricular pressures. This reduced the chances of gross cranial and facial abnormalities and profound brain damage associated with untreated fetal hydrocephalus (4, 5). Our patient had hydrocephalus with associated severe holoprosencephally and polyhydramnios at 35 weeks gestation. These malformations were not compatible with life and necessitated termination of the baby. A decision to have her delivered vaginally was reached.

During vaginal delivery, where there is macrocephally, then cephalocentesis can be done to drain the C.S.F. to reduce the size of the fetal head. This reduces the chances of

casarean section. Cephalocentesis is a potentially destructive procedure, with perinatal deaths reported to occur in 91% of the cephalocentesis (1). Our patient was induced and when she was in active labour artificial rupture of membranes were done. Then the C.S.F. was drained by use of a needle, which enabled the patient to deliver vaginally. She delivered a fresh stillbirth which can be attributed to the cephalocentesis.

Postnatally the patient should be evaluated to determine the etiology, which may aid in genetic counseling. Several heritable patterns have been identified. Sex-linked recessive aqueductal stenosis carries 91:4 risk of recurrence for future pregnancies and 1:2 risks for male fetus. Cerebellar agenesis is also sex-linked (1).

Several syndromes which manifest dominant inheritances are associated with hydrocephalus e.g. achondroplasia and osteogenesis imperfecta, but the risk of hydrocephalus in future pregnancies cannot be accurately predicated (1).

Hydrocephalus may be associated with a variety of chromosomal abnormalities including Triploidy, trisomy 13, trisomy 18, and trisomy 21. The risk of recurrence is relatively low for sporadic chromosomal abnormalities, but may be much higher for balanced translocations (1). Our patient was advised to start her antenatal clinic early, in case she conceives again so as to monitor for any fetal malformation. She was also advised to have some chromosomal studies to rule out some of the above-mentioned conditions associated with hydrocephalus.

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Case No. 7

Ruptured Uterus –Laparotomy- Live Baby

Name : G. M. DOA : 31/3/2000
Age : 26 Years DOD : 6/4/2000
IPNO : 0716677 Para : 2 + 0

Presenting Complaints

Patient was admitted to labour ward with complaints of lower abdominal pains for a duration of about 6 hours.

History Of Presenting Illness

She was followed up in our antenatal clinic and was scheduled for elective caesarean delivery at 38 weeks gestation due to 2 previous caesarean sections. She started to have lower abdominal pains 6 hours before admission. Pain was intermittent and radiating to the back and also was increasing in intensity and frequency. She had no history of drainage of liquor or per vaginal bleeding. She delayed to come to hospital due to lack of transport.

History of Present Pregnancy

Her L.M.P was on 14/7/2000 and therefore her EDD was on 21/4/2001. She was at 37 weeks gestation when she was admitted. She was last seen in the ANC on 28/3/2001. She started her antenatal clinic at 29 weeks gestation and had 4 visits at the time she delivered. She had her antenatal profile done and showed she had a blood group A Rhesus (D) positive, VDRL – was negative and a haemoglobin level of 8.5gm/dl. She was admitted and treated for malaria at 30 weeks gestation. She had also been put on syrup Ranferon 10mls 8 hourly. She was scheduled for elective caesarean section at 38 weeks gestation but she went into labour before then.

Obstetive and Gynaecological History

She attained menarche at 14 years. Her menses were regular lasting 3 days, in a cycle of 28 days. She was para 2 + 0. Her first delivery was in 1997, done cesarean section due to fetal distress. The second delivery was in 1999, done cesarean section due to PROM at 34 weeks gestation. She had her antenatal clinic at Kenyatta National Hospital and was admitted for malaria at 30 weeks gestation: otherwise the antenatal clinic was uneventful. She had used oral contraceptives from 1998 to June 2000.

Past Medical History

This was not significant.

Family and Social History

She was married, housewife. Her husband was a Taxi Driver staying with her in Umoja Estate. She did not drink alcohol or smoke cigarette. Her mother was hypertensive. There was no family history of twins.

Physical Examination

Patient was in fair general condition. Her BP was 120/80mmHg and a pulse rate of 100 beats/minute. Her respiratory rate was 22/min. and she was a febrile. She had no oedema nor lymphadenopathy.

The Respiratory, Cardiovascular, Central Nervous systems were essentially normal.

Abdominal Examination

The abdomen was uniformly distended. Fundal height was term and the fetus was in the longitudinal lie, cephalic presentation. The presenting part was 4 fifth above the pelvic

brim. The fetal heart rate was 132/min regular. She was getting 3 contractions in 10 minutes lasting 40 seconds each.

Pelvic Examination

The external genitalia were normal and the cervix was fully effaced, with a cervical os 6cm dilated. Membranes were intact but ruptured spontaneously while being examined. There was no cord or caput felt.

Diagnosis

An impression of a 2 previous scar at 37 weeks gestation in labour was made.

Management

A decision to deliver her by an emergency caesarean section was made. A written consent was obtained from the patient. She was started on intravenous fluids and blood was taken for grouping and cross matching. She was given intramuscular Atropine sulphate 0.6mg and taken to theatre.

In theatre while in semi-lithotomy position, vulvo vaginal toilet was done and catheterised. Patient was repositioned in supine position and abdomen cleaned and draped. While she was being anaesthetised it was noted that the lower abdomen was distending and a fetal part was easily palpable. The abdomen was quickly opened through the old Pfannenstiel incision. The uterus was found ruptured in a classical incision manner with the fetal shoulder protruding through it. The previous lower uterine segment incision was intact. The baby was delivered cephalic and scored 7 in one minute and 9 in five minutes and weighed 3000gm.

The placenta was delivered and the uterine tear was held with green hermitage. The bladder was inspected and found intact though it had been sheered off the uterine

segment. The tear on the uterus was about 50% of the total uterine length and extended to the upper part of the cervix. The tear was successfully repaired through the abdominal route, inlayers using catgut number 2 and BTL done since this made the uterus to be too weak and hence risk of rupture in future pregnancy. The abdominal cavity was cleaned off the blood. Instrument and swab count was correct and abdomen closed in layers. The estimated blood loss was 1200mls. She was started on transfusion and bladder catheter left in situ.

Anaesthesia was successfully reversed and patient taken to the recovery ward.

Post Operative

She remained stable and while in the ward she was transfused another unit of compatible blood. She was put on intravenous crystalline penicillin and gentamycin for 48 hours. Later she was changed to Ampiclox 500mg, 6 hourly for 5 days.

The bladder catheter was retained for 7 days. Check haemoglobin level was 8.0gm/dl on the 3rd post operative day. Removal of stitches was done on the 7th day and wound was clean and healed well. Catheter was removed and patient discharged home to be seen in postnatal clinic after six weeks.

Postnatal Clinic

She never came back for the appointment in our clinic.

Discussion

Patient presented was a 26 years old para 2 + 0 with 2 previous casearean section who was admitted in active labour and had a rupture of the uterus while she was being anaesthetized for an emergency casearean section. A live baby was delivered and the mother's uterus was repaired with success and bilateral tubal ligation was done.

Uterine rupture can be defined as complete separation of the wall of the pregnant uterus with or without expulsion of the foetus that endanger the life of the mother and or the fetus. The rupture may be incomplete if not including the peritoneum or complete if it includes the visceral peritoneum (1, 2). Our patient had complete rupture.

Rupture of the uterus remains a common obstetric complication in most developing countries. The reported incidence of rupture of the uterus varies and the statistics are all based on hospital admission and so do not give the true incidence of the condition.

The incidence in Kenyatta National Hospital was found to be 1 in 192 deliveries (4, 5) while in other center's it was found to be 1 in 3000 deliveries (6).

In the developing countries, in adequate antenatal care and supervision in labour, injudicious manipulation by untrained attendants, and lack of appreciation of antenatal care services by the patients, coupled with shortage of transport and staff, all contributed to the high incidence. The most antecedent cause of uterine rapture is a previous sear, which has been reported to account for 54 – 99% - 66.6% of the uterine raptures (4). A vertical incision (classical scar) predisposes to a rupture rate of 3 – 4% compared with 0.25% for the lower segment scars (1). In our case the patient had 2 previous lower uterine cesarean sections (scars), which were on the lower uterine segment.

Other predisposing factors are previous uterine surgery e.g. myomectomy, manipulations during pregnancy or delivery such as version or the use of forceps. At the Kenyatta

National Hospital study operative vaginal delivery contributed to 11.6% of the patients who ruptured the unscarred uterus (4).

Spontaneous rupture may occur during labour, especially in patients with high parity and those patients who are hypersensitive to oxytocin. Rupture of the unscarred uterus is sudden and dramatic with a high fetal and maternal mortality (1).

The diagnosis of uterine rupture is based on clinical findings. Prior to circulatory collapse from hemorrhage, the symptoms and physical findings may be bizarre, if rupture occurs during labour the patient may complain of sharp shooting pain in the abdomen and there is cessation of uterine contraction. There may be fetal distress followed by vaginal bleeding. If the fetus is expelled to the abdominal cavity from the uterus, the uterus can be felt alongside the fetus, and fetal parts are more easily palpable (1, 2).

The chances for fetal survival are dismal and mortality rates reported in various studies range from 50 to 75 percent (2, 4). If the fetus is alive at the time of the rupture, the only chance of continued survival is afforded by immediate delivery most often by laparotomy (2). Our patient was done urgent laparotomy since the rupture occurred while she was in theatre and a live baby was delivered.

The life of the woman will depend on the speed and efficiency with which hypovolaemia can be corrected and hemorrhage controlled. Immediately after a rupture has been diagnosed, two effective, large-bore intravenous infusion catheter are established and crystalloid solutions started, patient should be grouped and cross-matched and transfusion commenced. Laparotomy should be done urgently (2).

At laparotomy a decision to perform Hysterectomy or repair the vent is made. If the tear is extensive and hard to control haemorrhage then hysterectomy is done, while for those patients with low parity repair if possible is performed. A study at Kenyatta National Hospital found that 47.6% of patients with rupture of the uterus had uterine repair, 29.2% had subtotal hysterectomy and 22% had total hysterectomy (4). Our patient had uterine

repair and BTL, since the tear resembled a classical incision that had extended to the cervix.

Uterine rupture is a sudden and generally unforeseen, uncommon event, which carries a significant maternal and prenatal mortality and therefore prompt diagnosis and surgical treatment are life saving. Repair of the rupture is a reasonable option given favourable circumstance. Because the scar of the repair is very likely to rupture in a subsequent pregnancy particularly if labour becomes obstructed again, tubal ligation should be considered. Our patient was para 2 + 0 and therefore repair and BTL were performed since her future child bearing possessed a great risk of a recurrent rupture.

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Case No. 8

Cord Prolapse - Caesarean Section-Live Baby

Name : S.W. DOA : 21/7/01
Age : 17yrs DOD : 25/7/01
IPNO. : 0750797 Parity : 0 +0.

Presenting Complaints

Patient had lower abdominal pains for around 12hrs before admission. The pains were intermittent and radiating to the back, increasing in intensity and frequency.

History Of Presenting Complaints

She had lower abdominal pains, which were intermittent and increased in frequency and intensity. Pain was radiating to the back. She had no history of vaginal bleeding or drainage of liquor. While she was at casualty she ruptured membranes spontaneously and when examined a loop of cord was found in the upper vagina. The patient was immediately placed in trendelenburg's position. She was started on an intravenous 5% dextrose infusion and oxygen by mask. Labour ward staffs were informed about the patient, who was quickly taken to labour ward.

Obstetric and Gynaecological History

She had her menarche at 15 years, and thereafter got her menstrual period after every 28 days and they were lasting 3 days. She was not using any method of contraception. She was paras 0 + 0. Her last menstrual period was on 7/10/2000 and the expected date of delivery was on the 14/7/01. She was therefore at a gestation of 41 weeks. She had attended a private clinic for her antenatal follow-up at Githurai since the gestation of three months. The records for her antenatal profile were not available.

Past Medical History.

This was not significant

Family and Social History

She was a married housewife. She was staying with her husband at Githurai. Husband used to sell paraffin in a petrol station. She had not used any cigarettes or drunk any alcohol. There was no history of any chronic illness in the family.

Physical Examination

She was in good general condition. She was a febrile not pale or jaundiced. She was not dehydrated. Her Blood Pressure was 110/70 mmHg, and a pulse rate of 80/min regular and of good volume. The temperature was 36.6⁰C and respiratory rate of 20/min. Respiratory Cardiovascular and central nervous systems were essentially normal.

Abdominal examination

The abdomen was uniformly distended. The fundal height was at term, the presenting part was cephalic and in a longitudinal lie. The present part was 5/5 above the pelvic brim. The fetal heart rate was 128/min irregular. She two mild uterine contractions in ten minutes last 20 seconds.

Vaginal Examination.

The external genitalia were normal. Cervix was centrally positioned and 1cm long. The cervical OS was 3cm long dilated. She was draining Meconium stained liquid and a pulsatile cord was felt in the upper part of the vagina.

Management

She was immediately put in Trendelenberg's position and theatre staff alerted about the patient.

She was informed about the findings and an informed consent obtained for an emergency Caeserian Section. She was Grouped and cross-matched. In theatre patient was positioned in supine and the head of the operating table telted downward such that the legs were elevated to easy pressure on the prolapsed cord. Emergency Caeserian section was done as illustrated in the introduction. She delivered a life male infant who scored 7 at one minute, and 9 at five minutes, and weighed 3100gms. The estimated blood loss was 350mls. The liquor was found to be stained with meconium.

Post operatively, she was put on Intravenous injection of X-pen 2mega unites 6 hourly and Gentamycin 80g 8hourly for 48hrs. Intramuscular injection of Pethidine 100g 6hourly was given to relieve pain for 24hrs. Intra-venous fluids were given for 24hrs when oral sips were allowed after return of bowel sounds. Her stay in the ward was uneventful; she fully recovered and was discharged home on the 4th POD for removal of stitches in the NHC and to be reviewed in the postnatal clinic after 6 weeks.

Follow Up

She was seen in the postnatal clinic after 6 weeks and found to be in good general condition. She was still breast feeding. The wound had healed well and uterus was well involuted. She was counselled on methods of and refered to FWC.

Discussion

A 17years old Para 0 + 0 who presented with a cord prolapse in labour and had emergency caeserian section with a good outcome is presented.

Cord prolapse occurs when the umbilical cord descends in advance of the presenting fetal part during labour (1, 2). This can be occult if the cord lies adjacent to the presenting part or overt if the cord is below the presenting part.

Conditions which result in poor fit of the foetus in the maternal pelvis or cervix during delivery increase the risk of cord prolapse (3). This includes breech or other abnormal fetal presentation, low birth weight, prematurity and multiple gestation (4, 5). Some other studies have shown that increased risk of cord prolapse in cases of multiple gestation, grand multiparity, abnormal placentation, high head at the onset of labour (6). The patient presented, had spontaneous rupture of membrane in early labour and before engagement of the presenting part.

The incidence of cord prolapse is low, occurring in less than 1:200 labours (6). The incidence of overt umbilical cord prolapse in cephalic presentation is 0.6%; frank breech 0.5%, complete breech is 5%; footling breech 15%, and transverse lie 20% (2). The patient presented had cord prolapse with cephalic presentation.

The diagnosis of cord prolapse is made by having a high index of suspicion, if it is not obviously protruding into the vagina. Patients who have risk factors for umbilical cord prolapse should be meticulously monitored in labour. Because a prolapsed cord is likely to be compressed between the presenting part and the pelvic wall or vagina, features of cord compression like variable fetal heart rate decelerations should alert the obstetrician to this possibility and perform a vaginal examination to rule out an overt cord prolapse or do an urgent Doppler ultra sound to determine an occult cord prolapse. However a diagnosis of occult cord prolapse can be reached if the pattern of fetal heart rate decelerations are relieved by having the patient lie on her side (7). On vaginal

examination, the examiner feels a soft, usually pulsatile structure in the vaginal canal like in the case of the patient presented.

The management of cord prolapse remains controversial. As neonatal care has improved, so there has been a steady decline in the perinatal mortality associated with cord prolapse, irrespective of the mode of delivery (6). Some studies here emphasized the danger of a prolonged prolapse to delivery interval and have urged prompt caeserian section unless the cervix is fully dilated and the presenting part at or below the ischial spines so that the fetus is immediately delivered by assisted delivery (8, 9).

If the fetus is viable and the cervical dilation does not warrant immediate delivery then the patient is put in either the chest position or deep Trendelburg's position and an upward manual pressure exerted on the presenting part to lift and maintain it away from the cord. Intravenous glucose solution and oxygen by mask should be administered. Lifting of the presenting fetal pole away from the cord can also be achieved by rapid filling of the bladder with 500 - 700ml of normal saline and concomitant intravenous administration of ritodrine to relax the uterus (6, 9). Our patient was put in Trendeleburg's position given intravenous glucose, and oxygen by Mask and prepared for emergency Caeserian section.

However if the cervix is fully dilated and the fetus is viable and there is no other obstetric complication, then assisted vaginal delivery should be allowed. Studies have shown no difference in the fetal outcome by performing caeserian sections in such patients (3). Vaginal delivery should also be allowed when there is already fetal demise or evidence by unpuulsating cord vessels. Our patient was done emergency caeserian section because she had cord prolapse at a cervical dilatation of 3cm and also was draining meconium stained liquor.

One study has championed manual replacement of the cord, termed funic reduction, describing a successful vaginal delivery in 7 of 8 cases so treated. The interval between

replacement of the cord and vaginal delivery ranged from 14 to 512 minutes (8.5hrs) (10).

Reference: 2002 J. H. Thakur P. J. et al

Cord prolapse poses risk both to the mother and the fetus. Maternal complications include those related to anaesthesia, blood loss and infection following caeserian section or operative vaginal delivery. Fetal mortality and morbidity rates are high and the prognosis depends upon the degree and duration of umbilical cord compression occurring before the diagnosis is made and neonatal resuscitation began (2). Complete cord compression results in the development of profound metabolic acidosis within 10 - 20 minutes (7), which may lead to asphyxia and death.

Reference: 2002 J. H. Thakur P. J. et al

To reduce the adverse effects of cord prolapse, urgent intervention is required. In the developing world where facilities are often over-stretched and under staffed, anticipation and prevention still remains the Hallmark of adequate management.

Reference: 2002 J. H. Thakur P. J. et al

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Case No. 9

Cervical Carcinoma in Early Pregnancy - Hysterotomy

Name : J. W. Parity : 2 + 0
IPNO. : 0747702 DOA : 3/7/2001
Age : 25 Years DOD : 24/7/2001

Presenting Complaints

Patient presented with painless per vaginal bleeding for a duration of four months.

History of Presenting Complaint

Patient had been referred from a private clinic in town where she had presented with painless vaginal bleeding and post coital bleeding for four months. She also had amenorrhoea of one month before she started having the painless vaginal bleeding. A pregnant test done in the clinic was positive. Speculum done then showed a cervical mass and Biopsy taken. Histology showed a non keratinising squamous large cell tumor of the cervix. In this clinic EUA was not done and therefore the stage of the disease was not known.

Past Obstetric and Gynaecological History

She had her menarche at 14 years. Her periods were regular, painless and lasted 3 days every 28 days. She was para 2 + 0. Her first delivery in 1997 at Thika District Hospital was a spontaneous vaginal delivery to a fresh stillbirth. Second delivery in 1998 was by spontaneous vaginal delivery to a life infant who is alive and well. Puerperium was normal each time. Her last menstrual period was in February 2001 but she was not sure of the actual dates. She gave no history of contraceptive use.

Past Medical History

This was not significant.

Family and Social History

She was a divorced mother, unemployed, staying with her sister here in Nairobi. She did not drink alcohol or smoke cigarettes. There was no history of any chronic illness in the family.

Physical Examination

She was in good general condition. She was not pale and afebrile. She had no lymphadenopathy, no pedal oedema. Her blood pressure was 110/70 mmHg, PR 80/min regular and of good volume and a temperature of 36.8⁰C. The cardiovascular, respiratory and central nervous systems were essentially normal.

Abdominal Examination

The abdomen was distended more on the hypogastrium. The uterine size was at 20 weeks. There were no areas of tenderness. Liver and spleen were not palpable.

Vaginal Examination

The external genitalia was normal. Vulva toilet was done. Speculum examination revealed normal vagina. There was a fungating friable mass at the anterior tip of the cervix about 2cm in diameter.

Diagnosis

A diagnosis of carcinoma of the cervix in early pregnancy was made.

Investigation

Pregnancy test	-	Positive		
HB	-	12.0gm/dl		
Urea and electrolytes	-	Na+	-	132 mmno/l
		K+	-	3.51 mmno/l
		Creatine	-	47 μ mol/l
Histology	-	Biopsy showed a poorly differentiated infiltrating and non keratinising tumor of the cervix.		

Management

Patient was therefore prepared for E.U.A. She was starved from mid night of the day before theatre. She was premedicated with intramuscular atropine 0.6mg, 30 minutes before she was taken to theatre.

In theatre patient was put under general anaesthesia and positioned in the lithotomy position. Vulvo-vaginal toilet was done and bladder catheterised. Speculum examination was done which revealed a fungating friable cervical mass. Biopsy was taken for histology. Digital examination was done and a cervical mass felt. Mass was not extending to the parametrium, or upper 1/3 of the vagina, it was confined to the cervix. The pelvic walls were free. The disease was staged as stage IIA.

In view of the early pregnancy with carcinoma of the cervix stage IIA, a decision to terminate the pregnancy and start radiotherapy was made. She was counselled and informed about her condition and gave an informed consent for the termination of the pregnancy. Blood was taken for grouping and cross matching and 2 units of compatible blood were obtained.

Hysterotomy

In theatre under general anaesthesia, vulvo vaginal toilet was done and bladder catheterised. Abdomen was cleaned and draped. Abdomen was opened in layers through a pfannenstiel incision. A normal gravid uterus was found of about 20 weeks gestational size. The ovaries and tubes were grossly normal.

Through a classical incision, the uterus was opened. The fetus was delivered breech and weighed 450gm placenta was delivered and the uterine cavity cleaned and closed in layers. Haemostasis was achieved. Instrument and swabs counted and found correct. The abdomen was closed in layers. General anaesthesia was successfully reversed. The estimated blood loss was 600mls.

Post Operative Care

Vital signs were observed 1/4 hourly till when she was fully awake and then transferred back to the ward. In the ward vital signs were observed 4 hourly. She was maintained on intravenous fluids of 5% dextrose alternating with normal saline at 500mls, 6 hourly. Pethidine 100mg, 8 hourly was given for analgesia, crystalline penicillin 2Mu, 6 hourly and gentamycin 80mg, 8 hourly were given as antibiotic prophylaxis. Oral sips were started on the 2nd post operative day. Third post operative day check haemoglobin level was 11.2g/100ml.

Post operative recovery was uneventful and on the 4th post operative day wound was noted to be healing well and it was dry hence patient discharged home through radiotherapy department. Radiotherapy was started on 8/8 2001 and she was to continue with the treatment has an outpatient. She also to be seen again GOPC after 6 weeks.

Follow-up

She was seen in the clinic as scheduled. The wound had healed well. She had no complaints .She was still being given radiotherapy in the Radiotherapy department.

Discussion

The presented is a 25 years old para 2 + 0 who presented with Ca cervix stage IIA at 20 weeks gestation. She was managed by hysterotomy followed by radiotherapy.

Cervical carcinoma is the most commonly diagnosed malignancy during pregnancy. The incidence of carcinoma in situ during pregnancy is about 1.3 per 1000 and for invasive carcinoma is about 1 per 2200 pregnancies (1, 2).

A number of factors have been associated with cervical cancer development. Women with increased risk includes prostitute, Prison inmates, female attendants in clinics that treat patients with sexually transmitted diseases. Other factors associated with increased risk include multiple marriage, early age at first coitus and first marriage, poor personal hygiene, non-circumcision of partner and multiple sexual partners. Infections such as HPV and HIV have been associated with cancer of the cervix (3). The patient presented had been divorced and hence had conceived with a different partner hence can be classified as having multiple sexual partners.

Patients with squamous intraepithelial lesions usually do not have symptoms. Invasive cervical cancer is more likely to cause such symptoms as abnormal vaginal bleeding, post coital bleeding. Many patients have a profuse and often malodorous discharge (2, 3). Our patient presented with painless abnormal vaginal bleeding and post coital bleeding which elicited suspicion that lead to speculum examination and subsequent cervical biopsy.

One third of the patients that are asymptomatic diagnosis can be made at pap smear (1). Pregnancy presents a peculiar opportunity to undergo cytolcolposcopic examination for those women who do not take part in a screening program for cervical cancer. Invasive cancer of the cervix is found more frequently in areas where routine prenatal cytological examination is done (4). Incidence of abnormal pap smear during pregnancy has been reported on as high as 7.2% (1).

Colposcopic examination is neither needed, nor particularly effective for a gross cervical lesion but can be helpful when there is a small surface lesion, to identify the most abnormal area for directed biopsy. The primary benefit of colposcopy is in visualizing non invasive, precursor; or minimally invasive lesions that cannot be visualized without magnification (3). During pregnancy colposcopic evaluation is easier to perform because the transformation zone is better exposed due to physiological eversion. Colposcopically directed biopsy during pregnancy is safe and reliable, its diagnostic accuracy is 99%. During pregnancy endocervical curettage is omitted to avoid risk of hemorrhage and membrane rupture. Cone biopsy is best avoided since it is associated with increased preterm labour and abortion (1, 2, 6).

Pregnancy is not a potent stimulus for progression of dysplasia to invasive neoplasia nor does it alter the progress of cervical cancer (2, 4). The age of the patient at diagnosis has no influence on progression and women with cervical carcinoma diagnosed during pregnancy have similar survival rates to those of non - pregnant women (1). Pregnancy coexisting with invasive cervical cancer complicates both staging and treatment (2).

Pregnancy does not alter the treatment of cervical cancer, though the gestational age at diagnosis may alter the timing of its initiation (1). Treatment of cancer of the cervix varies according to its stage and pregnancy duration (2). In non - invasive disease the pregnancy is allowed to continue up to delivery then followed by postpartum assessment with colposcopy and appropriate therapy (1, 2) patient with non invasive dysplasia may be allowed vaginal delivery (1, 2).

Invasive carcinoma demands relatively prompt treatment and it depends on the gestation, fetal viability and the stage of the disease. In stage I and IIA of cancer diagnosed in 1st and 2nd trimester of pregnancy; immediate interruption of pregnancy by abortion induction or hysterotomy is preferred. In the late 2nd and early third trimester, cancer treatment may be delayed 4 - 6 weeks to increase the likelihood of fetal lung maturation without compromising on maternal prognosis (2, 4, 6, 7). Our patient presented with a

pregnancy in the early part of 2nd trimester and disease stage IIA. She therefore had hysterotomy for termination of the pregnancy.

In advanced disease i.e. IIB and above, primary radiotherapy is the safe and effective modality (2, 4, 8). In the 1st trimester irradiation may be carried out with the expectation of spontaneous abortion. In the 2nd trimester interruption of pregnancy by hysterotomy prior to radiation is preferred, although some physician advocate proceeding with radiation and ignoring the pregnancy, awaiting spontaneous evacuation of the uterus (4). In late pregnancy with advanced stage disease, immediate cesarean section followed by radiotherapy is the ideal treatment.

The overall prognosis for all stages of cervical cancer during pregnancy is probably similar to that for non-pregnant women (2). Survival rate of stage IIA disease is 50 - 60%. Our patient falls in this category.

Subsequent pregnancy following cancer therapy may not be possible due to gonadal ablation and hysterectomy. Assisted reproductive technology might offer these women fertility potential (8). The patients ova may be retrieved and stored before radiotherapy to be used later for in vitro fertilization. Our patient was para 2 + 0 with one living child. She was explained of the consequence of the disease if left untreated and therefore gave consent for the termination of the pregnancy.

PAP smear screening program which is not effective in our country should be incorporated in routine ANC profile so as to pick the neoplastic cervical changes in pregnancy.

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Case No. 10

Abdominal Pregnancy - Laparotomy Done - Macerated Still Birth

Name : N. S. IPNO : 0735522
Age : 35 Years DOA : 11/5/2001
Parity : 2 + 0 DOD : 18/5/2001

Presenting Complaints

The patient was admitted to labour ward with complaints of generalized abdominal pains and failure to pass stool for 4 days.

History of Presenting Complaints

Patient was referred from Kajiado District Hospital with a diagnosis of intestinal obstruction at term. She had been admitted there for three days, with 4-day history of fever, diarrhea and vomiting. She was put on some treatment for the same and later she complained of inability to open bowels. There was no history vomiting at the time of referral. She was then referred to Kenyatta National Hospital for further investigation and management.

History of Present Pregnancy

She was not sure of her dates. She had her last menstrual period in early August 2000 and therefore her expected date of delivery was late May 2001. On admission she was at a gestation of about 39 weeks. Efforts to enquire about her quickening were not fruitful. She had never attended antenatal clinic. Her pregnancy was uneventful until the onset of the above symptoms. She never had abdominal pain nor per vaginal bleeding during the index pregnancy. She had no antenatal profile done

Past Obstetric and Gynaecological History

She had her menarche at 15 years. Her monthly periods were regular after every 28 days and lasting for 4 days. She had never used any contraceptives. She had 2 children whom she had normal spontaneous vertex deliveries. All were alive and well.

Past Medical History

There was no significant past medical or surgical history.

Family Social History

She was a married housewife staying with her husband at Namanga. The husband was a herdsman. She neither smoked cigarettes nor drunk alcohol. There was no chronic illness in the family.

Physical Examination

The patient was found to be sick looking wasted and moderately dehydrated. She was mildly pale, afebril. She had no jaundice, oedema or lymphadenopathy.

Her blood pressure was 140/90mmHg and a pulse rate of 80/min regular and of good volume. The respiratory rate was 22/min.

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

Abdominal Examination

The abdomen was uniformly distended with a fundal height corresponding to 28 weeks gestation. The lie was longitudinal and breech presentation. The fetal heart sound were not heard. There was moderate generalized abdominal tenderness and guarding. There

were no contractions. The bowel sounds were not increased. Per rectal examination revealed normal rectal mucosa, and there was no fecal impaction.

Pelvic Examination

The external genitalia were normal. There was no per vaginal bleeding. The cervix was 2 cm long and closed, posteriorly positioned.

Impression

Diagnosis of intra-uterine foetal death was made.

Management

Patient was put on intravenous infusion of 5% dextrose to alternate with normal saline, she was to receive 500mls of fluid 6 hourly to correct dehydration.

She was taken for an emergency ultra sound. Scan revealed an intra uterine fetal death. The fetus was in breech presentation, and spalding sign was seen.

A decision to induce her was reached. Bedside was done and found to be 5 minutes. A Foleys catheter was inserted into the uterine cavity via the cervical canal and 10gm of extra amniotic prostaglandins diluted with 20mls of normal saline was irrigated to the extra amniotic space. This was done until the catheter fell. The catheter fell and hence the patient was commenced on intravenous oxytocin 5 I.U in 5% dextrose and started at 10 drops per minute and was to be increased after every 30 minutes till 60 drops per minute or until uterine contraction were 3 in 10 minutes lasting each 30 - 40 seconds. The patient started getting mild contractions. She was being monitored with the partogram.

Repeat vaginal examination was done. It was found difficult to push the examining fingers into the cervical canal though the cervix was easily felt.

A speculum examination was done and the cervix was found to be deviated to the right, and facing posteriorly. The cervix was open, about 4 cm dilated. Repeat digital examination was done this time the canal was located and found to be pushed anteriorly and upwards towards the bladder region. Below the examining finger in the cervical canal one could palpate fetal parts in the pouch of Douglas. The uterine cavity felt empty.

This finding caused suspicion and abdominal examination was repeated which revealed prominent fetal parts. An extra-uterine pregnancy was queried.

The catheter was reinserted in the cervical canal and ballooned. An urgent ultrasound was requested to confirm abdominal pregnancy. The repeat ultrasound showed a single intra-uterine fetus in the breech presentation with no cardiac activity. The ballooned catheter was at the same level with the fetal spine.

Due to the clinical findings and failure to respond to syntocinon induction a decision was made to do a laparotomy due to the high index of suspicion of an abdominal pregnancy. Three units of blood were grouped and cross matched and made available for theatre.

Investigations

Ultra Sound

11/5/2001 : Single intra-uterine pregnancy in the breech presentation.
Biparietal diameter corresponding to 31 weeks gestation.
Spalding sign was positive amount of liquor was normal. No cardiac activity noted. It was therefore concluded that the patient had IUFD.

13/5/2001 : Single intra uterine pregnancy in breech presentation. Spalding sign positive. No cardiac activity. Catheter balloon noted in the uterine cavity at the same level with the fetal spine.

Conclusion - Intra-uterine fetal death.

11/5/2001 Bed side clothing time - 5 minutes.

13/5/2001 PCV - 23%

13/5/2001 U/E - Na⁺ - 129 mmol/l

U⁺ - 3.9 mmol/l

BUN - 2.1 mmol/l

Creatinine - 95 μmol/l

Laparotomy (14/5/2001)

The patient was prepared for laparotomy. An informed consent was taken and patient pre-medicated with atropine sulphate. In theatre, patient was anaesthetized. Vulvo vaginal toilet was done and catheterised, clear urine was obtained. The abdomen was cleaned and draped. The abdomen was opened in layers. An extra uterine pregnancy was found with the foetus in the pouch of Douglas. The placenta was anterior attaching to the uterus and the broad ligament and intestines. The uterus was bulky and pushed against the pubic bone with the utero-vesical pouch obliterated. The tubes were adherent to the placenta.

The macerated foetus was delivered from the pouch of Douglas and weight 2300mg. The cord was cut short near the placenta, which was left in place. The placental edge next to the area where the baby was delivered was found to have separated and hence bleeding. A figure of 8 was put and haemostasis achieved. The abdominal cavity was cleaned with warm saline. Instruments and swabs were counted and reported correct. The abdomen was closed in layers. Anaesthesia was successfully reversed. Total blood loss was 1000mls.

Post Operative Care

The patient was transfused 3 units of blood intra- operatively and post operatively. She was put on intravenous normal saline and 5% dextrose 500ml 4 hourly. Vital signs were observed 1/2 hourly until when she was fully awake.

Intra-muscular pethidine 100mg eight hourly was given over 24 hours for analgesia. Intravenous crystalline penicillin 2 mU six hourly, gentamycin 80mg eight hourly and flagyl 500mg eight hourly were also given as antibiotic prophylaxis.

On the 3rd post operative day check haemoglobin was 9.5 gm/dl. She remained well post-operative and was discharged on the 7th day after removal of all stitches. She was to be reviewed in the gynaecology out patient clinic after 6 weeks.

Post Operative Follow – up

She did not turn up for the appointment.

Discussion

Patient presented was a 35 year old para 2 + 0 married housewife who had advanced abdominal pregnancy. She presented with what was thought to be intrauterine fetal death to which induction with oxytocin failed. She had earlier on presented at Kajiado Hospital with what was thought to be intestinal obstruction in pregnancy.

Abdominal pregnancy can be classified as primary or secondary. In primary abdominal pregnancy there is presence of normal tubes and ovaries without evidence of trauma, there is absence of a utero-placenta fistula and attachment of the conceptus exclusively to the peritoneal surface. Secondary abdominal pregnancy which is more common occurs when the fetus escapes from the tube through a rupture or through the fimbrial end (1). Our patient was thought to have secondary abdominal pregnancy.

The incidence of abdominal pregnancy is increased after gamete intra-fallopian transfer; in vitro fertilization and ovum transfer and induced abortion (2). Endometriosis, tuberculosis and intrauterine devices may also contribute to an increased incidence (3,4). Patient presented had no such history.

The incidence of abdominal pregnancy is influenced by frequency of ectopic pregnancy in the population, availability of care early in pregnancy, use of assisted reproductive techniques and the degree of suspicion exercised by those providing care (5).

Incidence of abdominal pregnancy of 1 in 3337 births at Charity Hospital in New Orleans was reported, while in India 1 in 7931 was reported (6, 7). In Kenyatta Naitona Hospital an incidence of abdominal pregnancy of 1:1959 deliveries and 1:98 ectopic pregnancies was reported (8).

The diagnosis of abdominal pregnancy is difficult but may be suspected if there is history suggestive of tubal pregnancy or abortion; a pregnancy complicated by unusual

gestro-intestinal symptoms, fetal movements that are very marked or painful, easy palpation of the fetal parts. Fetal parts may be palpable from the vaginal fornix (1). The patient presented had been diagnosed to have intestinal obstruction in pregnancy and on palpation the fetal parts were easily palpable. Fetal parts were palpated in the pouch of Douglas.

On physical examination other signs which may lead to suspension of abdominal pregnancy may include a displacement of the cervix which may dilate during induction but may not be effaced. The uterus may be outlined over the lower part of the pregnancy mass (5). Our patient was on induction with extra amniotic prostaglandins, which were irrigated using a ballooned catheter. The catheter fail but the cervical canal was difficult to be located digitally. Speculum exam showed an open cervix, which was displaced to the right side and pointing posteriorly. Probing the cervical canal with a catheter showed a displacement upwards and anteriorly. The uterus was hard to palpate.

The diagnosis of abdominal pregnancy includes radiological findings, ultra sonography. Plain lateral abdominal X-ray shows the fetus high in the abdomen over the material spine. If fetal death had been confirmed then a hystero-salpingogram may be diagnostic, a procedure which otherwise should not be performed in pregnancy (1, 5). Ultrasound finding with an abdominal pregnancy most often do not allow an equivocal diagnosis to be made. Even with excellent equipment in well-trained hands, a sonographic diagnosis of abdominal pregnancy is missed in 50% of cases (9). The patient presented even after suspension was raised and sent back for a second ultrasound with a catheter in the uterine cavity, a diagnosis of abdominal pregnancy was missed.

The management options depend on the time of diagnosis. If the diagnosis is after 24 weeks gestation some institution advocate to await fetal viability within hospital (5) which carries a risk for sudden life threatening intra- abdominal bleeding. In cases less than 24 weeks gestation treatment is probably indicated for maternal induction because fetal survival is extremely poor. Beachman and co-workers reported a perinatal loss of 95 per cent (6).

The foetus may die when its too large to be resorbed and hence may undergo suppuration, mummification, calcification or form an adipocere. Fetal parts may be extended through the abdominal wall or more commonly into the intestine or bladder (10).

Laparotomy for abdominal pregnancy may precipitate massive hemorrhage. It is therefore mandatory that at least 2000mls of compatible blood be on hand in the operating room (5). In the case of the patient presented 4 units of compatible blood were available. Patient bled due to partial separation of the placenta during removal of the foetus and this necessitated intra- operative transfusion. In general the infant should be delivered, the cord severed close to the placenta and the placenta left insitu; the abdomen is then closed.

If the placenta is left insitu, its involution may be monitored using ultrasound and qualitative serum BHCG levels. For a short period of time methotrexate was recommended to hasten involution and resorption. Unfortunately this led to accelerated placental destruction, with accumulation of necrotic tissue and ultimately to infection and abscess formation (11). It is therefore considered best not to use methotrexate (5). The patient presented placenta was left insitu and she was not given methotrexate and was to be followed up on ultrasound.

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Case NO. 11

Breech Presentation in a Primigravida: Emergency Caesarean section - Live Baby

Name : M. M. N. IPNO.: 0741203
Age : 22 years DOA : 8/6/2001
Parity : 0 + 0 DOD : 13/6/2001

Presenting History

The patient was admitted to labour ward via casualty with complaints of lower abdomen pains, backache. Pains were intermittent and radiating to the back and were increasing in intensity and frequency for a duration of 6 hours. She did not have any per vaginal bleeding or drainage of liquor.

Past Medical History

This was not significant.

Past Obstetric and Gynaecologic History

The patient was para 0 + 0. Her last menstrual period was on 12/9/2000 and her expected date of delivery was on 19/6/2001. She was at 39 weeks gestation at the time of admission. Her menarche was at 14 years. Her monthly periods used to be regular with a cycle of 28 days and lasting for 4 days.

She had attended antenatal clinic at St. Johns Githurai for 4 visits. Antenatally she did not experience any problem. She gave no history of use of any family planning methods.

Antenatal Profile

Haemogram	-	HB	-	12gm/dl
VDRL	-	Negative		
Blood Group	-	O Rhesus (D) Positive		

Family and Social History

She was a house wife .Her husband was working in a construction firm in town. She neither drunk alcohol nor smoke cigarettes. There was no chronic illness in the family

Physical Examination

On admission patient was in good general condition. Clinically she was a febrile with a temperature of 36.9⁰C. She was not pale or jaundiced, and did not have leg oedema. Her blood pressure was 120/70mmHg. She had a pulse rate of 82 beats/minute, regular and of good volume and a respiratory rate of 22/minute.

Respiratory and cardiovascular system were essentially normal.

Abdominal Examination

On inspection, abdomen was uniformly distended. On palpation the fundal height was found to be corresponding to a term pregnancy. The foetus was in longitudinal lie and the presentation was breech. The presenting part was four fifths above the pelvic brim. The fetal heart rate was regular at 134 beats/minutes. She had 2 contractions in 10 minutes lasting 20 - 30 seconds.

Vaginal Examination

She had normal external genitalia. On digital examination, the vaginal walls were normal, the cervix was found to be 50% effaced and centrally placed. The cervical OS was 2cm dilated. The membranes were intact and the presenting part, foot was felt through the membranes. Artificial rupture of membranes was not done.

Diagnosis

A diagnosis of footling breech in a primigravida at 39 weeks gestation in early labour was made.

Management

Patient was put on intravenous infusion of 500mls of 5% Dextrose. Blood for grouping and cross matching was taken. The patient was explained about the findings and the mode of delivery expected and gave consent for caesarean section.

She was premedicated with intramuscular injection of Atropine Sulphate 0.6mg and pubic hair shaved.

Operation

Patient was taken to theatre 30 minutes after premedication. She was put in semi lithotomy position on the operation table. Vulval toilet was done and bladder catheterised. Clear urine was drained and catheter left insitu for continuous drainage. Patient was then positioned on the supine position. Abdomen was cleared and draped using sterile towel. General anesthesia was then given and anterior abdominal was opened in layers through a sub-umbilical mid line incision. The lower uterine segment was identified. Bladder was retracted and the uterus was opened through an elliptical incision. Membranes were ruptured and meconium stained liquor drained.

The baby was delivered by breech extraction. A live male infant of weight 3400gm was delivered and score 9 in one minute and 10 in 5 minutes. Placenta was manually extracted and weighed 600g. The uterus and abdomen were closed in layers and haemostasis achieved. The estimated blood loss was 400mls. Patient was reversed from general anaesthesia successfully.

Post Operative Management

After the operation, patient's vital signs were taken half hourly till when she was fully awake then thereafter four hourly.

She was put on intravenous infusion of 500mls of 5% dextrose being alternated with 500mls of normal saline every six hours for 48 hours. For analgesia she was put on intramuscular injection of 100mg of pethidine 6 hourly for 24 hours. She was also put on intravenous injection of 2-mega unit of crystalline penicillin 6 hourly, Gentamycin 80mg 8 hourly for 48 hours for antibiotic prophylaxis.

Daily inspection of the colour and smell of lochia was done. On the 3rd post operation day hemoglobin level was checked and found to be 11.3 gm/dl. On the 4th post operative day the wound was opened and found to be dry and healing well. She was discharged home and advised to have removal of stitches on the 7th post operative day in the nearest health facility. She was to come again for her postnatal clinic after 6 weeks.

Follow-Up

Patient was seen in the clinic after six weeks. Her puerperium was uneventful. The wound had healed well. She was advised on family planning and sent to family planning clinic.

Discussion

The patient presented was para 0 + 0 who was admitted in labour and diagnosed to have a footling breech. Emergency caesarean section was done with good maternal and fetal outcome.

Breech presentation is common remote from term. Breech presentation persist in only about 3 to 4 percent of singleton deliveries (1, 2). In Nairobi the incidence of breech presentation is 27% (Mati et al) (3). Breeches are more common at the end of second trimester of pregnancy than at or near term (1).

The etiology is not known for breech presentation. There are factors, which predispose to breech presentation and includes, uterine relaxation associated with greater parity, uterine anomalies, multiple fetuses, hydramnios, oligohydramnios, hydrocephalous, anecephalus, previous breech deliveries and tumors in the pelvis (1). None of these factors was found in the patient presented. Implantation of the placenta in the cornual-fundal region of the uterus has been suspected to be a predisposing factor to breech presentation (4). Placenta previa also predisposes to breech presentation but no strong correlation has been shown between breech presentation and a contracted pelvis.

Three type of breech are distinguished, according to fetal attitude; with birth weights of more than 2500gm, 65% are frank breech where both hips are flexed and both knees extended, 10% are complete breech where both hips are flexed and one or both knees are flexed and 25% are footling breech where one or both limbs are not flexed, and one or both feet or knee lies below the breech. Our patient had a footling breech (5).

In the persistent breech presentation an increased frequency of the following complications can be anticipated (1).

1. Perinatal morbidity and mortality from difficulty delivery.
2. Low birth weight from preterm delivery, growth retardation or both.

3. Prolapsed cord
4. Placenta previa
5. Fetal, neonatal and infant anomalies
6. Uterine anomalies and tumors
7. Multiple fetuses
8. Operative intervention especially cesarean delivery. Our patient never had any of these complications though she had cesarean delivery.

Diagnosis of breech presentation can be made on abdominal palpation and ballotment. The first leopard's maneuver, the hard, round, readily ballotable fetal head is found to occupy the fundus of the uterus. In the third maneuver the breech is palpable above the pelvic inlet if no engagement. After engagement the fourth maneuver shows the firm breech to be beneath the symphysis. The heart sounds of the foetus are usually heard loudest slightly above the umbilicus.

Whenever a breech presentation is recognized during the third trimester an attempt may be made to substitute a cephalic presentation by external version (1). This procedure has received renewed interest due to the availability of ultrasound, electronic fetal heart rate monitoring, and B mimetic uterine relaxants. In one study where B mimetic uterine relaxants were used 75% of the versions were successfully, resulting on a 30% casarean delivery rate compared with 75% when version was not attempted (6). Routine external cephalic version is not done in our unit.

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The management of breech presentation presents unique problem. The increased perinatal mortality and morbidity rate of deliveries of infants in a breech presentation over those in a vertex presentation are well documented (7). Vaginal delivery is only permitted in a well formed average to large gynaecoid pelvis with normal morphological features. The transverse diameter of the inlet should be at least 12cm and the true conjugate 11.5cm. The mid cavity should be at least 10cm, the sacrum hollow and supra pubic arch normal. The patient presented was not planned for vaginal delivery since she was not our clinic attendant, hence she was done emergency cesarean section.

Cesarean delivery is commonly used in cases where the foetus is large, in contracted pelvis, hyper extended fetal head; a footling breech presentation and where sterilization is requested. The patient presented had footling breech and hence cesarean section was done.

The rate of cesarean section for breech presentation delivery is increasing due to the reported reduction of perinatal mortality and morbidity from trauma and hypoxia (8). Most centers perform cesarean section in about 75% of all patients with breech presentation.

The patient presented was a primigravida who was done emergency cesarean section with good outcome for the mother and the baby, though it has been noticed that maternal risks are more when an emergency cesarean section is done instead of an elective cesarean section (9). There is a high repetitive frequency of about 21% breech presentation in women who had previously delivered an infant in breech presentation (10). Therefore subsequent pregnancies in this patient should be regarded as a high risk.

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Case No. 12

Fetal Distress – Casearean Section – Live Baby

Name	:	S. N.	DOA	:	08/03/2001
Age	:	20 Years	DOD	:	15/03/2001
IPNO	:	0721575	Para	:	0 + 0

Presenting complaints

The patient presented with history of lower abdominal pains for a duration of 6 hours.

History of Presenting Illness

She had been admitted to labour ward through casualty with complaints of lower abdominal pains for a duration of 6 hours. The pains were intermittent and radiating to the back. The pain was also increasing in intensity and Pregnancy frequency. She had no dysuria, frequency of micturation or urgency. She had no history of vaginal bleeding or drainage of liquor.

History of Present Pregnancy.

She had attended antenatal clinic in a City Council Clinic at Huruma. Her last menstrual periods were on 06/06/2000 and her expected date of delivery was on 13/03/2001. She was at 39⁺ weeks of gestation at the time of admission. She had only made 2 visits and no antenatal profile done.

She had no problem in her antenatal period.

Past Obstetric and Gynaecological History

She had her menarche at 13 years. Her periods were irregular, painless and lasted for 7 days every 20 – 26 days. She was a primigravida. There was no history of contraceptive use.

Past Medical History

She had been admitted at Embu provincial Hospital due to asthmatic attack in 1997. She was a known asthmatic on ventolin 4mg orally 8 hourly

Family and Social History

She was single; staying with her sister at Huruma. She had dropped out of school at standard 8. She neither smoked cigarettes nor drunk alcohol. There was no chronic illness in the family.

Physical Examination

She was in good general condition. Her blood pressure was 110/70ml and a pulse rate of 82/min. She was not pale, not jaundiced and was afebrile. She had no oedema, cyanosis or lymphadenopathy.

Respiratory, cardiovascular and central nervous systems were essentially normal.

Abdominal Examination

The abdomen was gravid with a fundal height corresponding to term. The foetus was in the longitudinal lie and in cephalic presentation. The presenting part was 4/5 above the pelvic brim. The fetal heart rate was 142 per minute and regular. She had mild contraction two contractions in ten minutes lasting for 20 seconds.

Pelvic Examination

She had normal external genitalia. The vaginal walls were moist and healthy. The cervix was 1cm long posteriorly positioned. The cervical os was 3cm dilated. The pelvis felt adequate.

Diagnosis

At this point a diagnosis of latent phase of labour was made and she was to be reviewed after 4 hours.

Subsequent Reviews

Review after 4 hours showed that the patient was getting moderate contractions. The fetal heart rate was 118/minute irregular and the presenting part was still 4/5 above the pelvic brim. Pelvic examination revealed that her cervical os was now 5cm dilated membranes were bulging and artificial rupture of membranes done. Thick meconium stained liquor was encountered. There was no cord, no caput felt or moulding.

Diagnosis

An impression of fetal distress was made.

Management

A decision to deliver her by emergency casearean section was made. She was put on her left lateral position. Intravenous 10% dextrose was started and put on oxygen by mask. Blood was taken for grouping and cross matching. She gave an informed consent for the operation. Intramuscular atropine sulphate 0.6mg was given before the patient was taken to theatre.

In theatre the patient was put to semilithotomy position and vulvo – vaginal toilet done. She was catheterized and 60mls of clear urine obtained.

The patient was then put in supine position, and abdomen cleaned and draped. She was then put under anaesthesia. The abdomen was opened in layers through a sub-umbilical midline incision. The uterus was opened through a transverse lower uterine segment incision. Thick meconium was found.

A life female infant who scored 9 at minute and 10 at 5 minutes was delivered and weighed 2950gm. The umbilical cord was found to have a true knot. The placenta was delivered and inspected, and found to be healthy. The uterus was closed in layers and haemostasis successfully achieved. Swabs and instruments were counted and found correct. Abdomen was therefore closed in layers. General anaesthesia was successfully reversed.

Post Operative Management

In the recovery ward the patient's temperature, pulse, blood pressure and respiratory rate were observed and remained within normal. Pethidine 100mg 8 hourly was given for analgesia, intravenous crystalline penicillin 2mu 6 hourly and Gentamycin 80mg 8 hourly was given for antibiotic prophylaxis over a duration of 48 hours. On the second post operative day she developed an asthmatic attack which was managed with I.V. amnionphylline 500mg in 5% dextrose for a duration of 12 hours.

The wound healed slowly due to a cough related to the asthmatic attack and removal of stitches was delayed up to 10th day post operative. Her check haemoglobin level on the 3rd day was 10.5gm/dl, and pus swab from the raw areas of the wound yeiled no growth.

On removal of the stitches the wound had healed well and she was discharged home to come again to postnatal clinic after 6 weeks.

Postnatal Clinic

She did not honour her appointment.

Discussion

Presented is a 20 year old para 0 + 0 who was admitted in active labour and later developed fetal distress. She had emergency casearean section and delivered a life health baby.

Fetal distress is a widely used but poorly defined term. It may be defined as a complex of signs indicating a critical response to stress which will require a casearean section or instrumental delivery (1, 2). These signs include hypoxia and acidosis or intrauterine infection causing tachycardia, or the passage of meconium in association with prolonged labour (1). Our patient presented had irregular fetal heart tone and meconium stained liquor.

Skillful monitoring of labour will diagnosis some degree of fetal distress in at least 20% of all obstetric patients (2). Prompt recognition of the symptoms of fetal distress and when necessary, decisive, well planned intervention are important for the reduction of perinatal mortality and morbidity especially to prevent permanent damage to the central nervous system. With close monitoring of our patients labour the signs of fetal distress were picked and prompt intervention by casearean section taken, hence delivering a health baby.

Fetal distress can be divided into chronic and acute fetal distress. Chronic fetal distress implies an interval of sublethal fetal deprivation that affects growth and development. Acute fetal distress can be either; possible fetal distress, probable or certain fetal distress (1). In possible distress there is transient acceleration of FHR in conjunction with uterine contractions. Probable fetal distress there is lack of FHR short-term variability. Prolonged or increasingly more severe variable deceleration is another warning sign. Late deceleration of the FHR is of a greater importance because the presumed cause of this problem is the inability of the placenta to provide necessary exchange for normal fetal metabolism (1).

Maternal causes of fetal distress include hypotension, shock, sudden heart failure, uterine hypertonia, placenta and cord problem including abruptio placenta, placenta previa, umbilical cord compression e.g. knots, prolapse, or entanglement (1). Patient presented had a true knot in the umbilicus. Fetal monitoring is very important. Intermittent auscultation is indicated for patient not at risk, but electronic fetal monitoring is good for those with an anticipated problems.

Passage of meconium is not necessary an indication of fetal distress but exposes the fetus to a risk of meconium aspiration syndrome (MAS). The fetus passes meconium into the amniotic fluid in approximately 10% of all pregnancies. In 5% of these the meconium is aspirated and can then lead to MAS (3, 4, 5). Our patient had meconium in liquor but the baby did not develop MAS.

Meconium has been found in the fetal gut from 10 weeks gestation, but passage of meconium into the amniotic fluid is rare before 34 weeks gestation (6, 7). The incidence of meconium passage increases with gestational age and reaches approximately 30% at 40 weeks (7, 8). Our patient was at 39⁺ gestation and only developed meconium stained liquor while in labour.

Once fetal distress is diagnosed immediate action should be taken. Patient should be nursed in the left lateral position. If she was on oxytocin, this should be stopped to stop hyperstimulation of the uterus. Administration of high concentration of oxygen (6 – 7 L/Min) by mask will raise maternal fetal PO₂ gradient and will increase the maternal-fetal oxygen transfer. Hypertonic glucose (usually 50g) intravenously should be administered (2).

If there is fetal distress despite conservative management, then immediate delivery is mandatory. The mode of delivery depends on the presentation, station, position, dilatation of the cervix, and presumed fetal status (2). If casearean section is chosen it should be done rapidly. The patient presented had fetal distress in early labour and hence the easiest mode of delivery was casearean section, which was successfully performed.

In case of meconium passage in liquor with a normal FHR, then labour should be left to progress but to avoid actions which may precipitate acute fetal hypoxia e.g. sipping hypotension, epidural hypotension, and uterine hyperstimulation with oxytocin. If FHR pattern becomes abnormal during labour with meconium passage in liquor then immediate delivery should be undertaken to avoid MAS. If labour has to be allowed to continue then Amnioinfusion should be considered (1).

Meconium Aspiration syndrome remains a significant cause of perinatal mortality and morbidity and therefore should be avoided as much as possible.

Though there is controversy pertaining rupture of membranes in early labour in this era of HIV/AIDS, it is my view that since most of our patients in our maternity are not known their serology status and that ARM may reveal adverse condition of the fetus in utero, then ARM should be done to ascertain meconium in liquor and avoid MAS.

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Case No. 13

Post-Datism – Induction of labour-Live Baby

Name	:	A. M.	DOA	:	26/6/2001
Age	:	24 years	DOD	:	29/6/2001
Parity	:	0 + 0	IP NO	:	0739006

Presenting History

The patient was admitted from antenatal clinic with postdatism. Her last menstrual period was on 3/9/2000 and her expected date of delivery was on 10/6/2001 thus the gestational maturity was 42 weeks.

Obstetric and Gynaecologic History

She had her menarche at 15 years of age. Her menstrual period occurred regularly every 28 days and the flow lasted 3 days. She had never used any contraceptives. She attended her antenatal clinic at Kenyatta National Hospital since the gestation of 35 weeks and had 5 visits. She was admitted at 38-week gestation due to false labour. She could not remember the time of her quickening.

Past Medical And Surgical History

This was not significant

Family and Social History

She was married and used to stay with her husband in Umoja .She was a secretary in a firm in Town. She never smoked nor drank alcohol. There was no history of chronic illness in the family

Physical Examination

She was in good general condition, not pale, afebrile and had no oedema. The pulse rate was 80 /minute regular and of good volume. Her blood pressure was 120 mmHg and respiratory rate of 18/minute. Her temperature was 36.8⁰C. The Respiratory, Cardiovascular and Central Nervous Systems were essentially normal.

Abdominal Examination

The abdomen was uniformly distended and moving with respiration. The fundal height was corresponding to a term gestation. The fetus was in longitudinal lie and cephalic presentation. The presenting part was five fifth above the pelvic brim. The liquor felt scanty and fetal mobility on palpation was minimal and fetal parts were easily palpable. The fetal heart tone were heard at 142 beats per minute and were regular. There were no uterine contractions palpable.

Pelvic Examination

The external genitalia was normal. The cervix was 2cm long, posteriorly placed and soft. The Os was 2cm dilated. The fetal head was above the level of the ischial spines There was no blood on the examining finger. The Bishop score was 3 and hence poor.

Impression

An impression of postdatism with unfavourable Bishops score was made

Investigations

Blood group	-	O Rhesus (D) Positive
VDRL	-	Negative
ELISA for HIV	-	Negative
HB	-	11.0gm/dl

Management

The condition was explained to the mother and she was planned for induction of labour. At 10.30 p.m. of 26.6.2001 one 3mg tablet of prostaglandin E₂ was inserted into the posterior vaginal fornix and the patient kept under close observation. 8 hours later a repeat vaginal examination was done. The cervix was 1cm long, still the OS was 2cm dilated and cervix was posterior. A second PG E₂ tablet was inserted. She was reviewed 8 hours later and vaginal examination showed that the cervix was 0.5cm long posteriorly placed and the cervical os was 3cm dilated. A third pessary was inserted. On 27.6.2001. at 11.00 p.m. the patient was reviewed and found to be getting mild contractions, the presenting part was 4/5 above the pelvic brim. The fetal heart tone was 132 beats per minute and regular. The examination revealed that the cervix was 0.5cm long and central. The cervical os was 4cm dilated and membranes were intact. Artificial rupture of membranes was done, obtaining clear liquor. She was commenced on intravenous oxytocin 5 international units in 5% dextrose, starting at 10 drops per minute and escalating half hourly by 10 drops to a maximum of 60 drops per minute, or three moderate contractions each lasting 30 to 40 seconds duration. Fetal heart tone were observed half hourly, while head descend and cervical dilatation were assessed four hourly, using a partogram. She progressed well and at 8.00 a.m. of 28.6.2001 she was found to be in second stage of labour and she was transferred to the delivery room. At 8.20 a.m. she delivered SVD to a life male infant who scored 7 at one minute and 9 at five minutes and weighed 4050gm. The placenta was delivered by controlled cord traction and weight 650gm. The estimated blood loss was 350mls. She was observed and vital signs were found to be normal, and therefore transferred to the postnatal ward. The baby was reviewed by the Neonatologist due to the high birth weight. The baby had features of post-datism, which included wringled skin, long nails and desquamation. The baby was not admitted to NBU.

Post Partum

The post partum period was uneventful. The following day she had started lactating actively. The uterus was well contracted at 18 weeks and lochia loss was normal. The baby was immunized and they were discharged home to come again after 6 weeks at postnatal clinic.

Postnatal clinic

Patient was seen after 6 weeks and found to be doing well. The uterus was totally involuted and she was counselled on methods of family planing. She was referred to the family planning clinic for a method.

Discussion

A 24 year old para 0 + 0 who had postdatism is presented. She had induction of labour and delivered a live baby who scored well.

A post term pregnancy is one that persists for 42 weeks or more from the onset of a menstrual period that was followed by ovulation 2 weeks later. The incidence of this is thought to be 10% of all pregnancies. Some of these may not actually be post term but the result of error in estimation of gestational age (1, 2, 3).

The etiology of postdatism is largely unknown though there are some conditions associated with this anomaly. These include anencephally, fetal adrenal hypoplasia, and absence of fetal pituitary, placental sulphatase deficiency and extra uterine pregnancy (1) .All these conditions share a common feature: the lack of the usually high oestrogen levels that characterise normal pregnancy. The patient presented had none of these conditions.

Patients who present with postdatism can be identified into three groups. The first group consists of those whose baby matures slowly, this only reaches maturity at 42 weeks or more. The second group are those whose babies show evidence of postdatism and are at risk of dying in utero. The third group are those with wrong dates of their last normal menstrual period (2, 4). The patient presented falls into the second group of patients since she was sure of her dates. Attempts must be made to make the estimate of the group with wrong dates. These includes establishing preconception pattern of menstruation, history of use of contraception, and when the patient felt quickening for the first time. Ultrasonography and amniocentesis will help in estimating fetal maturity and also fetal well-being (1). The patient presented had been followed up in our antenatal clinic and her fundal heights were corresponding to the dates, which were calculated using Naegle's rule of adding seven to the first day of the period and subtracting three from the month.

The post term fetus may continue to gain weight in utero and thus may be unusually a large infant at birth; which serves as an indication of uncompromised placental function (1). The patient presented delivered a health baby who was large and weight 4050gms.

In some cases the continued growth may have created fetopelvic disproportion and consequently labour may not progress normally. As pregnancy advances past 42 weeks, oligohydramnios develops and the decreased amniotic fluid is associated with cord compression, which may lead to fetal distress. Studies have shown that the intrapartum fetal distress in postdatism is not due to placental insufficiency but rather due to the consequence of cord compression associated with oligohydramnios (5, 6, 7).

The obstetric management of postdatism is surrounded by controversy. Some authors advocate elective termination of pregnancy at 42 weeks to avoid fetal death and post maturity syndrome. Others recommend that since routine induction of labour is associated with increased need for caesarean delivery, such post date pregnancy should be managed conservatively (4, 8, 9). With conservative management and proper antepartum surveillance, over 30% of such pregnancies will go into spontaneous labour with better outcome than those who are induced. More recently in some practices there has been a trend to begin labor induction or fetal surveillance at the end of 41 and even at 40 completed weeks because of a small number of unexplained stillbirths (10). In our institution induction is done for postdatism at 42 completed weeks, as was with our patient.

Perinatal outcome has to be balanced against the risk of induction of labour. Where the cervix is unfavourable studies have reported a high incidence of poor cervical score, which consequently implies a high incidence of failed induction (1). Use of intra-vaginal prostaglandin gel or tablets has been advocated either on an inpatient or an outpatient basis for such poor cervical score. This is followed by amniotomy and oxytocin augmentation (4). In our unit patients are done cervical ripening as in patients as was done in the patient presented.

Labour is particularly dangerous time for the post term fetus. The fetus may present with fetal distress and has high incidence of meconium aspiration (1). Also during second stage there may be shoulder dystocia due to fetal macrosomia (1). The patient present had no problem intrapartum or during her second stage of labour. She did well post delivery but she was counselled for close follow-up in her future pregnancies since those women who have had prolonged gestation in one pregnancy are at an increased risk of recurrence in subsequent pregnancies (1).

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Case No. 14

Un-sensitized Rhesus (D) Negative Mother, Spontaneous Vaginal Delivery – Live Baby

Name	:	L. W.	IP NO	:	0751645
Age	:	26 Years	DOA	:	25/4/2001
Parity	:	0 + 1	DOD	:	30/4/2001

Presenting Complaints

The patient was admitted from the antenatal clinic at 38 weeks gestation because of her Rhesus (D) Negative blood group. She was not in labour and was admitted for induction of labour.

Obstetric and Gynaecologic History

She was para 0 + 1. Her last menstrual period was 2/8/2000, her expected date of delivery was 9/5/2001 and gestational age on admission was 38 weeks. She attained menarche at 14 years. Thereafter she had regular painless menses of 28 days cycle, lasting 4 days. She had used contraceptive pills between 1997 and 1999, when she stopped and conceived only to have an abortion at 3 months gestation the same year. The abortion started with low abdominal pains with associated vaginal bleeding and then expulsion of the products of conception. Evacuation was then done at Kenyatta National Hospital. After the abortion she was not given Rhesus (D) immunoglobulin.

She booked in the Kenyatta National Hospital antenatal clinic at 26 weeks gestation due to the previous pregnancy loss. She had no complaints throughout and the fundal height was corresponding with her gestation. Blood pressure remained normal.

Antenatal Investigations and Results

Hemoglobin	-	12.0gm/dl.
Blood group	-	AB Rhesus (D) Negative
Husbands blood group	-	O Rhesus (D) Positive
Indirect Coombs Test	-	Negative at 28 weeks
	-	Negative at 37 weeks
VDRL Test	-	Negative
Urinalysis	-	Normal

Past Medical History

There was no significant medical or surgical history. She had never had any transfusion of blood.

Family and Social History

She was a married business lady, staying with her husband at Kariobangi. She was a sixth born in a family of 8 siblings. She never used alcoholic drinks nor smoked cigarettes. There was no chronic illness in the family.

Physical Examination (at Admission)

She was a young lady in good general condition. She was not febrile, not pale, had no oedema and was not jaundiced. She had no lymphadenopathy. Her pulse rate was 80/minute, regular and of good volume and blood pressure was 110/70 mmHg. The respiratory rate was 20/min.

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

Abdominal Examination

The abdomen was uniformly distended with a fundal height, which was term. On palpation a single fetus in longitudinal lie, cephalic presentation was found. The fetal heart sounds were heard and regular at 132/min. There were no contractions. The presenting part was five fifths above the pelvic brim.

Pelvic Examination

She had normal external genitalia, the cervix was central and 50% effaced and soft. The cervical os was 1cm dilated. The cervical Bishop Score was 5. The pelvis was clinically adequate.

Due to the poor bishop score, the patient was scheduled for cervical ripening with prostaglandins and then induction.

Cervical Ripening and Induction of Labour

The patient was re-examined in labour ward and above findings were confirmed. The first PGE₂ pessary was inserted in the posterior fornix at 3.00 p.m. Review after 8 hours (11.00 p.m.) found the cervix to be 0.5 cm long and soft, centrally positioned, os was 1 cm dilated and a second PGE₂ was inserted. She was reviewed again at 7.00 a.m. and found to be getting 3 contractions every 10 minutes lasting each between 30 – 40 seconds. The head was 3 fifths above the brim and the fetal heart rate was 136/min. Vaginally the cervix was fully effaced and the cervical os was 4 cm dilated. The membranes were intact and artificial rupture of membranes was performed using Kocher's forceps. The liquor was clear and there was no cord felt. There was no caput or moulding. Progress of labour was monitored with use of a Partogram.

She progressed well in labour and at 10.45 a.m. she went into second stage of labour. At 11.00 a.m. she had a spontaneous vertex delivery to a life male infant of weight 2900m,

with an Apgar score of 8 in 1 minute and 9 in 5 minutes. The placenta was delivered by controlled cord traction. It was examined and found to be complete and weighed 500gms. Blood samples were taken from the umbilical cord and taken for analysis of the fetal blood group and Rhesus factor, bilirubin levels; and direct Coomb's test. A sample of blood was also taken from the mother for indirect Coomb's test. The baby was admitted in New Born Unit to await the results and for further assessment.

Post Delivery Management

After delivery the mother was transferred to the postnatal ward to await the baby. The results of the baby showed a blood group of A Rhesus (D) positive. Direct Coomb's test was negative and Bilirubin levels were < 3.0 mmols/L. The mother's indirect Coomb's test was negative. She was therefore given anti- D immunoglobulin 300mg intramuscular route as a single dose.

Both the mother and baby were discharged to attend postnatal clinic after 6 weeks.

Follow-up in Postnatal Clinic

She was seen in the clinic after 6 weeks and found to be in good general condition. She was breast feeding her baby and her breasts were active. BP was 120/80 mmHg and a pulse rate of 80/minute. The uterus was well involuted.

She was counseled on her condition and also on family planning.

Discussion

Presented is a 26 year old para 0 + 1 who was found to have a Rhesus (D) negative blood group at 26 weeks gestation during her antenatal follow-up. She had a normal follow-up and delivered by induction at 38 weeks gestation. There was no evidence of Iso-immunization.

Rhesus immunization is a rare but important cause of fetal morbidity and mortality and should be looked for in all pregnant women (1). A lot of work has been done on Rhesus immunization and the 1st case of hydropic fetus was described by Hippocrates in 400 B.C. (2). In 1940 Landstainer and Wiener at the Rockerfeller Institute identified Rhesus antibody in rabbits following injection of blood from Rhesus monkeys and the serum so produced agglutinated about 80% of human blood (i.e. the Rhesus positive ones) (2). In 1941 Levine et al provided the final sociological proof that the erythroblastosis of neonatal hemolytic disease is due to Rhesus immunization (2).

The incidence of Rhesus assimilation vary from one community to the other depending on the incidence of Rhesus negativity. The Basque population of France and Spain have the highest incidence of Rhesus negativity of 30 – 35% (3). The incidence of Rhesus negativity in Kenya is 3 – 4% (4). Overall 0.5% pregnancies in the world are complicated by Rhesus iso-immunization. This is due to the varying rate of occurrence of Rhesus antigens in different protection provided by a coexisting ABO incompatibility (1). In Kenyatta National Hospital the incidence of Rhesus iso-immunization is 3.1% (4).

The Rhesus system inheritance follows Mendelian principles and an individual is either homozygous or heterozygous for each antigen represented in the genotype. There are 3 different closely linked genes each with 2 alleles responsible for producing the Rhesus antigens and represented with letter Dd, Cc, Ee, the dominant gene being represented by the capital letter. So much more important is the D than the other antigens, that its presence or absence is generally used to classify a person as Rh positive or Rh negative (2).

For Rh Isoimmunization to develop, at least three circumstance must hold (5):

- (1) The fetus must have Rh-positive erythrocytes and the mother must have Rh-negative erythrocyte.
- (2) A sufficient number of fetal erythrocytes must have gained access to the maternal circulation.
- (3) The mother must have the immunogenic capacity to produce antibody directed against the D-antigen.

The amount of feto-maternal hemorrhage necessary to cause Iso-immunization is still a subject of controversy. As little as 0.1mls of Rhesus positive erythrocytes has been shown to sensitize some Rhesus negative volunteers (5).

Overall, about 16% of Rh negative women become iso-immunized by their first Rh incompatible (ABO compatible) pregnancy if not treated with Rh immunoglobulin. Not all Rh negative mothers bearing Rh positive infants become sensitized, but after several incompatible pregnancies, the risks of sensitization approaches 50%. The chances of feto-maternal hemorrhage increases with increasing gestation such that at the end of the 1st trimester it is 6.7%, end of second trimester is 15.9% and at the end of third trimester is 28.9%. The patient presented was delivered at 38 weeks gestation to avoid sensitization, which is high in the 3rd trimester (5).

Once feto-maternal hemorrhage has occurred, IgM antibodies develop first, followed by IgG antibodies, which persists at higher concentration in the mothers serum long after IgM is no longer detectable. The next Rhesus positive pregnancy will stimulate a very rapid raise in IgM and a more sustained increase in IgG. IgG crosses the placenta and cause hemolysis and erythroblastosis in a Rh positive fetus (4).

A number of factors predispose to isoimmunization by increasing transplacental transfusion. These includes: - Abortion of the various types especially induced ones, external cephalic version, amniocentesis, placenta previa, abruptio placentae, fetal death,

multiple pregnancy, caesarian section, manual removal of placenta especially if placenta is accreta, trauma to the abdomen, traumatic delivery and/or intervention with vacuum, oxytocins and toxemia (1).

During the antenatal period these mothers identified as Rhesus (D) negative are candidates for Rhesus immune globulin prophylaxis at 28 weeks, if indirect Coombs test is negative. After antepartum prophylaxis at 28 weeks gestation, a second antibody screen should be performed at 35 to 36 weeks to ensure that iso-immunization (anti - D titres greater than 1:4) has not occurred (5). After delivery if the indirect Coombs test on the mother is negative and the baby's blood group is rhesus ("D") positive than the mother should be given prophylaxis ant-D immune globulin (5).

The essential goal in the management of the sensitized mother is to minimize the fetal and neonatal risk of morbidity and mortality. The fetus can be categorized into those unlikely to require intrauterine intervention and able to be delivered when they acquire pulmonary maturation and those likely to have moderate to severe hemolytic disease requiring intrauterine transfusion and early delivery (5). Antibody (D) titres of 1:8 or greater is usually considered an indication for amniocentesis to manage the sensitized pregnancy.

The patient presented had uneventful antenatal period and was induced at 38 weeks gestation at term and delivered normally to a health baby with a good Apgar score with a negative direct Coombs test and a blood group of A Rhesus ("D") positive. The mother was given Rhesus "D" immune globulin and therefore hopefully protected from iso-immunization.

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Case No. 15

Incompetent Cervix – Macdonald's Stitch Insertion; Term Delivery

NAME : P. S **DOA** : 27/3/01

PARITY : 1 + 2 **DOD** : 29/3/01

IP No. : 0751421 **READMISSION:** 1/10/01

Presenting Complaints

She was admitted through the antenatal clinic due to repeated pregnancy losses.

Past Obstetric And Gynaecologic History

She attained her menarche at 14 years. She had regular menses every 27 days with the duration of flow lasting three days. Her first pregnancy was in 1992 and she aborted at 4 months. Her second pregnancy was in 1994 and ended in an abortion at 6 months. All abortins started in lower abdominal pains followed by drainage of liquor and then expulsion of the products of conception. In all the abortions she had no evacuation done. Her last delivery was in 1996 by spontaneous vertex to a male bay at term who is alive and well. She had a McDonald stitch in her last pregnancy. She had never used any form of contraception.

History Of Present Pregnancy

Her last menstrual period was on 25/12/00 and her expected date of delivery was on 2/10/01. She was at a gestation of 13 weeks at admission. She made her first antenatal visit at a gestation of nine weeks. At the clinic pelvic examination revealed that the cervix was 1cm long and the internal os was 2cm dilated. She was admitted for cervical cerclage on her 13th week of gestation.

Past Medical History

This was not significant.

Family And Social History

She was a married housewife. Her husband was a clerk in town. She neither smoked cigarettes nor took alcohol. There was no family history of any chronic illness.

Examination

She was a young lady in good general condition. She was afebrile; she had no pallor, jaundice or pitting pedal oedema. Her blood pressure was 100/60 mmHg, pulse rate was 80 per minute, and respiratory rate was 20 per minute with a temperature of 37⁰C.

Cardiovascular, Respiratory And Central Nervous Systems

These were essentially normal.

Abdominal Examination

The abdomen was moving with respiration. The uterus corresponded with 14 weeks of gestation. The liver and spleen were not palpable.

Pelvic Examination

The external genitalia and vagina were normal. The cervix was 1cm long and the internal os was 2cm dilated.

Diagnosis

An impression of cervical incompetence at 14 weeks was made.

Investigations

- | | | |
|--|---|-----------------------------|
| 1) Haemogram | - | Haemoglobin – 10.5g/dl |
| WBC | - | 5 x 10 ⁹ /l |
| Platelets | - | 205 x 10 ⁹ /L |
| 2) Blood group | - | 'B' Rhesus 'D' Positive |
| 3) VDRL | - | Negative |
| 4) Urea and electrolytes | - | Na ⁺ - 138mmol/L |
| K ⁺ | - | 4.0mmol/L |
| BUN | - | 3.10mmol/L |
| 5) Ultrasound – Single fetus at 11 weeks gestation. Fetal cardiac activity demonstrated. | | |
| No abnormalities seen. Amniotic fluid is adequate. | | |

Management

Insertion Of A Mcdonald Stitch

The diagnosis and plan of management was explained to her and she gave informed consent. She was premedicated with intramuscular atropine 0.6mg half an hour before theatre.

In theatre general anesthesia was induced using sodium thiopentone 250mg intravenously and maintained using nitrous oxide. She was placed in lithotomy position and vulvovaginal toilet done. She was draped and catheterised of clear urine. Examination under anaesthesia revealed similar findings as before.

An Auvards speculum was inserted exposing the cervix, which looked healthy, there was no drainage of liquor or bleeding noted. The cervix was held with sponge holding forceps on both the anterior and posterior lips and gentle traction applied. Using slk no. 2 on atraumatic needle a pulse string suture was made around the base of the cervix approximately at the level of the internal os but not too tight to compromise the cervical blood supply. There was minimal bleeding after the procedure.

Post Operative Management

Her vital signs were observed half hourly until she was fully awake then four hourly thereafter. Oral analgesia was provided by paracetamol 1g every eight hours for the next three days. She was put on complete bed rest and oral salbutamol 4mg eight hourly and phenobarbitone 30mg eight hourly for one week. She was discharged home on the third postoperative day to continue with bed rest and medications. She was advised on sexual abstinence for at least two weeks.

Antenatal Follow Up

She was seen in the antenatal clinic every two weeks. The antenatal period remained uneventful. At 37 weeks the stitch was removed and she continued with weekly antenatal visits.

Re-Admission

She was re-admitted on 1/10/01 complaining of lower abdominal pains. On examination she was in good general condition, afebrile and she had no pallor or pedal oedema. Her vital signs were normal.

Abdominal examination revealed that the fundal height was term, longitudinal lie and cephalic presentation. The head was four-fifths above the pelvic brim. She had two moderate contractions in ten minutes lasting 10-30 seconds. Fetal heartbeat was heard and regular at 140 beats per minute.

On vaginal examination the cervix was found to be fully effaced and the os was 4cm dilated with bulging membranes, no cord was felt. Artificial rupture of the membranes was done and clear liquor drained. There was no caput or moulding and the pelvic felt clinically adequate. The progress of labour was charted on a routine partograph and six hours later the cervix was fully dilated. She was transferred to second stage of delivery. She delivered of a live male baby who weighed 3100g and had an Apgar score of 10 in a minute and 10 in five minutes respectively. The placenta was delivered by controlled cord traction, weighed 500g, was complete and normal. Blood loss estimated to be 200mls. Post delivery observations were normal and both mother and baby were discharged home after 24 hours to be seen in the postnatal clinic.

Postnatal Visit

Both the mother and baby were well. The baby had received the initial immunizations. Physical examination and pelvic examination were normal. She was advised on family planning and need to attend antenatal clinic early for McDonald stitch insertion in her next pregnancy.

Discussion

The patient presented had a bad obstetric history with cervical incompetence and had a McDonald stitch inserted at 14 weeks gestation.

Cervical incompetence refers to the inability of cervix uteri to retain an intrauterine pregnancy to term secondary to some defect in structure or function. It is characterised by painless dilation of the cervix in the second trimester or early third trimester of pregnancy, with prolapse of membranes in the vagina, followed by the rupture of the membranes and subsequent expulsion of premature fetus. This sequence of events tends to be repeated in subsequent pregnancies (1).

The incidence of cervical incompetence varies worldwide but has been put at between 0.05 to 1.0% (2). Locally Njagi (3) found an incidence of 1:90 deliveries at Kenyatta National Hospital.

The aetiology of cervical incompetence remains uncertain. It can be congenital but most cases are acquired. Any form of surgical intervention that tampers with the internal os, such as instrumental vaginal delivery for difficult labour, dilatation and curettage as well as cone biopsy are likely to compromise the integrity of the cervix (2). No identifiable cause could be shown for the patient presented. Cervical incompetence has also been reported after exposure to diethylstilbestrol and in women with uterine anomalies (1, 4).

The diagnosis of cervical incompetence is difficult to make with certainty and remains that of exclusion. The history of painless midtrimester, abortion is usually taken into consideration (2). Ultrasonographic demonstration of bulging membranes and a partially dilated cervix has been observed as a reliable sign of cervical incompetence.

Prior to pregnancy hysterosalpingography and the use of cervical dilators have been employed. Passage of Hegar's dilators number 8 without resistance is suggestive of cervical incompetence. Other tests include techniques of inflated Foley's catheter

balloons. These diagnostic modalities have their own drawback, particularly because they are invasive (2). In the patient presented the diagnosis was clinical and no tests were done.

Treatment is mainly surgical and the main objective is to close the cervix at the level of internal os. This is achieved by some kind of purse string suture. The oldest method pioneered by Shirodkar consisted of a strip of fascia tied subcutaneously around the isthmus of the cervix (1). Modification by McDonald using a none absorbable suture material around the cervix has now become the most popular method and is the one favoured in our unit.

This is usually done at around 14-18 weeks gestation. This period is chosen so that abortions due to other factors are eliminated. The patient presented had the stitch inserted at 14 weeks of gestation. Contraindications of the insertion of the stitch include uterine contractions, vaginal bleeding, ruptured membranes, completely dilated cervix and intrauterine fetal death (1).

Ultronography to exclude major fetal abnormalities and to confirm fetal viability is mandatory where available. This was done for the patient presented.

Complications of cerclage include rupture of membranes, infection, fistula formation and haemorrhage. The stitch is usually removed at 37 weeks of gestation but may be removed earlier in case of haemorrhage, ruptured membranes, preterm labour or fetal death (1,5). The success rate of cervical cerclage is difficult to assess because of the uncertainty of the diagnosis. At Kenyatta National Hospital Njagi (3) reported a success rate of 64.2%. Our patient had a term delivery of a normal healthy male baby.

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OBSTETRIC LONG CASE

OBSTETRIC PERFORMANCE OF TEENAGE MOTHERS IN A RURAL SET UP, MACHAKOS DISTRICT.

Summary

This was a case control study done between May 2000 and March 2001 at Kangundo Sub District Hospital in Machakos District to determine the risks associated with the obstetric performance in teenage mothers. 102 teenage mothers who delivered at the Hospital were compared to 102 control (mothers of age 20 years but below 35 years), and their obstetric performance analysed.

The main factors analyzed included level of education, marital status, antenatal care (ANC) attendance, use of contraceptives prior to the index pregnancy and the intention of use after delivery; gestation at onset of labour, birth weight, duration of labour, mode of delivery, Apgar score.

The youngest teenage mother was 15 years old at the time of delivery. Statistically significant differences ($P < 0.05$) were observed in the following variables when teenagers were compared to the older age groups: Menarche 14.7 years versus 15.6 years, attainment of only primary education 67.6% versus 39.2%; ANC visits less than 4 times 40.2% versus 22.5%; mean gestation at start of ANC; 26.2 weeks versus 23.6 weeks; contraceptive use prior to index pregnancy 3.9% versus 53.9%, mean duration of labour 15.6 hours versus 12.1 hours, mean birth weight 3022gms versus 3162gms. No significant difference was observed in the mean Apgar score, still birth rate, mode of delivery, new born unit admissions and maternal complications.

The study revealed that teenage mothers had poorer ANC seeking behavior and a longer duration of labour compared to the older age group, however the obstetric outcome was not different in the two groups. Programs should be initiated to reach the adolescent, to promote family life education, contraception counselling and education related to early marriage.

Introduction and Literature Review

Teenage pregnancy is a growing worldwide problem both in developing and developed countries alike. Professor Steve Mwantu of Nigeria said "the cries of children delivering children was not confined to the walls of the Lagos teaching hospital, but to the world over" (1).

The youngest mother whose history is authenticated is Lina Medina who was delivered by cesarean section in Lima, Peru in 1939 at an age of around 5 years (2).

According to Klein L. (2) antecedents of Teenage pregnancy are;

- Sexuality of contemporary society.
- Early sexual maturity and decreasing age at menarche
- Break down in cultural bond.
- Lack of parental guidance.
- Peer group pressure.

The majority of teenage pregnancies are unwanted, and are associated with medical, psychological and social repercussions. The main immediate consequences of an unwanted pregnancy are induced abortion, lack of parental care, personal and family disruption, adoption and abandonment (3).

The problem of teenage mothers has become of concern due to the fact that teenagers have become sexually active at increasingly younger ages. The rate of ensuing pregnancies has become considerable. A study done in the U.S.A. showed that among women aged 15 years the proportion of those sexually active rose from 17% in 1980 to 20% in 1988, while among those aged 17 years it rose from 36% in 1980 to 51% 1988.(2) (Centre of disease control 1991).

The situation in Kenya is not different. A study done by Ngoka (5) at Kenyatta National hospital found an incidence of teenage pregnancy of 11.1% and demonstrated an increased risk of pre-eclampsia, anaemia and perinatal mortality in this group. In the Nairobi birth survey (6) done in 1981 it was found that the incidence of teenage pregnancy was 18.6%, which showed an increasing rate compared to that of Ngoka. The Nairobi birth survey also showed that the antenatal care was generally of poor quality and the incidence of low weight babies was 17.7% which was twice the incidence found in the total obstetric population (6).

Muraya in a study done in the Northern division of Machakos district in 1985 found that there was high incidence of hypertensive disease in pregnancy in the teenage mothers (7). He reported a higher perinatal mortality in the teenagers than in the control groups being 47.4 per thousand and 38.4 per a thousand respectively (7).

In the study done by Maggwa in 1987 he showed that there was early exposure to sex. Boys and girls of ages 12-13, 76.1% of the boys were exposed to sex while 41.9% of the girls were exposed (8).

Since majority of the teenage pregnancies are unwanted most of the teenagers end up procuring an abortion. Aggarwal and Mati et al reported that 28% of all abortions at Kenyatta National Hospital occurred in teenage women and that 43% of all procured abortions were in teenagers (9).

The unwanted pregnancies of teenagers lead to more illegal abortions, which increase their maternal mortality and morbidity and hence increase the cost of care in the health institutions. At Kenyatta National Hospital, Omuga showed that 65% of abortions admitted occurred in women aged 12 - 24 years. Eighteen percent being women aged between 12 and 19 years, and 76% of the pregnancies were unwanted (10).

Studies have shown that the age at first sexual intercourse is decreasing. In Nairobi Lema reported the lowest age at first intercourse to have been 5 years and that 4.1% of the girls

had started coitus below 10 years of age. He also found that the majority of sexually experienced girls had started sex within 1 to 2 years of attaining menarche, hence predisposing them to pregnancy (12).

In other African countries like Nigeria the situation is not different. Mwantu (1) showed that teenage mothers have high incidence of preterm labour, obstetric intervention, and prenatal deaths; have high incidence of eclampsia and pre-eclampsia and babies who tend to be of low birth weight.

In the U.S. of America one million teenagers or 6% of the teenage population become pregnant each year and an estimated 85% of such pregnancies are unintended. (13). Despite the above the adolescent birth trends in the late 1990's clearly reversed the dramatic rise in the rates of the previous decades. U.S.A. teenage birth rates in 1997 were 52.3% live births per one thousand women aged 15-19yrs, a reduction of 16% from 1991. This is because teenagers today are less likely to be sexually active and sexually active teenagers are more likely to use contraception (14).

In Taiwan a study showed a high incidence of late antenatal care and about 86% of the teenage mothers did not use contraceptives and teenage mothers tend to have low birth weight infants (15).

Teenage child bearing is associated with many complications just as it is in delivering at late ages. Both share many similarities: -

- has been poorly defined.
- occurs at a time of instability of the hypothalamo-pituitary-ovarian-uterine axis.
- has been associated with increased complications of pregnancy and poor obstetric outcome.
- requires specialized evaluation and counseling care.
- Numerous myths and expectations may obscure the true risk.

- Their outcome has complex socio-economic implications.

The poor pregnancy outcome in teenage mothers is more closely related to their disadvantaged status than their chronological ages. Teenage mothers are more likely to be of low socio-economic, unmarried, have poor nutritional status and enroll late for prenatal care (17). Apart from the greater likelihood of poor pregnancy outcome, teenage pregnancy often disrupts formal education, lead to single parenthood and increase the likelihood of a subsequent pregnancy during adolescence. Studies show that one fourth of teenage mothers have a second child within twenty-four months of their first-born and the frequency of closely spaced births is highest (31%) among women who had their first birth under the age seventeen (18). Although most chromosomal abnormalities are associated with advanced age, monosomy (45x) is associated with lower maternal age. Labour and delivery complications are due to the poorly developed pelvis of the adolescents (2).

The health services have become unaffordable to the majority of the people, due to the introduction of cost sharing. Teenage mothers are more affected due to their low socio-economic status. There is therefore a need for a continuous review of the teenage pregnancy related problems.

Rationale

Apart from the greater likelihood of poor pregnancy outcome teenage pregnancies often disrupt formal education, lead to single parenthood and increase the likelihood of a subsequent pregnancy during adolescence. Teenage mothers are more likely to be of low income, unmarried and the problem may be worse in the rural areas where the socio-economic status of the majority of people is low. The grandparents are burdened with the responsibility of caring for the babies delivered by their daughters and at the same time providing financial support for both antenatal and delivery services. Therefore a study to evaluate the magnitude of the teenage mothers problem in a rural setup was required.

The last study done on teenage pregnancy in rural set-up was done by Muraya 15 years ago and therefore there was need for another study to review the magnitude of the teenage pregnancy problem. AIDS/HIV epidemic has led to change of the lifestyle of most people and this may have led to change of sexual behaviour among the teenagers. There is increased information on the effect of unprotected sex and therefore most of the teenagers may be abstaining from sex and those who are active may be using condoms for fear of contracting AIDS. This may lower the incidence of teenage pregnancy in the society.

The other studies on teenage mothers were done in an urban setup and therefore could have some bias, in that teenagers in the urban areas are exposed to different lifestyle due to the availability of social amenities such as television, cinema and discotheque which are not available in the rural areas. So the factors influencing the sexual behaviour of the teenagers is totally different in the two setups. Thus a study in the rural setup was necessary to try and compare the findings in the rural area and those found in the urban. Special adolescent clinics have been setup at Kenyatta National Hospital and not in the rural areas so this study may show the need to start such clinics in the rural areas so as to provide special care to the adolescent.

Broad Objective

1. To determine the risks associated with obstetric performance in teenage mothers in a rural setup.
2. To give recommendation on how to reduce the teenage pregnancy related problems in the rural areas e.g. by setting up intervention programmes.

Specific Objectives

1. To determine the risks associated with socio-demographic factors e.g. age, sex, level of education and occupation, associated with teenage pregnancy and that of other age groups.

2. To determine the association between the antenatal care seeking behaviors in teenage mothers and their fetal outcome, as compared to other age groups.
3. To determine the prevalence of teenage mothers' related complications such as APH, PPH, caesarean section and retained placenta with those of other age groups.
4. To determine if low birth weight is associated with teenage delivery as compared to mothers of other age groups.
5. To compare fetal outcome among the teenage mothers and other age groups within 24 hours of delivery.
6. To determine awareness of family planning methods among the teenage mothers.
7. To give recommendations on how to solve the teenage pregnancy related problems.

Methodology

- Study Design.

This was a case control study done from the months of May 2000 to March 2001.

- Definitions

- i) Teenage mothers were considered as those mothers of ages below 20 year as per the age given by the patient or the accompanying relatives at admission.
- ii) Young teenagers were considered as mothers below the ages of 17 years and old teenage mothers as those between 17 and 19 years.
- iii) Still births - a fetus expelled from the mother after 28 weeks of pregnancy and did not at any time after being expelled show any signs of life.
- iv) Early perinatal mortality - All still births and neonatal deaths occurring within 48 hours of birth.
- v) Poor Apgar score - of less than 5 in five minutes.
- vi) Maternal deaths/maternal mortality - Death of a woman occurring during pregnancy or within six weeks of delivery/abortion, however for this study these were considered as deaths occurring within 24 hours of delivery.

- vii) Good antenatal care – antenatal care with at least four visit and one investigation done before delivery.
- viii) Poor maternal condition - this were patients admitted with prolonged labour and with signs of exhaustion.

Study areas.

The study was carried out at the Kangundo Sub-District Hospital of Machakos District. It is an area with a very high population, with a total population of 91,238 people of which 46,818 are females. It is suitable for agriculture, with coffee being the main cash crop. Kangundo is surrounded by less agricultural areas like, Mwala, Mbiuni, Kyanzave and Koma. Hence the hospital serves a vast area and acts as a referral for the health centres and dispensaries and also Matuu sub district hospital. Therefore the population served is purely rural and of poor socio-economic status. The population is also of low educational level in most cases.

Kangundo Hospital is situated at the Kangundo Town, which is in the Northern part of Machakos District. It has a total of 5 wards; that is general male ward, general female ward, isolation ward, pediatric general ward and labour ward. The labour ward and maternity ward are in one unit with two rooms for antenatal mothers, one room for postnatal mothers, one room for first stage of labour and one room with 3 delivery couches for second stage of labour, The hospital has one main theatre for both surgical and obstetrical and gynaecological cases. A total of 80 deliveries occur in the hospital per month of which 20 of them are adolescent deliveries. Antenatal clinic and Maternal child health and family planning clinics are run between 8.00 a.m. and 5.00 p.m. from Monday to Friday by qualified Kenya Registered Nurses and Kenya Enrolled Nurses. Medical officers run the high risk clinics twice a week on Tuesdays and Fridays.

Eligibility Criteria

1. Inclusion Criteria

CASES: - All teenage mothers delivering singleton babies at 28 completed weeks and above, during the stated time of the study, May 2000 to March 2001, were recruited in the study. Teenagers up to para 2 were considered part of the study.

CONTROLS: All mothers of age twenty years and above but below 35 years, of age, of parity up to 2, delivering singleton babies at 28 completed weeks and above were recruited into the study.

2. Exclusion Criteria

- CASES:**
- i) Teenage mothers with multiple pregnancies were excluded .
 - ii) Teenage mothers with other medical conditions e.g. Diabetes in pregnancy, Cardiac disease in pregnancy were excluded.
 - iii) Teenage mothers of parity above 2 were excluded.
 - iv) Teenage mothers delivering at a gestation less than 28 weeks and those delivering before arrival to the hospital were excluded.

- CONTROL:**
- (i) Mothers of ages 20 years and above but below 35 years of age and of parity above 2 were excluded.
 - ii) Mothers of age above 20 years and above but below 35 years of age and delivering multiple babies were excluded.
 - iii) Mothers with other medical conditions in pregnancy e.g. Diabetes in pregnancy, Cardiac disease in pregnancy were

- excluded.
- iv) Mothers of age 20 years and above but below 35 years of age delivering at a gestation less than 28 weeks before arrival to the hospital were excluded.

Sample Size

The sample size was calculated using the formula (Reference 19): -

$$n = \frac{Z_{1-\alpha/2}^2 \cdot \frac{1}{d^2} [1 - P_1 (1 - P_1) + P_2 (1 - P_2)]}{d^2}$$

Where by

n = Sample size:

$1 - P_1$ = Proportion of those with disease (cases)

$1 - P_2$ = Proportion of those without disease (control)

d_2 = Absolute precision

$Z_{1-\alpha/2}$ = Number of standard errors from the mean and is a function of the confidence level.

Using Muraya's findings at Machokos, incidence of teenage mothers anaemia of 1.5% and the control of 3.8%, and taking the confidence level of 95% and odd ratio of 5 the required sample size was to be 93 cases and 93 controls. An extra 9 cases and 9 controls were added to cater for any lacking information. This made the sample size to be 102 cases and 102 controls.

Data Collection

1. **Personnel:** The study was conducted by the principle investigator under

guidance of the supervisors from the Department of Obstetrics and Gynaecology, University of Nairobi. Three nurses (midwives) working in the labour ward were enlisted for data collection, during their free time. They were trained by the principle investigator on how to fill the questionnaire.

2. **Pre-testing:** A pre-tested questionnaire was done at K.N.H. by the principal investigator by taking a sample of ten teenagers and ten controls.
3. **Administration of Questionnaire:**

During the study all the cases and controls were interviewed within 12 hours after delivery and antenatal clinic, labour and postnatal records reviewed to extract necessary information. The questionnaire comprised of both open and closed-ended questions. The answers to the questions contained in the questionnaire were derived directly from the patient and patients files. After a delivery by adolescent mother (case) a control was also be picked and this was the mother delivering the shortest time after an adolescent had delivered.

Both the cases and controls were identified from their ages as given either by the patient interviewed or by the accompanying relatives at admission. The mothers were observed for at least 24 hours after delivery to monitor for postpartum complications such as: -

- i. Post-partum haemorrhage
- ii. Febrile morbidity
- iii. Genital injuries

Data Management and Analysis

All questionnaires were kept in safe custody by the principle investigator. Coding of the questionnaires and data entry was done by an enlisted data entry clerk. Once this was done, a medical bio-statistician did data analysis using relevant computer package.

Data was entered into a microcomputer using SPSS (Statistical Package for Social Sciences) and PC data editor. Validation was done before analysis. Analysis was done using SPSS programmes. Analysis involved descriptive statistics like means, standard deviations, and proportions. To test for significant differences between the cases and control, t-test (for normally distributed continuous data) or mann-whitney u-test (for non normally distributed continuous data) and chi-square test for categorical data was used. Those valuables that were found significant were subjected to logistic regression analysis. For computation of adjusted Odds ratios, logistic, regression analysis using backward elimination method was applied.

Ethical Considerations:

1. Permission to carry out the study was sought from the Permanent Secretary Ministry of Health through the M.O.H. Machakos, and the Provincial Administration.
2. Consent was obtained from the patients to be interviewed. No questionnaires bore patients name; they were only identified by serial numbers.
3. The Principle investigator assisted in the management of the patients.
4. Study results will be availed to the medical officer in charge Kangundo Hospital and medical officer of health (M.O.H.) Machakos District.
5. The study was approved by Kenyatta National Hospital ethical and research committee.

Study Limitations

1. Patient could not recall some of the information correctly.
2. Some patients came to the hospital in late stages of labour and hence hard to assess the actual duration of labour because this was estimated from the duration given by the patient, which may not have been accurate.
3. Some teenage mothers were not willing to truly tell about their social status.

Results

A total of 204 patients were interviewed and their records analysed. There were 102 teenage mothers (cases) and 102 mother of 20 years of age and above but below 35 years of age (control).

Table I: Age Distribution Among the Teenage Mothers

Cases N = 102			Controls N = 102		
Years	No	%	Years	No	%
15	2	1.9	20 – 24	58	56.9
16	1	0.9	25 – 29	36	35.3
17	9	8.9	30 - 34	8	7.8
18	27	26.4			
19	63	61.7			
TOTAL	102	100	TOTAL	102	100

The youngest teenager mother was 15 years at the time of delivery. 11.7% of the teenage mothers were 17 years of age and below. The rest were older teenagers; 88.3%. the mean teenage age was 18.5 (Table I).

Table II: General Characteristics of the Studied Patients (N = 204).

Characteristic	Case N = 102	Control N = 102	O. R. (CL)	P. Value
	%	%		
<u>Marital Status</u>				
Single	59.8	24.5	4.582 (2.5144 – 8.3813)	<0.001
Ever Married	40.2	75.5		
<u>Level of Education</u>				
None or Primary:	67.6	39.2	3.241 (1.825 – 5.757)	0.0005
Secondary & College:	32.4	60.8		
<u>Occupation</u>				
Salaried	42.2	49.0	0.758 (0.4363 – 1.3169)	0.32510
Non Salaried	57.8	51.0		

Of the two groups compared, 59.8% of the teenagers were single mothers as compared to 24.5% of the control. This was statistically significant (<P.0001) at 95% confidence level. Majority of the teenage mothers; 67.6% had a minimum of Primary Education compared to 39.2% in the control. This was statistically significant (P.0005). There was no difference in the occupation status of the teenage mother and the controls (Table II).

Table III: Menarche Attainment (in Years)

	Mean	S.D	Median	P. Value
Cases	14.7	1.3	15.00	0.0001
Control	15.6	1.6	15.5	

The teenage mothers had an early onset of their menarche with a mean age of 14.7 years as compared to that of the control of 15.6 years. This was found to be statistically significant P. Value (0.0001). This can be due to better diet leading to early body maturation as a result of change in life style in the general population (Table III).

Table IV(a): Index Pregnancy

Characteristic	Teenage N = 102	Control = 102	O. R. (CL)	P. Value
Antenatal Care Attendance	%	%		
Yes	90.2	97.1	3.587 (0.9512	0.0448
No	9.8	2.9	- 13.442)	
<u>Number of Antenatal visits</u>	%	%		
0 - 3	40.2	22.5	2.889 (1.5848	0.0001
4 and above	59.8	77.5	- 5.266)	

40.2% of the teenagers had between 0 – 3 visits during their ANC as compared to 22.5% of the control group. Only 59.8% of the teenagers had more than 4 visits as compared to 77.5% of the controls. This was statistically significant (P. value <0.0001) Table IV.

Table IV. (b): Index Pregnancy (Continuous Variables)

<u>Variable</u>	<u>Cases N = 102</u>			<u>Control N=102</u>			<u>P. Value</u>
	Mean	SD	Media	Mean	SD	Media	
Gestational Age at Booking of ANC	26.2	5.1	28	23.6	6.7	24	0.009
Gestational Age at Delivery	38.5	2.2	39	39.13	2.62	40	0.0038
Times Attended ANC	3.9	2.6	4	5.64	3.1	5	0.0001

Table IV (b) shows that the teenager mothers started their antenatal clinic much later as compared to the controls. This was a mean gestation of 26.2 weeks for the cases as compared to 23.6 weeks of the controls. This was found to be statistically significant (P. 0098) at 95% confidence interval.

The teenager mothers had mean gestation of 38.6 weeks at the time of delivery compared to that of the controls of 39.1 weeks. This was also statistically significant (P. 0.0038) at 95% confidence level.

The teenage mothers had a mean antenatal visits of 3.9 as compared to 5.64 of mothers of the older age group. This was statistically significant (0.0001) at 95% confidence level (Table IV (b)).

Table IV: Contraceptive Use

Characteristic	Teenage = 102	Control (102)	O. R. (CL)	P. Value
	%	%		
<u>Knowledge of FP</u>				
Yes	69.9	83.4	0.9181 (0.4083 – 2.0647)	0.0001
No	30.1	16.6		
<u>Use of Contraceptive Prior to Index Pregnancy</u>				
Yes	3.9	53.9	28.670 (9.806-83.8283)	0.0001
No	96.1	46.1		
<u>Future Use of FP Method</u>				
Yes	63.7	93.1	(3.24540-18.3891)	0.0001
No	36.3	6.9		

Majority of the teenage mother were aware of methods of preventing unwanted pregnancy (69.9%). Only 3.9% of the teenage mothers had ever used contraceptive method prior to this index pregnancy as compared to 53.9% of the control. This was statistically significant (P. Value 0.0001). 36.3% of the teenage mothers were not willing to use any method of FP after delivery as compared to only 6.99% of the controls. This was significant statistically (P. Value 0.001) at 95% C. I. (Table V).

Table VI: Condition of the Fetus at Admission

Characteristic	Cases = 102	Control = 102	O. R. (CL)	P. Value
<u>Fetal Condition</u>	%	%		
Abnormal Fetal Heart Rate	12.8	13.7	0.9181(0.4083 – 2.0647)	0.428
Normal Fetal Heart Rate	87.3	86.3		

At the time of admission both the cases and the controls had no significant difference (P. Value 0.42) pertaining to the state of the foetus. 12.8% of the case as compared to 13.7% of the control had abnormal fetal heart rate (Table VI).

Table VII: Duration of Labour

	Mean	SD	Median	P. Value
Cases	15.6	3.1	16	0.001
Control	12.1	3.5	12	

The mean duration of labour was 15.6 hours in the teenage group as compared to 12.1 hours in the control group. This was statistically significant (P. Value 0.001) Table VII. NB: Parity was not matched.

Table VIII: Mode of Delivery of Baby

Mode of Delivery	Cases N = 102	Control N = 102	O. R. (CL)	P. Value
	%	%		
SVD	89.2	86.3	0.75981	0.14096
C/S	8.8	13.7	(0.3273 –	
Breech	2	0	1.7641)	
Vacuum	0	0		
<u>Placental Delivery</u>				
Controlled and Traction	90.2	87.3	0.9227	0.50608
Manual Removal	9.8	12.7	(0.42032 – 2.0257)	

The mode of delivery between the cases and the control was not statistically different. 2 cases of teenage mother had breech delivery. Majority of the teenage mothers and the older age group had SVD: 89.2% and 86.3% respectively. There was no significant difference in the mode of placental delivery in the two groups with 90.2% of the teenage mothers having controlled cord traction as compared to 87.3% in the older age group. 9.8% of the teenage mothers had manual removal of placenta as compared to 12.7% of the older age group (Table VIII).

Table IX (a). Fetal Outcome

Characteristic	Cases (N = 102)	Control N = 102	O. R. (CL)	P. Value
	%	%		
<u>Apgar Score at 5 Minutes</u>				
0 – 6	8.8	9.8	0.8903 (0.3459 – 2.2919)	0.809
7 - 10	91.2	90.2		
<u>Birth Weight gms</u>				
<2500	12.7	5.9	2.3371 (0.8517 – 6.4129)	0.8827
2500+	87.3	94.1		
<u>Infants Condition</u>				
Well	86.3	85.3	0.38800	
Admitted to NBU	8.0	3.2	(0.07352 –	0.62035
Still Births	2	4.9	2.0477)	
Neonatal Death	3.7	6.6		

8.8% of the teenage mothers had babies who scored an Apgar score of less than 6 at 5 minutes as compared to 9.8% of the older age group. This was not statistically significant. 8.0% of babies born by teenage mothers were admitted to New Born Unit

(N. B. U.) as compared to 3.2% of the older age group. The still birth rate in the teenage mothers was 20 per 1000 live births as compared to 49 per 1000 live births in the older age group. This was not statistically significant (P. Value 0.62035) Table IX (a).

Table IX (b) Outcome of Live Birth by ANC Attendance

Outcome	Antenatal Visit	No Antenatal Visits	P. Value
	N = 191	N = 13	
	%	%	
Well	88.5	46.2	0.005
Admitted N.B.U.	6.8	23.1	
Neonatal Death	4.7	30.8	

Table IX (b) shows the comparison of the fetal outcome in the entire study population and the antenatal attendance. Of the mothers who had attended ANC (N= 191), 88.5% had delivered babies who were well, 6.8% were admitted to NBU and 4.7% had neonatal death, while for those who had not attended antenatal clinic (N = 13) 46.2% of the babies were well, 23.1% were admitted to New Born Unit (N.B.U.) and 30.8% had neonatal death. This shows that those mothers who had not attended ANC had poor fetal outcome as compared to those who had attended (P. Value – 0.005) Table IX (b).

Table IX (c) Outcome of Live Birth by Mode of Delivery

Outcome	S.V.D. (N = 179)	C/S Breech (N = 25)	P. Value
	%	%	
Well	90.5	52.0	0.0004
Admitted N.B.U.	5.6	24.0	
Neonatal Death	3.9	24.0	
TOTAL	100	100	

Of the babies delivered by S.V.D. in the entire study population (N = 179) 90.5% were well, 5.6% were admitted to New Born Unit (N.B.U.) and 3.9% had neonatal deaths. While those delivered by caesarean section or by breech 52.0% were well, 24% were admitted to New Born Unit (N.B.U.) while 24% had neonatal deaths. When the modes of delivery were compared, fetal outcome was poor for those mothers who had caesarean section or breech delivery (P. value 0.0004). This was statistically significant (Table IX c).

Table X: Maternal Outcome

Outcome	Cases N = 102	Control	O. R. (CL)	P. Value
	%	%		
Uneventful	87.3	89.2	1.2084 (0.5142 - 2.8398)	0.66368
Eventful	12.7	10.8		

Table X shows the maternal outcome. There was no significant difference in the two groups. 87.2% of the teenage mothers had uneventful delivery as compared to 89.2% of the older age group. 2 teenage mothers were transfused while no mother in the control group was transfused. There was no maternal mortality during the study period (Table X).

Discussion

Teenage pregnancy is a growing worldwide problem in developing and developed countries alike. It is a major health, social and moral problem in many societies. Adolescent fertility is one of the fast growing concern in Kenya (12, 21). The fertility rate is falling less among teenagers than among other women (22). The teenage fertility is higher in least developed countries, among rural women and the least educated. In Kenya the situation is not different, according to the Kenya Demographic and Health Survey (KDHS) 1998 the fertility has fallen recently at every age except amongst the youngest women, age 15 - 19 (31).

One of the factors leading to increased teenage pregnancy is the falling age at menarche. Studies have shown that teenagers pregnant before the age of 16 years had an average age at menarche of 11.7 years while those who became pregnant at the ages between 19 – 25 years had an average age at menarche of 13 years (4). In this study the average age at menarche for the teenage mothers was 14.7 years as compared to 15.6 years in the older age groups. This compares well with studies done elsewhere (4). A number of studies show that girls are having coitus at very young ages and adolescent sexual activity is on the increase (23, 24).

In Kenya a large number of adolescents drop out of school each year. One of the most important determinants of a woman's social and economic status is her education. Ferguson found 10,000 girls drop out of school every year due to pregnancy and that the problem seems to be worse in Nyanza and Rift Valley Provinces as compared to the other parts of the country. Majority of them never continue again with their education hence leading to a miserable life of poverty (11). In this study it was found that 67.6% of the teenage mothers had only attained primary education as compared to 39.2% of older age group. This was statistically significant (P - value 0.005). This was a similar findings in the Nairobi birth survey (6) and Murayas study at Machakos (7). This has serious implication, as the rule is that, pregnant schoolgirls are invariably expelled from school, they thereby interrupt and possibly terminate further formal education.

Children born to very young mothers are at increased risk of illness and death. Apart from this problem to the children, adolescent mothers may also suffer irreparable damage to their self-esteem due to the inherent incompatibility between the role they are expected to assume as mothers and their physical and emotional immaturity (31). This is because majority of the teenage mothers as seen in this study are single, unemployed and therefore may not be financially able to support their children in terms of medical care and nutrition. Majority of the teenage mothers (59.8%) were single as compared to 24.5% of the older age group. This was found to be statistically significant ($P < 0.0001$). In Kenya 83.3 percent of women aged 15 - 19 years are not married (KDHS-1998). This means most of the teenagers conceived out of wedlock and hence they totally had to depend on their parents for financial support during the ANC and during delivery. Also this indicates that majority of the sexual activities in the teenagers are unprotected. In Taiwan a study showed a high incidence of late antenatal care and about 86% of the teenage mothers did not use contraceptives (15). In our study the contraceptive usage in the teenage group was 3.9% compared to 53.9% of the older age groups. This scenario was found in the Nairobi Birth Survey (6). Other studies have shown that use of modern methods of contraception rises with age from 10% among married women age 15 - 19 to a peak of 40% at age 35 - 39 after which it declines to 26% among women age 45 - 49 (33). In this study it was found that for various reasons 36.3% of the teenage mothers were not willing to use any method of FP after delivery as compared to only 6.99% of the controls. This was statistically significant ($P\text{-value} < 0.0001$). Therefore it follows that these teenage mothers will be exposed to another unwanted pregnancy. Studies show that one fourth of teenage mothers have a second child within twenty months of their first born and the frequency of closely spaced births is highest (31%) among women who had their first birth under the age of seventeen (18).

Teenage pregnancy being an indicator of unprotected sex, can be used as an indicator of high risk behaviour. These teenagers are more exposed to sexually transmitted diseases and HIV/AIDS. Since majority of the teenage pregnancies are unwanted most of the teenagers end up procuring an abortion. Aggarwal and Mati et al reported that 28% of all abortions at Kenyatta National Hospital occurred in teenage women and that 43% of all

procured abortions were in teenagers (9). The illegal abortion increases their maternal mortality and morbidity (10).

The nature of health care that the pregnant woman receives, significantly affects the pregnancy outcome, early ANC attendance may help in early diagnosis of high risk cases and this favorably alters prenatal mortality (25, 26). There was significant difference in the antenatal care seeking behaviors of the teenage mothers and other older age group. 40.2% of the teenage mothers had less than 4 antenatal visits as compared to 22.5% of the older age group. This was found to be statistically significant ($P < 0.0001$). The mean gestational age at start of ANC was 26.2 weeks as compared to 23.6 weeks for older age groups ($P = 0.0009$). According to WHO recommendation a woman should have 4 to 6 focus visits. The findings in this study is much better than that found in 1998 KDHS, where it was found that 40% of the Kenyan women had not made any single antenatal visit at their sixth month of gestation. The delayed use of services whether because of poor access or poor knowledge by mothers, makes it difficult for the optimum benefit of antenatal care to be realized. This kind of scenario was found in the Nairobi birth survey and in a study in Taiwan (6, 15). The overall quality of the antenatal care seeking behavior among the teenage mothers was poor. In this study it was found that the teenage mothers had a mean antenatal visits of 3.9 as compared to 5.6 of mothers of the older age group. This was statistically significant ($P < 0.0001$) at 95% confidence level.

The commonest ailments in the antenatal period for both study groups were: - malaria, anaemia, early pregnancy bleeding, premature rupture of membranes among others. There was no significant differences in these complication of pregnancy found during the ANC between the two study groups. This was in contrast to other studies, which had reported a high incidence of anemia and PET in the teenagers (6, 7). Also a study in Ethiopia showed that preclampsia was not significantly associated with teenage pregnancy (27), which closely compared to our findings.

Outcome of pregnancy is usually measured in terms of negative indices namely, number of still births, number of neonatal deaths, number of preterm deliveries, low birth weight

rate, and maternal deaths (28). In this study the gestational age at time of delivery was significantly different between the teenage mothers and the older age group, with a mean of 38.5 and 39.13 respectively (P. 0.0038). This can be considered as the cause of lower mean birth weight in teenage mothers as compared to the older age group.

The duration of labour was prolonged in teenager as compared to the older age groups. The mean duration of labour was 15.6 less in the teenage as compared to 12.1 less in the control group. This was statistically significant (P. <0.005), similar findings were reported in Ethiopia where teenagers had high incidence of assisted deliveries due to prolonged labour and delayed second stage (27). In teenage pregnancy labour and delivery complications are due to the poorly developed pelvis (2).

There was no significant difference in the mode of delivery between the teenagers and the older age groups. 89.2% of the teenagers had spontaneous vertex delivery. This compares well with the Nairobi Birth Survey and the findings in the study done in Ethiopia (6, 27). This is in contrast to studies, conducted among South African women, where spontaneous delivery was common in teenagers than in the older age group.

Casearean delivery occurred in 8.8% of the teenagers as compared to 13.79 of the older age groups. This was not significant. The reports in literature are not consistent. Omran (29) reported a casearean section rate of teenagers ranging from 4.2% in Europe to 12.6% in some African and Asian Countries. The Nairobi Birth Survey reported a casearean rate of 4.7% (6). During the study 2 teenagers had breech delivery and there was no vacuum extraction done.

In the Nairobi Birth Survey it was found that there was two fold increase in incidence of low birth weight babies 14.3% versus 26% (6). This was also found in other studies with rates ranging from 10.3% - 19% (29). In this study the incidence of the low Birth weight in the teenagers was 12.7% compared to 5.9% in the control, which was about 2 folds. Intrauterine growth retardation may be a major component and may be attributed to

unfavourable social-economic status, inadequate nutritional supply and lack of antenatal and prenatal care rather than the mothers physical immaturity (30).

The Apgar score at 5 minutes was not significantly different between the teenagers and older age groups. 8.8% of the teenage babies had Apgar score of less than 6 at 5 minutes as compared to 9.8% of other age groups. Also the still birth rate and early neonatal deaths were not significantly different in the two study groups. This was also found in the study in Ethiopia (27). When the outcome of live birth by ANC attendance was analyzed in the entire study population it was found that fetal outcome was poor in those who never attended antenatal clinic, as compared to those who attend .Of those who attend, 6.8% of the babies were admitted to NBU, and 4.7% had neonatal death as compared to 23.1%, and 30.8% respectively of the babies of the mothers who did not attend ANC. This was found to be statistically significant (P-value 0.0005). Also poor fetal outcome was noted for those mothers who had caesarean section and breech deliveries as compared to spontaneous vaginal delivery. Only 3.9% of the babies delivered SVD had neonatal death as compared to 24% of the babies delivered either by breech or by caecarean section. This was found to be statistically significant (P-value 0.0004).

During the study 2 teenagers were transfused, while there were no transfusion in the older age group. This was not statistically significant. There were no maternal death noted during the study period. The other maternal outcomes were not found to be statistically significant in the two study groups with 87.3% of the teenagers having uneventful delivery as compared to 89.2% of the older age group.

Conclusions

1. Teenage mothers had an early onset of menarche as compared to the older age group.
2. Most teenagers conceived while still in Primary School and therefore may end up with interruption or termination of their studies and hence leading to a miserable life of poverty.

3. Despite the teenage mothers being aware of methods of contraception, only a small percentage used any method of protection to avoid unwanted pregnancy. This means that teenagers are not only exposed to unwanted pregnancy but also to STD and HIV/AIDS.
4. Teenagers had fewer antenatal care visit as compared to older age group. This could have been due to poor socio-economic status of the teenagers. Also they started the ANC late possibly because they were still in school and never wanted to be known to be pregnant.
5. The entire study population had a better ANC visits when compared to the findings of the 1998 Kenya Demographic and Health Survey. This can explain why the fetal outcome in the two study groups were not significantly different.
6. The teenagers had delivery at an early gestation than the older age group and hence babies had low birth weight.

Recommendations

1. Teenage pregnancy should be considered a high risk pregnancy and therefore special programmes and adolescent clinics should be established even in Rural Areas.
2. Family planning programmes should be reviewed to give guidelines on contraception for teenagers and to motivate the teenagers to use contraceptive methods if they can't abstain.
3. Sex education, contraceptive, counselling and family life education should be started in mid-primary school if not earlier, to prevent teenage pregnancy.
4. Teenage mothers need to be encouraged to start ANC early and improve on the number of visits so that proper monitoring can be done to improve on their obstetric outcome.

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GYNAECOLOGY SHORT CASES

Case No. 1

Ovarian Carcinoma – Laparotomy, Debulking, and Chemotherapy

Name : R. W. Parity : 8 + 0
IPNO. : 0753131 DAO : 21/08/2001
Age : 63 Years DOD : 9/10/2001

Presenting complaints.

The patient presented with complaints of lower abdominal pains and abdominal swelling for a duration of 6 months.

Presenting History

Patient was admitted to the cold gynaecological ward via GOPC where she had presented with lower abdominal pains, abdominal swelling for 6 months. She also had painful swollen lower limbs and loss of appetite for 3 weeks. She had body weakness, and loss of weight over this duration.

Obstetric and Gynaecological History

She could not remember her age at menarche. She had regular periods every 28 days, lasting 3 to 4 days until 5 years ago when she attained her menopause. She was para 8 + 0, her last delivery was 26 years ago. She had used I.U.C.D. for 21 years and removed on reaching her menopause.

Past Medical History

This was not significant.

Family and Social History

She was a married housewife. Her husband had died of asthma five years ago. There was no family history of major illness or similar illness. She neither drank alcohol nor smoked cigarettes.

Examination

She was a middle aged lady who was sick looking. She was not pale, and afebrile. She had pedal oedema but no lymphadenopathy. The breasts were normal. Her pulse was 78 per minute, regular and of good volume. Her blood pressure was 110/70mmHg and her respiratory rate was 22 per minute.

The central nervous, cardiovascular and respiratory systems were normal.

Abdominal Examination

The abdomen was uniformly distended and moving with respiration. It was soft and tender in both iliac fossae. There was a fluid thrill and shifting dullness. The liver was enlarged about 3cm below the costal margin, but the spleen was not palpable. There were 2 masses palpable arising from the pelvis, which were firm, and with irregular surface and they were about 14 weeks of a gestational uterine size. Deep palpation was not possible due to tenderness.

Vaginal Examination

She had normal external genitalia. The vaginal canal was short with the cervix pushed inferiorly. The cervix was smooth, normal size and the cervical os was closed. The uterus was of normal size but mobility was reduced. The adnexia were both full and tender. The pouch of Douglas was full.

Per – rectal Examination

The anal orifice and anal sphincter tone were normal. The uterus was felt and was of normal size. Bilateral adnexial tenderness was elicited, with bilateral irregular fixed solid masses and could not go above them. The rectal mucosa was free.

Diagnosis

A diagnosis of ovarian malignancy was made.

Investigations

- 1. **Ultrasound** - Liver, spleen, kidney and pancreas were normal.

The uterus was of normal size and echo pattern. There were multicystic masses in the region of the ovaries measuring about 10.2 x 11.4 cm right and 8.4 x 10.7cm on the left. These features were highly suggestive of cystadenocarcinoma of ovaries.

- 2. **Haemogram**

Haemoglobin	-	14.0gm/dl
WBC	-	3.8 x 10 ⁹ /l
Platelets	-	213 x 10 ⁹ /l
RBC	-	4.09 x 10 ⁹ /l

- 3. **Urea and electrolytes**

Na ⁺	-	143mmol/l
K ⁺	-	3.5mmo/l
Creatine	-	81µmmo/l

- 4. **PAP smear** - No abnormal cells noted (CIN 1).

- 5. **Blood group-** O-Positive

Management

She was prepared for laparotomy for staging, biopsy and if possible TAH and BSO. She was starved from midnight of the day before surgery. Soap enema was also given the night before surgery. She was premedicated with 0.6mg atropine sulphate and 50mg pethidine half an hour before theatre. Two units of compatible blood were reserved.

Laparotomy (13/09/2001)

General anaesthesia was given as in the introduction. In semi-lithotomy position, vulvo vaginal toilet was performed. The bladder was catheterised aseptically and 100mls of clear urine obtained. The catheter was left insitu. Examination under anaesthesia confirmed earlier pelvic findings.

The patient was repositioned to supine position. The abdomen was cleaned, draped and opened through a sub-umbilical midline incision. The rectus sheath was noted to be thinned and the peritoneum thickened, with midline adherence to the rectus sheath. The visceral aspect of the peritoneum was erythematous and hemorrhagic with discrete nodules. 3 litres of ascetic fluid was drained, which was straw coloured initially and became bloody gradually.

There were pelvic masses arising from both ovaries. It was not possible to differentiate the ovaries from the masses. The masses were friable hemorrhagic and adherent to the uterus. The bladder was also adherent to the lower uterine segment. The omentum and bowel were attached to the tumour at multiple sites. There were multiple tumour seedlings on the omentum, small intestine and transverse colon. There were massive seedling over the liver surface.

The disease was stage IV and decision was made to debulk the tumours. Both tumours on both ovaries were resected out, and partial omentectomy was done. Total abdominal hysterectomy was not possible due to extensive tumour involvement and adherent

bladder to the lower segment of the uterus. Haemostasis was achieved. The abdomen was closed in layers and blood loss was estimated at 300mls. Anaesthesia was successfully reversed.

Post Operative care

Vital signs were observed half hourly till fully awake then 4 hourly there after. She was maintained on intravenous fluids of normal saline alternating with 5% dextrose. Pethidine 100mg 8 hourly was given for analgesia and crystalline penicilline 2mm 6 hourly, and gentanylin 80mg 8 hourly as antibiotic prophylaxis. Check hemoglobin level on the third post-operative day was 11.2gm/dl .On the seventh post operative day the wound was well healed and all stitches were removed. She was retained in the ward to await the biopsy report and to be given chemotherapy.

Histology Report

The Histology report showed cellular sheets and trabecular of polyhedeal tumour cells which displayed moderate pleomorphism, cell exner bodies were seen and the mitotic index was high. Features were consistent with a granulosa cell tumour.

Further Management

The patient was prepared for chemotherapy. She was informed of the extend of her disease and mode of treatment. Her general condition was relatively poor. Baseline investigations were repeated.

- 1. Blood Urea and electrolytes - Na⁺ 123mmol/l
K⁺ 4.7mmol/l
Creatine 71µmol/l
- 2. Liver function test - Total protein 62.3gm/

	-	Albumin	30gm/dl
	-	AST	19 IU/L
	-	ALP	292 IU/L
	-	Total Bilirubin	13.7mmol/l
	-	Direct Bilirubin	4.3mmol/l
3. Fulhaemogram	-	Hemoglobin level	10.9gm/dl
	-	Platelets	436 x10/L
	-	WBC	5.3 x 10/L

These investigations were found to be within normal range and the patient was started

- Cisplatin 50mg stat
- Adriamycin 50mg stat
- Cyclophosphamide 250mg once daily for 5days.

She was therefore discharged to come again for another course of chemotherapy after 3 weeks of rest.

Discussion

Presented is a 63 years old para 8 + 0 who had carcinoma of the ovaries. Debulking of the masses was done and chemotherapy was given in her management.

In the U.S.A. Ovarian Cancer accounts for 25% of all malignancies of the female genital canal, and over 50% of the deaths associated to gynecological cancer. It is the 5th leading cause for related morbidity among American women (1, 20). The incidence of ovarian carcinoma is higher in industrialized countries than in developing ones (1, 3). At Kenyatta National Hospital ovarian adenocarcinoma accounts for 9.8% of ovarian tumours (4). High risk countries includes Western Europe, especially scandinavian countries and in North America (3, 4). The age specific incidence of ovarian cancer rises through out life until the mid 70's when it peaks and begins to decline (1, 2, 5). It is common in the post menopausal women. The patient presented was 63 years and was 5 years post menopausal. This late onset of menopause could have been due to prolonged ovarian activity.

The specific aetiology for ovarian carcinoma is not known but a number of associated risk factors have been postulated. Repeat ovulation which causes epithelial damage and inclusion of surface epithelium within the ovarian cortex has been supported as a possible cause, since there is a reduction of cancer risk in multiparous women, oral contraceptive pill uses, breast feeding women and those with anovulatory cycles (1, 2). Our patient was a high parity but had not used any contraceptives. Other risk factors are high fat diet, exposure to industrial agents e.g. asbestos and talc (1, 2). A familial inheritance pattern is also postulated, but this could not be established in our patient.

The marked disparity in survival rates between patients with early versus late stage ovarian cancer as well as the identification of high risk patients has led to evaluation of various screening methods aimed at increasing early detection. Three techniques available are; history and physical examination, sonography and tumor markers (1). Our

patient was diagnosed at an advanced disease stage having presented with no specific symptoms.

These tumors are commonly asymptomatic with insidious onset, until they have achieved a considerable bulk and metastasis. A high index of suspicion and regular examination are important. The commonest complaints are pain of fullness in the pelvis, increasing abdominal girth, and presence of a pelvic mass as was seen in our patient. Urinary symptoms due to the pressure on the bladder are frequent and menstrual disturbance or post menopausal bleeding may elicit a high index of suspicion. Our patient presented with lower abdominal pains and lower limbs swelling.

Pelvic ultrasound and computerized tomography may be useful in diagnosis and assessing the size and consistency of adnexial masses (2), though the results of sonography in screening for ovarian cancer have been disappointing (1). Other important studies to assess the extent of disease include chest X-rays, bone and liver scans, but these are rarely indicative in the initial work up of these patients.

Available screening tests are expensive and lack reproducible accuracy necessary for effective screening. Alpha fetoprotein (AFP) is extremely rare in ovarian epithelial cancer; it is used for germ cell tumors (2, 6). Carcinoembryonic antigen (CEA. 125) is elevated in 30 – 50% of patients with ovarian cancer, but it is also positive for positive tissues derived from coelomic epithelium and the mullerian duct, it therefore lacks specificity (1, 2, 7). However most ovarian carcinomas can be discriminated with high probability using a panel of 3 antibodies directed against C.E.A., cytokeratin 7; and vimentin (7). Immunodiagnosis using ovarian cancer associated antigen called NB/70K is available (2).

These tumor spread by seedlings, lymphatic, blood stream and direct spread to any neighbouring organs (1, 2, 5). Ovarian carcinoma is a surgically staged disease. Our patient was found to have stage IV of disease at surgery, since she had ascites, tumor involvement on the omentum, intestine and liver involvement. $\frac{2}{3}$ of patients with

ovarian carcinoma already have stage III or IV disease at the time of diagnosis (2). Serous adenocarcinoma are usually large and in over 50% both ovaries are involved (5). Histological pattern of ovarian adenocarcinoma includes papillary, adenopapillary, or diffuse patterns (5). Epithelial ovarian malignancies are also graded as per degree of differentiation, to well differentiated (G 1), moderately well differentiated (G 2) and poorly differentiated (G 3). These also has a bearing to the prognosis.

Surgery continues to play the central role in the treatment of ovarian carcinoma (1, 2, 8). Removal of tumour to the extent possible may be curative in some patients and provides the remainder with a good start for post operative chemotherapy or radiotherapy. In the stage I and II disease when conservation of fertility is not an issue, the recommended surgery is TAH and bilateral salphigo Oophorectomy, with omentectomy and lymphadenectomy. In advanced stage III and IV cytoreduction (debuking) surgery is done followed with chenotherapy or/and radiotherapy. Prophylactic oophorectomy or ovarian ablation on women with strong family history of ovarian carcinoma or undergoing hysterectomy for being uterine diseases may be important in the prevention of ovarian carcinoma (1, 2). Carbon dioxide laser, ultrasonic aspiration, argon beam coagulation and loop electrosurgical excision can be used for treatment of tumours in inaccessible areas like the mesentery, diaphragm, or liver (1). Surgery followed by chemotherapy gives better 5 years survival rates.

Second look laparatomy is advocated in patients with advanced stages of disease usually to assess effectiveness of chemotherapy and therefore decision to stop chemotherapy. It is also an oppportunity to debuk any residual disease. This has however been replaced by laparoscopy. High dose intraperitoneal cisplatin and other intraperitoneal drugs, cytarabine or bleomycin have been used as second line chemotherapy in persistent tumor after standard chemotherapy and/or after second look operation, with good survival benefits (1). Other active agents include carboplatin, ifosfamide, and paclitaxel (9).

Prognosis depends on tumor type, clinical stage at diagnosis, and histological grade, and type of neoplasm. 5 year survival rate of 20 – 30% have been achieved when all gross

residual disease is removed followed by chemotherapy and radiotherapy (1, 2, 3). Survival of patients with ovarian cancer has improved in recent years due to earlier stage of diagnosis, and possible introduction of combination chemotherapy with cisplatin (3).

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Case No. 2

Secondary Infertility with Tubal Blockage – Tuboplasty Done

Name	:	E. N. M.	DOA	:	8/11/00
Age	:	32 Years	DOD	:	17/11/00
Parity	:	0 + 1	IP No.	:	0648429

Presenting Complaints

The patient was booked at our gynaecology outpatient clinic with complaints of painful menstrual periods, lower abdominal pains and inability to conceive for 6 years.

She had been married for 6 years and they had engaged in normal unprotected and regular sexual intercourse but had not achieved another pregnancy. The periods had been regular, heavy and in clots. She gave no history of previous sexually transmitted or post-abortal sepsis.

Obstetric and Gynaecologic History

She was para 0 + 1. She had an elective termination of pregnancy in 1994 at 4/12 for unwanted pregnancy. Her menarche was at 15 years and her periods were regular, occurring every 24 days and lasting 3 days. They were heavy and in clots and associated with pain. She had never used any form of contraceptive. Her last menstrual period was on 14/10/00.

Family and Social History

She had been married to a 35-year-old man, who was a businessman, but they had separated one month before presentation due to the inability to conceive. She lived at Machakos, where she was a small-scale business lady. She could take alcohol occasionally but did not smoke cigarettes. As far as she knew, the husband had not fathered children elsewhere. She confessed to having had 3 boyfriends and had sexual

relationships with them prior to her marriage. There was no family history of any chronic illnesses.

Past Medical History

She did not suffer from any chronic illness. She had never been admitted to hospital or had any surgery. She had never been treated for any sexually transmitted disease.

Physical Examination

She was a young lady in good general condition. She was not pale, was afebrile and had no oedema. She was not obese and had a normal female habitus. She had no goitre. She had no abnormal hair growth or distribution.

The temperature was 36.4°C , blood pressure 120/80mmHg. Pulse rate was 78 per minute and regular. Respiratory rate was 20 per minute. Her breasts were well developed and not active.

Abdominal Examination

The abdomen was soft and had no traditional therapeutic marks. She had a small infra-umbilical scar. There were no masses or areas of tenderness.

Pelvic Examination

She had normal female pubic hair distribution. Her external genitalia were normal. The vaginal mucosa and fornices were normal. The cervix was firm, long and the OS was closed. The uterus was normal sized, anteverted and mobile.

Her cardiovascular, respiratory and central nervous systems were examined and found normal. Her husband had been examined earlier during the clinic visits, general examination, external genitalia and the testes were all normal.

Investigations

1. Husband semen analysis: Volume 2.5mls, PH 7.5, Colour Grey-White, Motility 90% actively progressive, 5% dead. Over 65% were of normal morphology. No leucocytes were seen. The sperm count was 60 million per ml.
2. Pap smear - Pap Class I (CIN-O)
3. HIV test by ELISA - Negative for HIV I and II antibodies.
4. Pelvic U/S - Normal
5. HGS - Normal uterine cavity, dye outlined both tubes but there was bilateral terminal loculation of dye and no spill.
6. Diagnostic laparoscopy (18/7/00) - Uterus was of normal size and shape. There were flimsy adhesions in the pouch of Douglas. Also flimsy adhesions involved both tubes with fimbrial end agglutination. Both ovaries were found normal. On installation of dye there was no free spill bilaterally, the tubes were distally distended with dye.
7. Endometrial curettings (18/7/00) - Indicated secretory phase corresponding to 24 – 25th day of a 28 – day cycle (LMP – 23/6/00). There were no alcohol and acid fast bacilli (AAFB) seen.
8. Haemogram - Haemoglobin - 11.4g/dl
WBC count - $5.6 \times 10^9/L$
Platelets - $162 \times 10^9/L$
9. Urea and electrolytes - Sodium 144mmol/L, Potassium 4.3mmol/L, BUN 3.5mmol/L

Management

The patient was admitted to the ward and informed consent for tuboplasty under general anaesthesia was obtained. The patient was fasted from midnight of the operation day. On the morning of surgery she was shaved at the pubic and lower abdominal regions. Premedication with intramuscular atropine 0.6mg and Pethidine 50mg were given half-hour before surgery. She was then wheeled to theatre. In the operating theatre, the patient was anaesthetised and then placed in lithotomy position. The vulva and vagina

were cleaned using antiseptic lotion. Aseptic catheterisation was done and 200mls of clear urine obtained. Examination under anaesthesia confirmed earlier findings. The vagina was packed with a moist gauze roll to elevate the uterus. The patient was repositioned supine and the abdomen cleaned and draped. The abdomen was opened through a Pfannenstiel incision. The uterus was found to be normal sized and anteverted. There were thin and thick adhesions around the left tube. Irrigation was started with Darrow's solution and adhesions released by cautery. The tube was freed and mobilized but the fimbrial end was not visualized. Terminal salpingostomy was done to open the distal part of the tube.

The right tube was also held in thin and thick adhesions. These were released by cautery and the tube was freed. The fimbrial end appeared healthy. Both ovaries were freed from adhesions and appeared healthy. A cervical clamp was placed and methylene blue hydrotubation was done, bilateral spill was noted. The pelvic cavity was cleaned with Darrow's solution after haemostasis was achieved. Swabs and instruments were counted and found correct and the abdomen was repaired in layers. The patient was then reversed from anaesthesia and taken to the recovery area.

Post Operative Care

She was observed hourly until she was fully awake and then four hourly. She got intravenous crystalline penicillin 2mu, 6 hourly and gentamycin 80mg, 8 hourly for 48 hours for prophylaxis. She also got intramuscular pethidine 100mg 6 hourly for 24 hours. She was later commenced on oral amoxicillin 500mg, 8 hourly, flagyl 400mg, 8 hourly and paracetamol 1gm, 8 hourly. Intravenous fluids 500ml, 5% dextrose alternating with normal saline were given 6 hourly until the second post operative day when she was started on oral sips. On the fourth post-operative day, she had no major complaints and was discharged home. She was to be reviewed in the gynaecology clinic in one month.

Follow-up

She was seen at the gynaecology clinic on 27th December 2000. She had no complaints. The wound had healed well. She had not yet received her periods. She was to be seen in 2 months but she was lost to follow up.

Discussion

This was a 32 year old patient, who presented with secondary infertility due to tubal blockage and peritubal adhesions bilaterally. She was managed by tube surgery. Child bearing to the woman is the ultimate expression of womanhood and to the man fathering children is seen as affirmation of masculinity. A woman's social status in societies of many developing countries is often identified with her fertility, failure to have children is seen as a social disgrace that cause stigmatization, marital upsets and psychological consequences (1, 2).

Infertility is defined as failure to achieve a pregnancy within a stipulated period of time, usually one year of regular, unprotected intercourse (1, 2, 3, 4). In primary infertility neither of the couple have ever achieved a pregnancy while in secondary infertility, a pregnancy has been achieved at some time in the past (1, 2, 3, 4). The patient presented here had secondary infertility.

About 25% of women will be pregnant during the first month of unprotected intercourse, 63% in 6 months, 75% in 9 months and 80 – 90% in 1 year. An additional 10% will achieve pregnancy in the second year (1, 2, 3). The patient presented here had regular unprotected sex for six years without achieving a pregnancy. She was late to seek medical advice on her status.

Estimates of the prevalence of infertility are not very accurate and they vary from region to region. In general about 8% of couples experience some form of infertility during their reproductive lives (4). Other works have estimated the prevalence of infertility at 10 – 30% and Sub-Saharan Africa has average prevalence of infertility of 10.1% (1). The exact statistics for Kenya are not known, but Mati found 60% of all patients attending the gynaecology clinic at Kenyatta National Hospital complained of infertility (5).

The female patient is often blamed for infertility but the woman contributes to 40 – 50% of cases. And in 20 – 30% there are both male and female factors and the male contributes to 30% of cases. No cause was identified in 10 – 20% of patients (1, 2). In

the patient presented here, the husband was investigated and found to be normal while the patient was found to have bilateral tubal blockage.

Infection constitutes the most important and most preventable cause of infertility. Sexually transmitted diseases (STDs), post partum and post abortal infections play an important role in certain parts of the world particularly in Africa. 85% of infertile women in Africa had infection-related infertility according to WHO study in 1987. The high prevalence of STDs and their lack of early and efficient management in Africa may have led to high levels of infertility and serious social consequences of this (1, 6). The patient presented here did not give a positive history of having suffered from STD but she had had an elective termination of pregnancy at an earlier date. Pelvic inflammatory disease complicates about 10% of elective abortion and chlamydia trachomatis has been implicated (4).

In Africa, tubal blockage accounts for 85% of causes and in 49%, it is bilateral. 70 – 75% of tubal blockages were due to pelvic inflammatory disease (6). In the patient presented here the tubal blockage was found to be bilateral.

Ovulation disturbances contribute to 20 – 25% of female infertility. These may arise from obesity or weight loss, psychological disturbances, Sheehan's syndrome, prolactinoma, hypo or hyperthyroidism, adrenal hyperplasia, polycystic ovary disease or premature ovarian failure (2).

Male causes of infertility include defect in the production of sperms or to a block in sperm transport from the testis, abnormalities in sperm count, morphology, motility and ejaculatory problems. Infection plays a lesser role in the male infertility than in the female (1, 7).

At Kenyatta National Hospital (KNH), a male partner with satisfactory semen analysis or with children by another woman, the last-born being younger than the duration of infertility is considered normal (8). The husband of the patient presented had normal

semenalysis, though it was not known if he had fathered children with another woman. Environmental pollutants like high levels of pesticides reduce sperm counts. Occupational exposure to extreme heat may also lead to male infertility. Alcohol, drug abuse and excessive smoking have also been implicated in male infertility (1).

None of these factors were noted in the husband of the patient presented here. Coital problems account for 3 – 5% of infertility while unexplained infertility is found in 10% of infertile couples. There is also age related decline infertility after 35 – 40 years in women (2).

The goals of the infertility evaluation are to determine the probable cause of infertility, provide accurate information regarding prognosis, provide counselling, support and education throughout the process of evaluation and to provide guidance regarding options of treatment (2).

Both partners need evaluation as infertility could arise from any of them. Investigation of the infertile couple begins with a careful history and physical examination, the age of the couple, duration of the marriage, previous reproductive histories for both and results of any previous investigations. Any past or present history of STDS, drug use or abuse, sexual interactions are reviewed. Menstrual history is also reviewed (1, 2, 3).

The male partner is then evaluated since investigations for the woman are more invasive, time consuming and expensive. Semen analysis is done for the male partner to assay the sperm count, motility, morphology and vitality (2, 4).

For the female, investigations are aimed at giving information about tubal patency and ovulation. Recording the basal body temperature is the simplest and most non-invasive method of detecting ovulation. Hormonal assays and endometrial curettage for dating may confirm this (1, 4).

Hysterosalpingography done around day 8 – 10 of the cycle outlines the uterine cavity and lumen of the tubes. Congenital malformations for the uterus, submucous fibroids, uterine synechia and polyps may be demonstrated (1, 2, 4).

It has been observed that 30% of women have enhanced fertility following HSG and a 3 – 4 month delay is advisable before further intervention procedures (2, 4). In the case presented here, HSG demonstrated a normal uterine cavity and distal bilateral tubal blockage.

Laparoscopy allows visual demonstration of intra-peritoneal pathology, like peritubal adhesions, fimbrial agglutination, endometriosis and other tubal or uterine pathology. At laparoscopy, the operability of the case and the prognosis is assessed. Surgical intervention where feasible can be carried out (1, 2, 4).

Dye instillation at laparoscopy demonstrates patency of the tubes. Laparoscopy in the patient presented here demonstrated peritubal adhesions and no dye spill bilaterally. The endometrial curettings and the same sitting showed late phase secretory endometrium and no acid-alcohol fast bacilli. Post-coital test (PCT) is a controversial test. It assesses the status of the sperms in cervical mucus after ejaculation (1, 4).

Ultrasound and hormonal assays include prolactin levels are also useful diagnostic procedures and can also be used to monitor therapy (1). Other tests are Salpingoscopy, Falloposcopy which are not available in our set up (9).

Treatment of infertility is often frustrating, unseccessful, long and expensive and an emphasis on prevention is more appropriate (1). Infection related infertility, which accounts for a large proportion of cases in developing countries can be prevented by control of STDS through health education, promotion of condom use, early diagnosis and effective treatment, contact tracing and screening of high risk population. Improvements in obstetric care and hygiene, avoidance of unduly prolonged and traumatic labour will prevent puerperal infections and its serious sequelea including infertility,

reduction of unsafe abortions, provision of family planning services may act as a preventive measure against infertility. Early effective treatment of complications of illegal abortion also reduces the risk of permanent damage (1).

Pregnancy will occur without treatment in 15 – 20% of couples diagnosed as infertile (2). Treatment is directed at the identified cause of infertility in other cases. Tubal occlusion requires micro-surgical management either at laparoscopy or laparotomy. Available options include pelvic adhesionlysis, salpingolysis, fimbriolysis and salpingostomy. Resection and re-implantation to the uterus or end-to-end anastomosis may be done (1, 2, 3, 7, 10). Of pregnancies that occur after successful surgery for blocked tubes 6 – 15% are ectopic (1).

The success rate of tubal surgery depends on patient selection, type of surgery and the experience of the surgeon. Good prognosis patients have peritubal adhesions, minimal tubal pathology and obstruction on the fimbrial ends (2, 3, 10). Generally the success rate of surgical treatment is 25 – 30%, but in our set up the success rates is even lower (2, 10). Micro surgical technique gives better outcome and would improve success rates even in our set up (10). The patient presented here had pelvic adhesionlysis, salpingolysis bilaterally and cuff salpingostomy on the left tube. But the results of surgery were unsuccessful.

In couples with infertility and whose therapy has been unsuccessful and all options of treatment have been exhausted, adoption may be advised. In-vitro fertilization where practised offers an alternative mode of management with pregnancy rates of 15 – 20% per transfer at best (3). This is not available in our set up and patients may require to go out of the country for these services.

Treatment of infertile couples should also encompass management of the psychological effects of infertility on both parties (1).

Public health measures for control of STDs, prevention of post-puerperal and post abortal sepsis as well as changes in personal behaviour are important tools in fighting infertility in the developing countries including ours where results of surgical treatment are poor and the process long and expensive.

James D. C.

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Case No. 3

Carcinoma of the Vulva: Simple Vulvectomy and Radiotherapy

Name : M. W. IP No. : 0676637
Age : 56 Years DOA : 7/11/2000
Parity : 9 + 0 DOD : 19/5/2001

History of Presenting Illness

The patient was admitted to the cold gynaecology ward through Gopc where she had presented with 10 months history of vulval itching and swelling. The swelling was progressively increasing in size and ulcerated to a non-healing ulcer, which was bleeding easily on touch. She had sought medication in various health facility without much improvement. In the Gynaecology out patient clinic (GOPC) she was scheduled for excisional biopsy as a day case through the acute Gynaecology ward but this was not done because she was bleeding a lot from the ulcer and she was becoming too weak.

Obstetric and Gynaecological History

She was para 9 + 0. Her last delivery was in 1977. She could not remember the time of her menarche. She was in her past menopause for 16 years. Her menses were regular coming every 30 days and a flow of 4 days.

There was no history of contraceptive use.

Past Medical History

This was not significant.

Family and Social History

She was a housewife staying at Thika with her family. The husband died at the age of 70 years, though the cause of death was not known. She never smoked cigarettes nor drink alcohol. There was no family history of any chronic illness.

Physical Examination

She was in fair general condition. She was moderately pale but afebrile. She had bilateral tender inguinal lymphadenopathy. She was not cyanosed or jaundiced. Her body temperature was 36.9°C , with a pulse rate of 84/Minute regular and a good volume. Her blood pressure was 130/70 mmHg, and respiration rate of 24/Minute. The chest was clear and breasts were normal. The cardiovascular and central nervous system were essentially normal.

Abdominal Examination

The abdomen was not distended and was moving with respiration. The abdomen was soft with no areas of tenderness. There were no palpable organomegally. She had tender enlarged inguinal lymphadenopathy bilaterally.

Pelvic Examination

The patient had a fungating tumor extending from the clitoris to the posterior commissure. The tumor involved the labia majora and minora obliterating the vaginal orifice. The mass extended to involve the left buttock and the anal orifice.

Digital or speculum examination was not possible because the mass was easily bleeding to touch.

Rectal Examination

The tumor had involved the anal opening and anal sphincter, anal mucosa was free above the sphincter.

Diagnosis

An impression of Carcinoma of the vulva was made.

Management

Patient was prepared and counselled for simple vulvectomy in addition to radiotherapy after the surgery.

Pre-operative investigations

8/11/2000	Full Haemogram	WBC	-	21.5 x 10 ⁹ /l
		RBC	-	3.82 x 10 ⁹ /l
		HB	-	8.7 gm/dl
		Platelet	-	465 x 10 ⁹ /l
		Urea and Electrolytes	Na ⁺	-
		K ⁺	-	4.7 mmol/l
		Creatine	-	61mmoles/l
8/11/2000	Liver Function Test	Total Protein	-	6.0 gm/dl
		Alb	-	27 gm/dl
		ACT	-	8 u/l
		AST	-	18 u/l
		ALP	-	188 U/l
		Direct Bilirubin	-	0.1 mmol/l

	Blood Group	-	O Rhesus (D) Positive
17/11/2001	Full Haemogram	WBC	- 13.7 x10 ⁹ /l
		RBC	- 44 x 10 ⁹ /l
		HB	- 11.4 gm/dl
		Platelets	- 332 x 10 ⁹ /l
		Creatine	- 61mmoles/l

Liver Function Test	-	Total Protein	- 6.0 gm/dl
		Alb	- 27 gm/dl
		ACT	- 8 u/l
		AST	- 18 u/l
		ALP	- 188 U/l
		Direct Bilirubin	- 0.1 mmol/l

	Blood Group	-	O Rhesus (D) Positive
17/11/2001	Full Haemogram	WBC	- 13.7 x10 ⁹ /l
		RBC	- 44 x 10 ⁹ /l
		HB	- 11.4 gm/dl
		Platelets	- 332 x 10 ⁹ /l
		BUN	- 4.7 mmol/l

Pre-operatively, she was transfused 3 units of blood since she was noted to be pale and a repeat check hemoglobin level done which showed that she was acceptable for theatre.

On 23/11/200, the patient was prepared for operation. She signed an informed consent. 3 units of compatible blood were availed for the patient. She was premedicated with atropine sulphate 0.6mg and pethidine 50mg intramuscularly 30 minutes before being taken to theatre.

In theatre the patient was put under general anaesthesia. She was placed in a lithotomy position. The perineum, lower abdomen and upper thigh were cleaned and draped with sterile towels. catheterisation was done and clear urine was obtained.

Examination under anaesthesia was done which confirmed the earlier findings. In addition it was found that the tumor involved the distal part of the urethra, the lower third of the vagina and the anus.

Circumferential haemostatic sutures were applied all around and incision was made from the posterior commissure down to the anal opening, removing the anal sphincter. The incision was extended over the labial cruri bilaterally including the both labia majora, and extended upwards to the mons pubis

The lower third of the vaginal canal was resected out via an incision along the hymeneal ring. The distal urethra was excised and a catheter left in situ. Both labia majora, and minora, clitoris and mons pubis were then delivered en bloc and tissues taken for histology. The superficial and deep inguinal nodes were not dissected. All bleeding points were arrested. The skin margins were re-approximated. The urethral meatal margins and vaginal mucosa were approximated and joined to the skin margins. The site was cleaned and dressed.

Because of the anal sphincter resection, the surgeons team was called, who advised and did a terminal left sigmoid colostomy. Anaesthesia was successfully reversed. Estimated blood loss was 800mls.

Post Operative Care

Her vital signs were monitored half hourly until when she was fully awake, there after she was observed at 4 hours interval.

She was maintained on intravenous fluids with normal saline 500mls alternating with 500mls of 5% dextrose 6 hourly for 48 hours. She was injected pethidine 100mg 8 hourly intra muscularly for 24 hours to relief pain. She was given intravenous metronidazole 500mg 8 hourly Gentamycin 80mg 8 hourly and crystalline penicillin 2 Mega unit 6 hourly for one week.

Stay in the Ward

The urethral catheter was maintained 3 weeks before it was removed to avoid urethral stenosis. The catheters were changed regularly to avoid urethral and bladder infection, while in the ward the wounds break down and become septic. This was managed by daily cleaning and dressing. While in the ward, metastatic lesions were noted in the mons pubis and patient was sent for radiotherapy. On start of radiotherapy patient started getting urethral bleeding, which necessitated changing of the urethral catheter regularly.

The perineal wounds healed slowly with granulation. The colostomy remained functional and clean. On removal of the catheter the urinary bladder was trained. She was discharged home through Radiotherapy department to come again after one month at the Gopc.

Follow up

She was seen in the gynaecology clinic as scheduled. The wounds had healed completely. She had no major complaints and was sent to continue with radiotherapy.

Post Operative Investigation

18/12/2001	Full Haemogram	WBC	-	7.3 x10 ⁹ /l
		RBC	-	4.13 x 10 ⁹ /l
		HB	-	11.7 gm/dl

28/2/2001	Full Haemogram	WBC	-	$8 \times 10^9/l$
		RBC	-	$4.9 \times 10^9/l$
		HB	-	12.5 gm/dl
24/4/2001	Full Haemogram	WBC	-	$6.0 \times 10^9/l$
		RBC	-	$4.18 \times 10^9/l$
		HB	-	10.6 gm/dl
		Platelets	-	$344 \times 10^9/l$
Urinalysis	-	Blood + Leukocytes ++		
		Culture and sensitivity	-	Mixed growth of enterococccous Spps and E.coli sensitive to Nitrofuratoin and cephalixin.
Pus Swab	-	Gram Staining	-	No organism seen
		Culture	-	No growth obtained

Histology Report

Skin biopsy bearing an ulcer with elevated edges, showed poorly differentiated squamous cell carcinoma ulcerating. Biopsy also had inflammatory cells.

Discussion

Carcinoma of the vulva is an uncommon malignancy accounting for 0.3% of all female cancers in the United States and 3 to 5 percent of all female genital malignancies (1, 2).

Carcinoma of the Vulva is a disease mainly of the post menopausal women with a median age at diagnosis of about 65 years (12). It affects women of all races and culture though whites are more frequently affected than non whites (1). However the age range is wide and there are some data to suggest an increasing incidence in younger women (1, 2). The patient presented was post menopausal and her age was 56 years.

There are sexually transmitted factors associated with the development of Carcinoma of the Vulva. This includes Human Papilloma virus, and granulomatous venereal diseases. Vulval carcinoma insitu like cervical carcinoma insitu is considered a precursor to invasive disease (1, 2, 3) though the risk of progress is lower occurring only in 7%.

Hypertension and diabetes mellitus are common in patients with invasive ca vulva but the association of vulval cancer with obesity and cigarette smoking is not clear (1, 2). The patient presented never had any of those conditions.

The commonest initial symptoms is pruritus vulvae which may be of long duration, as was our patient (1, 2). Vulvar pain, discharge and bleeding are less common. There is delay in seeking medical help and also delay in making the right diagnosis by the attending clinical (1, 2, 4). The patient presented had vulval itching for 10 months and had sought treatment severely and no biopsy taken by the time of admission. The tumor involves the labia majora in about 2/3 of the cases, the remaining involves the clitoris, labia minora, or posterior fourchette and perineum. These cancers can be exophyte ulcerating or flat (1, 2). Our patient had ulcers with elevated edges.

Carcinoma of the Vulva metastasis is mainly through the lymphatic systems and follows a predictable pattern of spread to the regional lymph nodes. The superficial inguinal nodes are involved first followed by the deep inguinal, femoral and pelvic nodes, (1, 2,

5, 6) contralateral lymphanode spread may occur. The patient presented had bilateral lymphadenopathy and tumor on both labia majora.

Direct extension of the disease may occur involving the clitoris, the urethra, anus, the vagina. The patient presented had tumor spread to the distal urethra, clitoris, lower 1/3 vagina, perineum, left buttock and anal involvement.

Staging of Carcinoma of the Vulva is based on surgical findings. Factors considered in the FIGO staging of the C. A. Vulva includes the depth of disease invasion, tumor size, nodal involvement and extend of metastasis. The staging of C. A. Vulva has stage I to IV. Our patient had stage IV A disease.

The diagnosis of Carcinoma of the Vulva should be made early since it's a disease of body surface readily accessible for diagnostic procedures. Diagnosis is made by carefully inspection of the vulval area followed by a biopsy of suspicious lesions. Carcinoma of the Vulva may arise from the skin, subcutaneous tissue, glandular elements of the vulva or the mucosa of lower 1/3 of the vagina. 85 - 90% of these tumors are epidermoid cancer i.e. squamous cell carcinoma (1, 2). The histology findings of our patient tumor showed this kind of histology. Cystoscopy, intravenous pyelography or protoscopy may be indicated if it appears that locally advanced cancer may be involving the bladder, bladder base or rectum.

The management of invasive squamous cell carcinoma of the vulva has been radical vulvectomy with bilateral inguinal lymphadenectomy performed by in bloc excision. This operation creates a large surgical defect, which is closed under tension with a high subsequent break down and marked disfigurement of the genital area (1, 2, 6). Other complication of this operation includes psychosexual effects of radical removal of the vulval tissue, urinary or fecal incompetence and vaginal relaxation (1, 2). The patient presented had wound breakdown and due to removal of anal sphincter she had terminal colostomy fashioned.

Various modifications have been made for the radical vulvectomy. These includes separation of the incision for the vaginal and vulval parts of the operation (1, 6). Some studies have been done to compare the morbidity and 5 years survival rates for patients done pelvic lymph node dissection with those given groin and pelvic radiotherapy. These studies have shown no difference in morbidity between the two treatment areas and a better 2 years survival rate in the radiotherapy group of 68% versus 54% (8). Our patient was done simple vulvectomy and thus was followed by groin and pelvic radiotherapy.

Radiotherapy had been used sparingly in the treatment of Carcinoma of the Vulva because of the belief that the vulva and perineal tissues tolerate radiation therapy poorly. The advent of mega - voltage external beam equipment and the judicious use of electrons or interstitial brachytherapy however had empowered tolerance (9). Preparative radiotherapy can cause marked regression of locally advanced Carcinoma of the Vulva to the point when more limited resection can be performed with sparing of organ functions (6, 9).

Chemotherapeutic agents e.g. cisplatin, 5 fluorouracil, mytomycin C have been combined with radiation therapy in the treatment of locally advanced squamous cell carcinoma of the vulva followed by surgical removal with less radical surgery and sparing of organs (1, 2, 6).

About 15% to 4% of patients with squamous cell carcinoma of the vulva develop recurrence after treatment. The incidence of recurrence depend on the original stage of the disease, the depth of invasion and most important the regional lymph node status. Our patient had recurrence to the mons pubis and this responded well to radiotherapy.

The gross size of the tumor is the most significant factor in prognosis with lesion less than 2cm having better prognosis (1, 2, 9). The depth of stromal penetration is a key factor or determining the invasive potential of the tumor (1, 2) survival rate of patients with vulval carcinoma relates most closely to nodal involvement (1, 2, 6).

Significant improvement in survival can be achieved by early diagnosis of the disease coupled by the with new better understanding of the nature of spread of the disease. Routine inspection of patients and prompt treatment of premalignant conditions will help in curbing the progression of the disease. Patients with vulval intraepithelial neoplasia require long-term follow up.

Our patient had extensive surgery, which lead to a permanent terminal sigmoid colostomy, but due to the proper counseling done before the operation, the patient went home happy and in a state better than she was before surgery.

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Case No. 4

Desired Family Size-Interval Bilateral Tubal Ligation

Name	:	G. W.	L. M. P.	:	20/3/2001
Age	:	44 Years	DOA	:	21/3/2001
IP. NO.	:	143\01	DOD	:	21/3/2001
Parity	:	3 + 0			

Presenting Complaints

The patient had no complaints. She felt that she had a desired family size hence she asked for a permanent method of family planning.

History of Presenting Complaint

Patient had been followed up in clinic 66 with an intra-uterine contraceptive device which was inserted in 1993. She and her husband felt since they have the desired family size, they should seek for a permanent method of family planning. She was seen in clinic 66 where she was counselled and filled in a consent form.

Past Medical History

She had been admitted before due to a peptic ulcer.

She had no history of past surgery

Obstetric and Gynaecologic History

She was para 3 + 1. Had a miscarriage in 1993 at 3 month gestation. Her last delivery was in 1992.

She attained her menarche at age 14 years. Her cycles were regular at 21 days and menses lasted 7 days. She had used intra uterine contraceptive device since 1993 up to 2001.

Family and Social History

She was married with three living children. She was staying with her family at Ongata Longai. She was a tailor by profession while her husband was an accountant with Ministry of Environment. She did not smoke or drink alcohol. Her father had hypertension and peptic ulcer. Her sister had Asthma. There was no history of any other major illness in the family.

General Physical Examination

The patient was in good general condition, afebrile and not pale. She had no oedema or lymph node enlargement. She was not obese.

Vital Signs

Blood Pressure	100/60 mmHg
Respiratory Rate	18/Minute
Temperature	36.8 ⁰ C
Pulse Rate	86/Minute of good volume and regular.

Abdominal Examination

The abdomen was scaphoid, soft and non-tender. There was no palpable masses noted. Bowel sounds were present and normal.

Pelvic Examination

The external genitalia was normal. The cervix was 2cm long firm and os closed. Cervical excitation was negative. The uterus was 10 weeks size of a gestation. Uterus was mobile and anteverted. Adnexae were free and pouch of Douglas was empty. There was blood but no discharge on examine fingers because patient was on her menses.

Diagnosis

A 44 years old para 3 + 1 with a desired family size.

Management

Patient and her husband were re-conselled regarding the procedure of tubal ligation and its implication.

A description of what was going to take place in the operation room was given to them. The informed consent signed before was also confirmed by both. She had been advised not to feed after the evening meal of the day prior to the scheduled day of surgery. Also she was requested to shave her pubic hair on the morning of the procedure and requested to be accompanied by somebody to take her home after the procedure.

Procedure

Patient was injected with 0.6mg of atropine 30 minutes before being taken to theatre, she was asked to pass urine and then taken to theatre.

In the operation room, she was placed in semi-lithotomy position and vulva and vagina cleaned with antiseptic solution. A digital vaginal examination was done and the findings mentioned before were confirmed.

Cusio's speculum was then inserted into the vagina. Both vagina and cervix found normal. The cervix was swabbed with an anti septic solution before being held by a volselum forceps to stabilize it.

A uterine elevator was inserted into the uterine cavity after which the volselim forceps and the speculum were removed. The patient was then placed in supine position and supra pubic region cleaned and draped. About 10mls of 1% lignocain was infiltrated into the abdominal wall, 2 cm above the symphysis pubis. A 3 cm transverse incision was made at this point and the abdomen was opened in layers. Once the peritoneum was opened, the head end of the operating table was turned down and the uterus was identified by moving up and down using the elevator. Then on moving the uterus to the left side the right tube was hooked and held with a Babcock forceps and brought out of the abdomen. The tube was exposed to the fimbrial end for confirmation that the structure held was a fallopian tube.

Lignocaine was splashed on the tube and ligated using the Modified pomeroy's method. No bleeding was noted after the procedure. The same procedure was repeated for the left tube. The abdomen was closed in layers. A dry gauze was placed on the wound and strapped.

The uterine elevator was removed with no bleeding noted. The patient was moved to the recovery room where she was observed for four hours, before being allowed home. She was instructed to keep the area dry and requested to come back for review after one week. She was advised to avoid lifting heavy loads for a week to allow proper healing of the incision.

Follow Up

The patient was seen after one week in the clinic and the wound had healed well. She had no complains.

Discussion

A 44 year old para 3 + 1 who had a desired family size and request for permanent method of contraception is presented.

Voluntary surgical contraception (VSC) is becoming a common option for many couples. The new technique involving very short stay in out-patient surgery have further encouraged demand (1).

Female sterilization is used more commonly by older women with a median age being 32 years whereas other methods: Pills, Injections and Norplant are used by younger women in the peak child bearing age (2, 3). The patient presented was 44 years old.

Tubal sterilization can be performed at the time of cesarean section, shortly after delivery or induced abortion (post partum) or at a time unrelated to pregnancy (interval) (4). The patient presented was done interval tubal ligation. Post partum tubal ligation is more convenient because it lowers the cost and surgery is easy.

The decision of when or even where to have children is a basic human right (5). Family planning decisions should be made on a completely voluntary basis but also on basis of thorough informed choice on the part of individuals and couples (2, 5). Before any tubal ligation procedure is performed, it is imperative that an informed consent from the patient and her husband be obtained (6). The presented patient had both consents dully signed.

The indication of sterilization cannot be exactly defined. High parity alone is a common indication (7). Ngoka (8) noted that at KNH 85% of the VSC clients were para 5 or above and 25% had 2 – 4 children. The patient presented was para 3 + 1 with 3 living children.

There are several methods of surgical approach to tubal ligation which includes minilapa rotomy or laparascoric tubal ligation (6). During minilaparatomy the fallopian tubes are

identified and the mid position occluded using pomeroys, Irving's or uchindans method, the patient presented was done interval minilaparotomy using the modified pomeroys methods.

Other method of female sterilization include cornal resection, hysterectomy, transvaginal tubal ligation. Some methods are not commonly used though in experimental stages e.g. trans- uterine tubal occlusion using electrocoagulation; silicon plugs, slips and sclerosing liquids.

Complications of surgical sterilization can be immediate or delayed. Immediate complication include hemorrhage, surgical errors and anesthesia accidents.

Delayed complications include menstrual disturbances especially those women who had other methods of contraceptive e.g. oral contraceptives, ectopic pregnancy and regrets. Most patients who regret the permanent method of family planning are those who are poorly counseled or those who opt for the method soon after delivery.

Although new and refined microsurgical methods of reversal are available, these methods require special skills, and are complicated, length and costly and none of the methods guarantees success.

Tubal sterilization has a frequently cited failure rate of 4 pregnancies per 1000 sterilization procedures (6).

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Case No. 5

Pelvic Abscess - Laparotomy and Drainage

Name	:	P. A.	Parity	:	1 + 0
Age	:	22 Years	DOA	:	9/7/2001
IPNO.	:	0722633	DOD	:	24/7/2001

Presenting History

The patient was admitted through GOPC where she had presented with complaints of lower abdominal pains, abnormal vaginal discharge and lower abdominal swelling for 6 months.

History of Presenting complaint

She had been well until last year September (2000) when she underwent an emergency caesarean section at Kisumu Hospital due to fetal distress. Thereafter she noted foul swelling per vaginal discharge associated with lower abdominal pains. She also noted that she had frequency of micturation, and dysuria. The incision wound healed well but the above complaints persisted. She was started on antibiotics in various health facilities with no improvement. She later noted a lower abdominal swelling, which was increasing in size. She was therefore referred to our out patient clinic for follow up and further management.

Obstetric and Gynaecological History

She was para 1 + 0. Having undergone a casearean section in September 2000 at term and the baby succumbed after a week. She had her menarche at 14 years. Her L.M.P. was on 15/6/2001. Her periods lasted 3 days in a 30 days cycle. She had not used any contraceptive method.

Past Medical History

This was not significant.

Family and Social History

She was a single lady, staying with her aunt at Kayole. She was unemployed. She never used to drink alcohol nor smoke cigarettes. There was no history of chronic illness in the family.

Physical Examination

The patient was in fair general condition. She was not pale, not jaundiced and afebrile. The body temperature was 36.5°C , and a blood pressure of 110/70mmHg. Her pulse rate was 98/minute regular and of good volume. The respiratory rate was 22/minute. The cardiovascular system, respiratory and central nervous systems were essentially normal.

Abdominal Examination

There was Sub Umbilical Midline Incisional scar. The lower abdomen was obviously distended. There was marked supra pubic tenderness and a firm mass arising from the pelvis equivalent to a 14 week gravid uterus. The mass was attached to the structures below but not the skin over it. The mass was not mobile.

Vaginal Examination

The external genitalia was normal. The vaginal wall were moist and healthy. The cervix was long and OS closed. There was a mass involving both adnexia and the uterus was involved on the mass. The mass was fixed to the surrounding structures. The pouch of Douglas was full. Cervical excitation was negative.

Diagnosis

A diagnosis of an adnexial mass was made to rule out a pelvic abscess.

Investigations

1. PAP Smear - Sample satisfactory with few polymorphs and no evidence of malignancy.
2. U/E -

Na ⁺	-	140 mmoll
K ⁺	-	4.2 mmoll
Urea	-	4.5 mmoll/l
Creatine	-	48 micromoll/l
3. Full haemogram -

WBC	-	6.4 x 10 ⁹ /l
RBC	-	3.64 x 10 ⁹ /l
HB	-	10.2 gm/dl
4. Blood group - O Rhesus (D) Positive
5. U/S - The uterus appear normal in size and echogenicity. There is a complexed mixed echo mass with a thick wall measuring 77 x 68mm in size in the left adnexial region and anterior to the cervical region. There is a small amount of fluid in the Pouch of Douglas.

The bladder wall show significant thickening. Both kidneys showed dilatation of the pelvicalyceal system and ureter.

6. I.V.U. - Showed features of bilateral pyelonephritis more severe on the right. There was proximal bilateral ureter dilatation. A soft pelvis mass was noted on the left.
7. ELISA for HIV - Negative

Management

She was planned for exploratory laparotomy. An informed consent was obtained and 2 units of blood were grouped and crossmatched ready for theatre. Patient was not allowed to eat anything from mid night of the day before surgery. On the morning of the day of surgery the patient was premedicated with atropine 0.6mg and pethidine 50mg both given intramuscularly 1/2 hourly before theatre.

Laparotomy and Drainage

In theatre, the patient was placed under general anaesthesia. She was positioned in dorsal lithotomy position and vulva-vaginal toilet was done. She was catheterised and 200mls of clear urine obtained. Examination under anaesthesia confirmed earlier findings. Patient was then re-positioned in the supine position. The abdomen was cleaned and draped with sterile towels. The abdomen was opened in layers through the old sub umbilical incision scar. The omentum was found adherent to the uterus and abdominal wall. A lot of pelvic adhesions were found. The uterus and bladder were joined together into a huge pelvic mass and both the ovaries and tubes were adherent to the uterus.

The omentum was dissected from the anterior abdominal wall. The pelvic adhesions were also bluntly dissented and gently released. The bladder was dissected away from the uterus and a lot of greenish -white pus was found in the uterovesical pouch. This was drained out. The bladder was opened to confirm the origin of the pus since it looked like the was some pus in the bladder wall. Inspection of the bladder showed a normal cavity, with a thickened bladder wall. The bladder was closed in 2 layers. All pockets of pus

were opened and the abdominal cavity cleaned with Rifocin. A pus swab was taken and sent for microscopy, culture and sensitivity. Two corrugated surgical drains were left insitu, one in the pouch of Douglas and brought through the right iliac fossa. Haemostasis was achieved. Swab and instrument were counted and found to be correct. The abdomen was closed by mass closure using a non-absorbable suture. The estimated blood loss was 1.2 litre and therefore she was transfused one unit of blood. She was successfully reversed from general anaesthesia.

Post Operative Care

The patient was observed in the recovery room until then she was fully awake and then transferred back to the ward. An indwelling bladder catheter was left in situ for 10 days. She was put on intravenous injection of flagyl 500mg, 8 hourly, crystalline penicilline 2 mega, 6 hourly and gentamycin 80mg still for 5 days. Pethidine was given intramuscularly 100mg, 6 hourly for 24 hours to relief pain. On 1st post operative day bowel sound were still absent and hence I.V fluid continued.

On the second post operative day bowel sounds were present and hence patient was allowed to have oral sips. The temperature was not elevated. Drains remained actively draining up to the 6th post operative day when they were removed. Check haemoglobin was done on the third post operative day and was 9.6gm/dl. The results for the pus swab revealed no growth of any organism. Urinalysis was also done on the third day and was normal. Stitches were removed on the 10th post operative day, and had healed well. Also catheter was removed and patient could control bladder function well. She was discharged home to attend GOPC in 6 weeks time.

Follow Up

She was seen as per the appointment and she had no complaints. She was not pale. The wound had fully healed and abdomen was soft. She was counselled on the effect of the infection on her future obstetric carrier and therefore advised to seek medical attention if she notices any difficult in conceiving, since pelvic infection can lead to tubal blockage and hence infertility.

Discussion

Presented is a patient who developed a pelvic abscess following a caesarean section for which laparotomy and drainage was done. Pelvic abscess is a collection of pus in the pelvic region including the pouch of Douglas. It is a major cause of morbidity and mortality among reproductive age group. Fomulu found that 1/3 of all gynaecological admission at Kenyatta National Hospital are due to pelvic abscess (1). It was also found that those admitted at Kenyatta National Hospital due to pelvic abscess, 30% were of age group 26 - 28 years, the incidence was high in nulliparous and 63% were unmarried (2). In menopausal women a pelvic abscess is usually secondary to pathology in the intestinal tract. The patient presented was 22 years old and was para 1 + 0.

Pelvic abscess may result from late or inadequate treatment of upper genital infection e.g. acute pelvic inflammatory disease, post abortal sepsis or puerperal sepsis. The infection may also be due to instrumentation e.g. insertion of IUCD, dilation and curettage or hysterosalpingography (3). In Kenyatta National Hospital 18.2% of abortions were followed by pelvic abscess (1). The patient presented had a pelvic abscess following puerperal sepsis after a caesarean delivery. She sought treatment, but looks like she was not adequately treated.

The bacteriology of the pelvic infection is a mixed picture of anaerobic and aerobic organism of the upper genital tract. These includes *N. Gonorrhoea*, *E. coli*, *Actinomyces israeli*, *M. hominis*, *C. trachomatis*, and *ureoplasma* (1, 2, 3). Fomulu (KNH) found that aerobes and anaerobes with *E.coli* occurring in 5% of all cases (1). The laboratory results for culture and sensitivity were not available after surgery, hence the cause of the infection was not known.

Patients usually presented with lower abdominal pains, fever and vaginal discharge. The severity of the symptoms is often directly proportional to the size of the abscess, but occasionally even a large abscess may be totally asymptomatic. Dysuria and frequency of micturation may occur (3, 4). A fluctuant mass may fill the cul-de-sac and cervical

motion tenderness may be present. The patient presented had a firm pelvic mass and cervical excitation was not positive but had dysuria and frequency.

The combination of physical findings, laboratory results with leucocytosis and occasional anaemia, and ultrasound examination usually allows the diagnosis to be made with confidence (3). Our patient had an ultrasound, which showed a complex adenexial mass, which was highly suspected to be an abscess. She was not anaemic.

The patient with pelvic abscess should be admitted in Hospital for management. Supportive measures are vital especially for the very ill patient in form of analgesia, intravenous fluid, nasogastric suction, blood transfusion and parental antibiotics. Some abscesses will resolve adequately with sensitive antibiotic treatment. Such response is defined by absence of fever, a decrease in WBC count by at least 3000 per mm^3 ; a decrease in the size of the adenexial mass as well as general clinical improvement in the patients condition. Where such anticipated response is not forthcoming then surgery is advocated (3, 4, 5).

Colpotomy drainage of a pelvic abscess is possible if the abscess is midline and should be adherent to the cut-de-sac peritoneum and should dissect the rectovaginal septum to assure the surgeon that the drainage will be extraperitoneal and that pus will not be disseminated transperitoneally. Also the abscess should be cystic or fluctuant to ensure adequate drainage (3). In our patient this was not possible since the pelvic mass was firm and adherent to the pelvic structures.

Experience with percutaneous drainage of intra-abdominal and pelvic abscess under ultrasonographic or computed tomography guidance has been reported (6, 7).

In exploratory laparotomy, pelvic adhesions should be released and the bowel should be packed off before the pelvic dissection commences, when both adenexia must be removed a hysterectomy should be performed. Jackson Pratt suction drains are often placed above the facial and brought through a separate incision (3). Patient presented had

laparotomy and 2 corrugated drain were left insitu one in the pouch of Douglas and the other in the utero-vesical pouch. Due to the young age of our patient and given that the tubes looked relatively healthy hysterectomy was not done.

Complication of pelvic abscess include chronic ill health, pelvic pain, dysmenorrhoea, Dyspareunia, bowel obstruction, infertility and ectopic pregnancy. Fertility is impaired in up to 10% of patient following conservative medical management. Septicemia, septic shock, renal failure and septic thromboembolism are early complications, which have a high incidence of morbidity and mortality (3, 4).

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Case No .6

Imperforate Hymen - Cruciate Incision

Name : J. K. DOA : 31/6/2001
IPNO. : 0722657 Date of Operation : 6/7/2001
Age : 18 Years
Para : 0 + 0 DOD : 9/7/2001

Presenting Complaint

The patient experienced cyclical monthly lower abdominal pains for 2 years.

History of Presenting Illness

The pain was cramp like and would disappear after two to three days. There was no associated vaginal bleeding. She had noted a mass on the vaginal opening, which she described as an egg like in shape. She had been seen at Makindu Sub - District Hospital of Makueni District where she was referred to us for further management.

Past Medical History

This was not significant.

Obstetric and Gynaecology History

She had not started getting her menses yet. She was para 0 + 0, with no history of any sexual intercourse. She therefore was not on any contraception

Family and Soccial History

She was the first born in a family of 6. Other siblings were normal and alive. She had finished standard 8 last year but could not continue with education due to the above complaints. There was no history of any chronic illness in the family.

Physcial Examination

She was in fair general condition. She was not pale, jaundiced and had no lymphadenopathy. Her blood pressure was 110/60 mmHg, with a pulse rate of 102/minute regular and of good volume. The respiration rate was 24/minute and temperature of 36.8⁰C.

Breast Examination

The breasts were symmetrically and normal on appearance. There was no masses felt and breasts were nor tender. The nipple and areolar were well developed. They were at Tanner 5.

Abdominal Examination

The abdomen was scaphoid and had no areas of tenderness. No masses were palpated.

Vaginal Examination

She had a normal external genitalia with normal hair distribution. There was a bulging occluding membrane on the vulva, which was purple in colour. The swelling was cystic and tense. Rectal examination revealed a large tense cylindrical swelling filling the vagina. The uterus was of normal size.

Diagnosis

A diagnosis of an imperforate hymen was made.

Investigation

Haemoglobin Level	-	140 gmdl.
Urea and Electrolytes	-	Urea 6.6 mmol/L
	Na ⁺	- 128 Mmol/L
	K ⁺	- 2.81mmol/L
	Creatinine	- 60 µmo/l

Management

The patient was fully prepared for theatre. An informed consent was given and on 6/7/2001 she was taken to theatre. She was put under general anaesthesia with thiopentone and maintained on oxygen halothene and nitrous oxide. She was put in lithotomy position and vulva and the perineum cleaned with antiseptic solution. The Patient was draped with sterile towels. The urinary bladder was catheterised with foleys catheter and left insitu. Inspection of the vulva and rectal examination revealed earlier findings.

A cruciate incision was made on the imperforated hymen. The stellate incision was made through the hymenal membrane at the 2-,4-,8-,and 10- O'clock positions . Chocolate brown coloured haematocolpols drained out and about 400mls of blood obtained. Digital examination was deferred. General anaesthesia was reversed.

Post Operative Care

The patient was transferred back to the ward were she was started on oral, tTetracycline 500mg 6 hourly and metronidazole 400mg 8hourly for 5 days. She was put on oral paracetamol 1 gm 8 hourly for 48 hours.

She recovered well from the operation and was discharged home after 4 day on oral antibiotic to be reviewed in GOPC after 4 weeks.

Follow Up

She was seen in the clinic as per the appointment and found to have healed well. The cruciate was patent. Digital examination revealed a normal vaginal canal and uterus. She was sent back to Makindu Hospital for further follow up.

Discussion

A 18 years old lady who had imperforate hymen is presented. Cruciate incision was successfully done.

The hymen is a membrane of connective tissue covered by stratified squamous epithelium. The hymen has more apparent variations in structure than any other part of the female genitalia (1).

The hymen is the junction of the sinovaginal bulbs with the urogenital sinus. The hymen is usually perforated during embryonic life to establish a connection between the lumen of the vaginal canal and the vaginal vestibule. If there is no perforations through this membrane, the hymen is called imperforate (1, 2).

Although variations in hymen development occurs, complete blockage by the hymen of the vaginal orifice is rare. Three main hymenal configuration has been observed: fimbriated, circumferential and posterior rim (3). The patient presented had complete blockage of the vaginal orifice.

Imperforate hymen is rarely diagnosed before puberty. Most patients are seen at the age of 13 to 16 years of age when symptoms begin to appear (1, 2). The patient presented had symptoms at 16 years of age but only sought medical attention when she was 18 years.

The symptoms after the onset of puberty are due to the accumulation of menstrual blood. The blood first accumulates in the vagina leading to hematocolpos. Patient may feel a slight fatigue and have cramping discomfort suggesting menstruation, but will have no history of any passage of menstrual blood, through the vaginal outlet (1, 2). Repeated accumulation may lead to hematometra and hematosalpinx and even hemoperitoneum may occur (1, 2, 4).

The most common symptoms of vaginal over distension are lower back pain, discomfort in the pelvis and pain in the lower abdomen. Pain is often aggravated by defecation. Urinary retention may occur (1, 2). Our patient had monthly lower abdominal pains with no vaginal bleeding.

A tender mass often is palpable suprapubically. This is as a result of uterine enlargement and upward displacement, bladder distension or both. Protrusion of the hymen usually is visible and is sometimes massive and dark in colour (1, 2). Patient presented had no palpable abdominal masses but had protrusion of the hymen with a purple mass.

The management of an imperforate hymen is purely surgical. The aim of such a procedure is to relieve pressure on the proximal organs, create space for menstrual blood to escape and allow satisfactory coitus. The hymenal membrane is simply incised preferably at the 2, 4, 8 and 10 O'clock positions. There are no main complications though uterine perforation can occur if instrumentation is done (1, 2). Our patient had cruciated incision done and drained the haematocolpos.

Late complications of the surgery is dyspareunia which is rare. It is due to stenosis, which may occur with healing.

Follow-up evaluation of the vagina and pelvis should be deferred for 4 - 6 weeks to reduce the risk of introducing infection.

Our patient healed well and during follow-up showed no complications. She needed further evaluation, since imperforate hymen is associated with urinary tract anomalies.

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Case No. 7

TB. of the Genital Tract - TAH + BSO

Name :	J. R.	Parity :	8 + 0
Age :	55 Years	DOA :	30/05/2001
IPNo. :	0692120	DOD :	03/07/2001

Presenting History

She was admitted through GOPC with history of lower abdominal pains. She had been referred to GOPC from MOPC where she had been followed up for a peptic ulcer disease and ultrasound done showed ascites and endometrial fluid, with a cervical mass. During follow up in GOPC she was done PAP smear, which moderate dysplasia of metaplastic cells (CIN 111,HGSIL). She was also done colposcopy and biopsy taken, which showed features suggestive of adenocarcinoma of the cervix. EUA was therefore done and biopsy taken showed necrotic tissue with giant cells of Langhan's and there were no malignant cells seen. Due to these conflicting Biopsy results patient was informed of the findings. She was therefore worked up for TAH given that she was in her postmenopausal period and the risk of there being cancer of the cervix.

Past Obstetric and Gynaecological History

She was para 8 + 0. She had all her babies by vaginal delivery. Her last delivery was in 1978. She could not remember her age at menarche. She was 5 years postmenopausal, otherwise she had regular menses every 28 days with a flow of 3 days. She had used a IUCD for 3 years before her menopause.

Past Medical History

She had been followed up in MOPC – Kenyatta National Hospital due to peptic ulcer disease. This had been confirmed on Endoscopy and she was on Zantac 300mg orally 12hourly.

Family and Social History

She was a married woman living with her husband in Meru. She never drank alcohol nor smoke cigarettes. There was no family history of chronic illness.

General Examination

She was in fair general condition. She was not pale, not jaundiced. Her pulse rate was 80/min regular and of good volume. Temperature 36⁰C and blood pressure was 110/70mmHg. Her respiratory rate was 18/min. The cardiovascular, central nervous system and respiratory systems were essentially normal.

Abdominal Examination

Her abdomen was uniformly distended and moving with respiration. There was no obvious abdominal masses palpable. She had suprapubic tenderness. Liver and spleen were not palpable.

Pelvic Examination

External genitala was normal. A speculum examination showed a mass in the posterior lip of the cervix, which was easily bleeding. Vaginal mucus was moist and normal. The cervix was hard with a mass in the posterior region. Uterus was slightly bulky but mobile. The Adnexia were free and non tender. The pouch of Douglas was empty.

Impression

An impression of cancer of the cervix was made (initially) and patient recommended to have colposcopy and EUA.

Investigation Reports

1. PAP Smear : Satisfactory atrophic smear showing moderate dysplasia of metaplastic all. No endometric cells seen. Conclusion-patient with CIN III, HGSIL.
2. Colposcopy Biopsy : Feature suggestive of adenocarcinoma of the cervix and chronic erosive cervicitis with foreign body type reaction.
3. EUA Biopsy : The cervix shows chronic inflammation. There is no dysplasia and there is no cancer. The endometrial currethings is mainly RBCS, in lakes and scattered stromal tissue. Some of the necrotic tissue shows giant cell of Langhan's type.

Diagnosis - Chronic cervicitis
- Chronic granulomatous endometritis.

Coment - Although material is scant, The presence of necrotising material with langharn type giant cells will suggest TB.

4. Haemogram :
 - WBC - $8.5 \times 10^9/l$
 - RBC - $2.7 \times 10^9/l$
 - HB - 13.5gm/d
 - Lympocytes - 41.8%
 - Neutrophiles - 32.8%

5. Urea and Electrolytes :	Na ⁺	-	147mmol/l
	K ⁺	-	4.9mmol/l
	Urea	-	5.4 mmol/l
	Creatine	-	76 μmol/l

Management

The colposcopy and histology findings were considered and patient was planned for Total abdominal hysterectomy. An informed consent was obtained.

On the day of the operation she was premedicated with intramuscular injection of pethidine 50mg and atropine 0.6mg, both half an hour before theatre. Two units of compatible blood were availed.

In theatre anaesthesia was instituted and patient put in lithotomy position. Vulvo vaginal toilet was done and aseptic catheterisation was performed. Examination under anaesthesia confirmed earlier pelvic findings. In the supine position abdomen was cleared and draped with sterile towels. The abdomen was opened through a pfannestiel incision. Gross chronic inflammation process involving the pelvic organs, omentum, gut, and liver was found. There was evidence of calcation and ascites of 300ml, which was straw, coloured. Peritoneal seedling were also noted. Extended TAH and bilateral salphingo-Oophorectomy was performed as described in the introduction. Specimens wre taken for histology. The abdomen was closed in layers and total blood loss was 500mls.

After the operation, the anaesthesia was reversed and the patient returned to the recovery ward.

Post Operative Care

She received intravenous fluid until bowel sounds returned. Intramuscular pethidine 100mg, 8 hourly for 24 hours was given for analgesia. Antibiotic cover in the form of intravenous Amoxicillin/Clavulanic 1.2gm, 8 hourly was given for 5 days. The patient made adequate recovery. Her post operative haemoglobin was 13.6g/dl on her third post operative day. She was discharged to come again to GOPC after 4 weeks. But while awaiting to go home the Histology report was out.

Histology Report

Histology of the uterus shows cervix with features of chronic granulomatous inflammation attended by Langhan's type giant cells. The endometrium shows normal secretory changes. The surfaces of the ovaries and fallopain tubes were covered by granulomatous inflammation.

The features are suggestive of genital tuberculosis involving the ovaries uterus and tubes.

In view of the Histology findings patient was started on anti T.B. treatment of Refatar 4 tablets onces daily and Ethambutol 800mg once daily. She was then allowed home through T.B clinic and she was to be reviewed in four weeks time at the GOPC.

Post Operative Follow-up

She was reviewed at the GOPC where she was found to be in good general condition. She was still on anti T. B. Therapy. Wound had healed well. She was to be seen again after 4 weeks.

Discussion

Tuberculosis of the upper genital tract is a rare disease in the development countries (1). The patient presented was a 55 years old para 8 + 0 who was in her postmenopausal period. She presented a challenge in the diagnosis of the condition; which was initially thought to be Ca Cervix but turn out to be Tuberculosis of the upper genital tract.

Pelvic tuberculosis is caused primary by either mycobacterium bovis. The primary site of the infection is usually the lung, but also involves other organs except hair, teeth and nails (1).

The prevalence of genital tuberculosis varies widely, with incidence of 0.69 - 19%, reported in various studies (1, 2, 3). The incidence is increasing with the emerging of Acquired immuno deficiency syndrome (AIDS), since tuberculosis is an early opportunistic infection in the course of HIV infection. Our patient had a negative ELISA test for HIV.

Organs of the female reproductive tract are usually infected by haematogenous milliary spread from a primary pulmonary lesion or by hematogenous spread from a secondary milliary site by lymphatic spread from primary pulmonary site to intestinal lymph node and then to the pelvis or by direct extension from adjacent abdominal organs (1). In case of the patient presented there was no evidence of primary site of the infection.

A venereal transmission of the disease has been reported with primary genital infection in the woman occurring after coitus with a sexual partner who had tuberculosis of the genito urinary tract (5). In our case this was possible since the cervix was involved with no other primary site noted.

Pelvic tuberculosis occurs most often in patients between the ages of 20 and 40 years. Although the incidence of pelvic tuberculosis in post menopausal is increasing (1, 5). The patient presented was 55 years and in her postmenopausal period.

Genital tuberculosis is hard to diagnosis clinically. The symptoms are mostly characteristic (1, 2). The symptoms vary considerably depending on stage of disease, from asymptomatic form only picked at investigation for infertility, to large pelvic or abdominal pelvic masses with features of chronic inflammatory disease. 73.7% of the cases present with infertility while 50% of patients present with a menstrual irregularities (1). Other symptoms include deep dysperunia, excessive vaginal discharge, general malaise, weight loss, anorexia, night sweat and low-grade fever (1, 6). The patient presented had abdominal pains; and a cervical mass.

On pelvic examination, bilateral adnexia tenderness is the rule and the tenderness is usually less marked than with acute gonococcal or strepococcal infection (4). Occasionally a large tuberculosis tubo ovarian abscess is palpated. The clinical detection of ascites is the strangest evidence obtainable in favour of pelvic tuberculosis and presents in one fifth of the cases (1). Our patient had ascites, which was demonstrated on abdominal ultrasound.

Tuberculosis lesions of the cervix are rare. They can be either be ulcerative or exophytic and can resemble a primary cervical malignancy or granuloma inguinale of the cervix. In the case of the patient presented the cervix had an exophytic mass. Patient was done colposcope and examination under general anaesthesia and biopsy taken.

The colposcopic finding and Biopy showed adenocarcinoma of the cervix while the biopsy taken under EUA showed chronic granulomatous inflammatory reaction.

Both the fallopian tubes are involved in all patients with pelvic tuberculosis. About one half of the patients with tuberculosis salphingitis have tuberculosis endometritis (1). The patient presented had both tuberculosis salphingitis and tuberculosis endometritis as shown by the endometrial curettage and on histology of the uterus removed. The cyclic shadding of the endometrium protects the uterine cavity from advanced T.B., but it occurs in postmenopausal women like in the case of our patient (1, 6). The ovary may be involved in about 20%, with adhesion and perhaps milliary nodules or even tubo ovarian

abscess formation (6). T.B. of the ovary usually involves the surface and is an extension from the peritoneal cavity and adjacent fallopian tubes (1).

On laparotomy, macroscopic appearance may not differentiate tuberculosis of the pelvis from other infection, but evidence of generalised tuberculosis peritonitis with small greyish - white tubercle covering all peritoneal surface of the abdomen and pelvic organs can be identified (1) as was in the case of the patient presented.

The material obtained during laparotomy including endometrial curettage should be taken for histology, as was the case in our patient. Other investigation, which may be of use, includes hysterosalpingogram, hysteroscopic evaluation, laparoscopy, vaginal and cervical cytology (1, 6, 7). Our patient had cervical cytology done and showed C.I. N. III.

The diagnosis of genital T.B. is usually confirmed on pathologic examination. The histology shows a granulomatous reaction with numerous tubercles composed of caseation epitheloid cells, multinucleated giant cells of larchans and central necrosis type (1, 6, 8). These were the findings on our patient's histology report. Bacteriologic confirmation is done by Ziehl Neelson staining for acid fast bacilli, culture in Lowenstan Jensen Media or Guine Pig inoculation.

Surgical treatment for genital tuberculosis has been restricted to specific indication otherwise patient are managed by chemotherapy. Our patient was done BSO + TAH due to conflicting cervical Biopsy reports. Chemotherapy should be started as soon as diagnosis is made and should not await bacteriological confirmation when a positive histologic confirmation has been made (6). Our patient was started on treatment on basis of the histology report. With advances in treatment there is a short regime of treatment with two months of streptomycin isoniacid, rifampicin an pyrazinamide and 7 months of isoniacid and rifampicin ie 2SHRZ/7HR or 2SHRZ and 6 months of isoniacid and ethambutol (6HE) (6, 9). Our patient was put on 2SHRZ/6HE and discharged home through T.B. clinic and to come again GOPC.

Surgery is presented for only special cases e.g. persistence or enlarging adenexia mass after 4 to 6 months of chemotherapy, persistent pelvic pain or recurrence of pelvic pain while on medication; primary unresponsiveness of the tuberculosis infection and difficulty in obtaining patient cooperation for continued long term therapy (1).

The preferred surgical treatment includes TAH and BSO. Though in young patients who are eager to attempt future childbearing conservative adnexectomy should be carried out, but the patient should be forewarned that conservative surgery will be performed only if the disease is minimal. The conservation of an ovary is only possible if the ovary is only involved on the surface (1). The patient presented was in her menopause and therefore TAH and BSO was done.

Only 5% of patients with genital tuberculosis are capable of becoming pregnant and only 2% will carry a pregnancy to term. It is also evident that in the presence of tuberculosis tubo ovarian abscess pregnancy is extremely rare and conservative surgery for the purpose of preserving fertility is unwanted. Only when there is minimal pelvic disease without adnexal mass, should conservative surgery be considered.

In this era of HIV and with increased incidence of T.B. as an opportunistic infection our patient was pre counselled for HIV test, which was found to be negative.

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Case No. 8

Ruptured Ectopic Pregnancy - Right Salpingectomy

Name : C. M. IP No. : 0736754
Age : 26 Years DOA : 20/5/2001
Para : 2 + 0 DOD : 25/5/2001

Presenting Complaints

The patient presented with history of lower abdominal pains for 3 weeks and lower abdominal swelling for 3 days.

History Presenting complaints

C. M. was admitted to the acute gynaecology ward through the casualty department on 20/5/2001. She had presented there with 3 days history of lower abdominal distension, 3 weeks history of lower abdominal pains and vaginal bleeding. Since the onset of the problem she had been seen in a private clinic and treated for amoebiasis. Since the condition did not improve, she was seen by a witchdoctor who applied some herbs on the lower abdomen. This did not solve her problem and therefore decided to seek attention at the Kenyatta National Hospital because she had noted that she was becoming weak and was now walking with difficulties due to the lower abdominal pains and distension.

Past Obstetric and Gynaecological History

She had her menarche at 15 years. Her L.M.P was on 25/3/2001 therefore she had an ammenorrhoea of 8 weeks. Her periods were regular every 28 days and lasted for 3 days. She had no dysmenorrhoea and flow was moderate. She was para 2 + 0. She had her last delivery in 1998 which was normal and the baby is alive and well. She gave no history of chronic lower abdominal pains or vaginal discharge. She was not treated for sexually

transmitted disease. She had used contraceptive pills from 1998 to 2000 when she changed to Depo Provera. She had her last injection six months ago.

Past Medical and Surgical History

This was not significant.

Family and Social History

She was divorced in 1995. She was a casual labourer in a Cafe in Kariobangi. She used to drink alcohol but she did not smoke cigarettes. There was no chronic illness in her family.

Physical Examination

She was sick looking and in pain. She was pale but afebrile. Temperature was 36.8⁰C. Her pulse rate was 102 beats per minute, regular and of good volume. The blood pressure was 117/49 mmHg. The respiratory rate was 20/mim. There was no leg oedema, nor lymphadenopathy. The central nervous, cardiovascular, and respiratory systems were normal.

Abdominal Examination

The abdomen was slightly distended on the hypogastrium and in the franks. The abdomen was moving with respiration. There were multiple therapeutic marks on the hypogastric region. On palpation she had marked tenderness in the suprapubic region, accompanied by guarding and rebound tenderness. Shifting dullness and fluid thrill was demonstrated. The liver and spleen were not palpable.

Vaginal Examination

The extended genitalia and vagina were normal. The cervix was long, soft and the os closed. Cervical excitation was positive. There was tenderness and fullness of both adnexa and punch of Douglas. It was difficult to determine the uterine size due to tenderness. Blood was noted in the examining fingers.

Paracentesis was done and it was positive for non-clotting blood.

Diagnosis

A diagnosis of ruptured ectopic pregnancy was made and patient prepared for emergency laparotomy.

Management

An intravenous line with normal saline was established. Blood samples for grouping and cross-matching and haemoglobin estimation were taken. An informed consent was obtained and patient was shaved around the pubic region. She was premedicated with Atropine Sulphate 0.6mg and taken to theatre.

Laparotomy and Right Salpingectomy.

In theatre patient was anaesthetised and put in the semilithotomy position. Vulvo-vaginal toilet was done and patient aseptically catheterised. Clear urine was obtained.

The patient was then put in supine position and the abdomen cleaned with savlon and surgical spirit and draped with sterile towels. A sub-umbilical midline incision was made. The abdomen was opened in layers. Haemoperitoneum was encountered and 2000mls of blood evacuated. Massive old clots found in pouch of Douglas and adherent to the left ovary and left fallopian tube. The Right fallopian tube was ruptured and

bleeding at the ampullar region. The right ovary was healthy. Uterus was bulky and looked healthy.

There was no evidence of previous pelvic inflammatory disease. The intestines were pushed away from the operation area using a sterile abdominal pack. A curved haemostatic clamp was applied about 1 cm proximal to the ruptured gestational sac. Another clamp was applied 2 cm distal to it. The tube was divided just distal to the proximal clamp and proximal to the distal clamp. The part containing the ectopic gestation sac was removed and sent for histology. The mesosalphix, the cut end of the tube and the bleeding vessels were ligated with chromic catgut No. I and haemostasis achieved. The abdominal cavity was cleaned with warm saline, and abdomen closed in layers after the instruments and swabs count was found to be correct. Anesthesia was then reversed.

Post Operative Care

The vital signs were observed half hourly until the patient was fully awake and then 4 hourly. She continued with intravenous 5% dextrose and alternated with normal saline until the bowel sound returned to normal. Intravenous Crystalline Penicillin 2 mega unit 6 hourly and Gentamycin 80 mg 6 hourly was given for 48 hours.

Intramuscular Pethidine 100mg 6 hourly for analgesia was given for 24 hours. Her fluid input and output chart was normal. Her post operative recovery was uneventful. Her check Hb on the third post operative day was 7. She was discharged on her 5th post operative day for removal of stitches in the nearest health centre. She was advised to come for review at the gynaecology clinic in 6 weeks time. She was discharged home on haematinic and antibiotics.

Follow Up

She was seen in the gynaecology out patient clinic and had no complaints. The incision had healed well and pelvic examination was normal. She was counselled on family planning methods and referred to the family planning clinic.

Discussion

The patient presented was a 25 year old para 2 + 0 who presented with low abdominal pains and per vaginal bleeding for three weeks and was diagnosed to have a ruptured tubal pregnancy for which laparotomy and right salpingectomy was done.

Ectopic pregnancy is the implantation of a blastocyst, anywhere else other than the endometrial lining of the uterine cavity. More than 95% of ectopic pregnancies involves the oviduct (1).

Ectopic pregnancy was first recognised in 1693 by Busiere, when he was examining the body of a prisoner executed in Paris. Gifford of England made a more complete report in 1731 (2).

The etiology of ectopic pregnancy is not known, but there are factors associated with increased incidence of ectopic pregnancy. These included mechanical factors e.g. salpingitis, peritubal adhesion, developmental abnormalities of the tube, previous ectopic pregnancy, previous operations including abortion, tumors that distort the tube (1).

Functional factors that delay passage of the fertilised ovum into the uterine cavity also lead to increased incidence of ectopic pregnancy (1). Cigarette smoking at the time of conception had been shown to increase the incidence of ectopic pregnancy (3). Several forms of assisted reproduction have been reported to increase the incidence of ectopic pregnancy. In a study by Wabale at Kenyatta National Hospital he found that 69% of the

patients with ectopic pregnancy, there was associated chronic pelvic inflammatory disease (P.I.D) (4). The patient presented had no evidence of (P. I. D.).

Failed contraception increases the incidence of ectopic pregnancies. With the use of any contraceptives the actual number of ectopic pregnancies is decreased because pregnancy occurs less often (5). At Kenyatta National Hospital it was shown that the overall use of I.U.C.D. does not increase the incidence of ectopic pregnancy, but if used for over 2 years there is a 5 - 6 times increase in the risk (6).

The incidence of ectopic pregnancy in rural Kenya is 1:81 deliveries (7), as compared to that found in Nigeria of 1:84 deliveries (8).

Various studies have been done to determine the site of ectopic pregnancy. About 95% of extra uterine implantation occur in the oviduct, 55% of these tubal implantation occur in the ampulla, 20% in the Isthums, 17% occurs in the fimbria, while the interstitial segment account for about 2% to 4% (2). At Kenyatta National Hospital Ampulla ectopic pregnancy accounted for 60% of all ectopics admitted in the hospital. 13% were fimbrial, 12% were isthmal and 7% were cornual (9).

Clinical manifestations of a tubal pregnancy are diverse and depend on whether rupture had occurred. Most patients present with pelvic and abdominal pains and amenorrhoea with some degree of vaginal spotting or bleeding. Dizziness and light headaches may occur (12). The patient presented had all the above symptoms, though the symptoms progressed slowly until they were severe at the time of admission.

Early response to moderate haemorrhage may range from no change in pulse and blood pressure to a slight rise in blood pressure or a vasovagal response with bradycardia and hypotension. The temperature may be normal or low (1). Our patient was found to be hypotensive, with a rapid pulse and normal temperature.

Abdominal palpation may show tenderness and vaginal examination shows tenderness on motions of the cervix (Cervical excitation). Paracentesis or culdocentesis may show non-clotting blood aspirated from the peritoneal cavity (1, 2). The patient presented had abdominal tenderness and cervical excitation was positive. Paracentesis done was positive for non-clotting blood.

Other investigations which may aid in the diagnosis of ectopic pregnancy includes laboratory test such as urinary pregnancy test, serum BHCG levels and abdominal sonography may be used to firm a diagnosis of ruptured/or unruptured ectopic pregnancy (1, 2). Our patient never needed these since she had a positive paracentesis and hence needed an urgent laparotomy.

Total salpingectomy is required when a tubal pregnancy has ruptured, causing intra-abdominal haemorrhage that must be quickly controlled. There is no room for conservative management if there is rupture (2). The patient presented had intra peritoneal bleeding and hence needed urgent laparotomy and salpingectomy was done.

In centres with good monitoring facilities enabling early diagnosis of ectopic pregnancy, then expectant treatment of tubal pregnancy can be offered (2). The natural history of ectopic pregnancy suggests that a majority of these tubal pregnancies can resolve without treatment. Fernandez observed spontaneous resolution of ectopic pregnancy in 64% of patients as confirmed by BHCG, levels less than 10 M.I.U./ML (10). The expectant management of tubal pregnancy is appropriate under rigidly controlled conditions.

Methotrexate can be used systemically or local injection into the unruptured tubal gestational sac. Candidates for methotrexate therapy should be hemodynamically stable, with normal liver and renal functions. The patient on treatment is instructed that the medical therapy fails in 5 to 10% of the patients and this is higher in pregnancies above 6 weeks gestation or with a tubal mass greater than 3.5 cm in diameter, failure of medical treatment means elective surgery or if tubal rupture occurs emergency surgery, if treated as an out patient, rapid transportation must be available, signs of rupture should be

reported promptly; sexual intercourse is prohibited until after serum BhcG is undetectable; no alcohol can be consumed and multivitamines with folic acid should not be taken (1).

Following resection of an ectopic pregnancy approximately 15% of women ovulate by 19 days and 65% by 24 days, by 30th post operative day almost 75% have ovulated. Contraception should ideally be commenced at the time of hospital discharge (11).

There is chance of a recurrence of another ectopic and therefore our patient was counselled on her future fertility. In Kenya it has been shown that the recurrence of ectopic pregnancy is 8.1% (4), while Nigeria it was 3.8% (8).

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Case No. 9

Sexual Assault –Emergency Contraception.

Name	:	J. M.	DOA	:	25/07/2001
IP No.	:	0751619	DOD	:	27/07/2001
Age	:	20 Years	Parity	:	0 + 0

Presenting Complaints

The patient was admitted through casualty department to the acute gynaecological ward on 25/07/2001 with history of having been raped by two strangers 10 hours prior to admission.

History of Presenting Illness

Patient was walking home from work at 7.00 p.m. of 24/07/2001 when she met with two strangers at Muthurwa Estate who raped her repeatedly. She was hit with a blunt object on her head and strangled by one of the assailant before being raped. The rapists did not use condoms. After the attack she noted per vaginal bleeding. She reported the matter to Makongeni Police Station who brought her to hospital.

Post Obstetric and Gynaecological History

She attained her menarche at the age of 14 years. Her periods were regular, lasting 3 to 4 days every 28 days. She had no dysmenorrhoea and the flow was not heavy. She was para 0 + 0. Her last menstrual period was on 10/07/2001. She had never used contraceptives. She was sexually active.

Past Medical History

This was not significant.

Family and Social History

She was a single lady, staying with her cousin at Buruburu. She had dropped out of school at standard 8 and she was working in a Hotel at Landi Mawe. She was the 5th born in a family of 6 siblings. She neither drunk alcohol nor smoked cigarettes. There was no history of chronic illness in the family.

Physical Examination

The patient was a young lady in good general condition, not pale, not jaundiced, not cyanosed and had no lymphadenopathy. Her temperature was 36.8⁰C, pulse was 76 per minute regular and of good volume. The respiratory rate was 16 per minute and blood pressure was 100/70 mmHg. Her moods were low and she was sobbing occasionally. Cardiovascular, respiratory and central nervous systems were normal.

Musculoskeletal system

She had bruises on the face, forearms and legs

Abdominal Examination

The abdomen was soft, not distended and there was no areas of tenderness. The liver, spleen and kidney were not palpable.

Speculum Examination

In the procedure room, patient was put in the lithotomy position, on inspection the labia majora were bruised. The vaginal wall were bruised, sterile speculum was inserted and found white creamy thick smelly discharge in the posterior vaginal fornix. The cervix was traumatized and bruised on the lower lip. There were bruises at the posterior and anterior vaginal fornix. HVS was taken for microscopy and culture. Then the vagina and cervix were cleaned with betadine solution. Also her under wear which was blood stained was taken for examination.

Digital examination was done and the cervix was 3cm long closed and of normal consistency. The uterus was anteverted and normal size. The adnexia were free and the pouch of Douglas was empty.

The patient was returned back to the ward to await results.

Impression

A diagnosis of sexual assault was made.

Management

Specimen of her blood were taken to the laboratory for baseline investigations; VDRL test, ELISA for HIV antibodies and urine for microscopy and culture. Antibiotics of oral Norfloxacin 800mg stat, Doxycycline 100mg 12 hourly and Tabs Metronidazole 400mg 8 hourly for 5 days. In the ward there was no anti retroviral drugs and therefore she was requested to buy. She was also given postinor 1 tablets stat, for emergency contraception. While in the ward, the patient was counselled and emotionally encouraged. She was informed of the risks associated with the rape and the importance of farther follow up. She was discharged through the support centre and to be reviewed at the GOPC.

Laboratory Results

VDRL - Negative
ELISA for HIV - Negative

HVS

Wet Preparation - Moderate pus cells, and Spermatozoa were seen.
No yeast, no *T. vaginalis* seen.

Gram Staining - Gram negative and gram-positive rods seen.

Culture - Light mixed growth of coagulase negative
Staphaureas and Beta haemolytic Streptococcus.

Follow-up

She failed to turn up the appointment as scheduled. She was lost from follow – up.

Discussion

This was a 20 year old para 0 + 0 who was sexually assaulted. She was put on antibiotic prophylaxis ,and emergency contraceptive pills .

Sexual assault is any self reported forced sex against one's will including anal or oral sex, spouse or date rape and rape that did not cause obvious trauma (1). The definition of rape varies widely from state to state, legal statutes may categorise sexual assault as forcible, statutory attempted, carnal knowledge of a juvenile or a crime against nature (2). It involves the penetration of the vulva or beyond by the male genitalia without consent of the woman or when the woman lacks the ability to consent owing to physical or mental incapacity (3). Coitus with a female below the age of consent (16 years) is statutory rape. It is an offence (3).

Rape is the most under reported crime in the U.S.A. (2). The incidence of rape in hospital records is underestimated, because most of the victims report to the police or do not report at all. In the U.S.A. it is estimated that 9 – 24% of the women will be raped at least once in their lifetime (1). Sexual abuse is the most frequent form of child abuse; 25% of girls and 10% of boys are estimated to have been subjected to such abuse by the time they reach 18 years old (3, 4)

Rapists most often choose victims, or individuals who seem vulnerable e.g. women who live nearby, are small in size or elderly or are unaccompanied, intoxicated or disabled (2). Our patient was walking home alone unaccompanied. Almost 50% of the rapists are under 25 years of age; most are repeat offenders and average more than 10 rapes before being apprehended (2).

The victim of rape is exposed to a great risk of medical, physical and psychological consequences. Few of the victims have serious physical injuries but they all suffer psychological trauma, and will affect their lives and the lives of those around them. The recent epidemics of HIV and syphilis have raised grave concerns among rape survivors

and professionals who care for them. 3% of rape victims develop sexually transmitted infection (4). Several factors suggest that HIV transmission during rape is possible and these included; condoms are rarely used during non-consented intercourse, survivors and assailants may suffer from genital and perennial trauma, that may facilitate HIV transmissions, women often experience anal penetration during rape, assailants often engage in behaviours associated with HIV infection e.g. sex with multiple partners and substance abuse, and up to 25% of female survivors are assaulted by multiple assailants during a single rape episode thereby increasing their risk of HIV infection (1). Our patient was raped by two assailants who did not use condoms during the rape. She also sustained genital bruises.

Rape victims may be too emotionally traumatised to wish to report the crime at the time they present to the hospital. Provision of a quiet private area equipped for pelvic examination is necessary. General physical examination is necessary since 75% of sexually abused children show evidence of other abuse (4). Rape is a legal term and the diagnosis can not be made by the physician treating the patient, he can only give evidence of recent sexual activity.

Underwear should be removed carefully and kept in a plastic bag for examination for semen, blood or pubic hair of possible assailant (3). Pelvic examination is done with a Pederson speculum. Evidence of trauma, dilatation or disruption of the tissues is sought. Accurate measurements of the genital injuries and genital anatomy of victims of rape is necessary, this can be best achieved by use of a colposcope (5). The extend of injuries in our patient was done by visual inspection.

Sterile swabs are used to collect materials from the vulva, vaginal walls and the cervical portions (4, 5, 6). The swabs are examined for the presence of semen (spermatozoa and infection such as gonorrhoea). Blood is drawn for VDRL test for syphilis and for ELISA for HIV at the time of presentation to provide a baseline. These were negative in our patient. The test should be repeated after 3 months of assault to rule out infection (4, 6). Unfortunately, our patient was lost for follow-up and these tests were not repeated.

After complete examination, methods of prevention of venereal disease and pregnancy should be offered to the patient including emergency (post coital) contraception (4, 6) and post-exposure prophylaxis for HIV infection (7). Our patient was covered with broad spectrum antibiotics, Postinor for emergency conception and advised to buy AZT for HIV prophylaxis since it was not available in the Hospital.

Rape is a stress situation and can lead to traumatic neurosis (3, 6). The rape trauma syndrome has 2 phases, the acute stage which is immediate reaction, and the long term phase which results in changes in lifestyle, dreams, nightmares, phobias, anxiety states and psycho-sexual violence need ongoing psychological and practical support and arrangement should be made for future counseling sessions. Young children usually do relatively well if the family understands and can cope with the situation (6). Our patient was discharged through the support centre for further counseling and follow-up.

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Case No. 10

Incomplete Abortion In a Teenager - Manual Vacuum Aspiration

Name : C. K. IPNO. : 0736754
Age : 19 Years DOA : 15/5/2001
Lmp : 6/2/2000 DOD : 16/5/2001
Para : 0 + 0

Presenting complaints

The patient presented with complaints of vaginal bleeding for 4 days, and an ammenorrhoea of 13 weeks.

History of Presenting Illness

The patient was admitted through casualty department with complaints of lower abdominal pains and per vaginal bleeding for a duration of 4 days. The symptoms were of sudden and spontaneous onset. There was no history of interference with the pregnancy.

Obstetric and Gynaecological History

The patient was para 0 + 0. She had a last menstrual period on 6/2/2001. At the time of admission she had an ammenorrhoea of 13 weeks. She had her menarche at 16 years and the cycles were regular of 3 days flow and coming after every 28 days. She had no history of dysmenorrhoea and she had not used any contraceptives before.

Past Medical and Surgical History

This was not significant.

Family and Social History

She had dropped out of school in standard 6. She was working as a house girl in an estate in Nairobi. She neither smoked cigarettes nor drunk alcohol.

There was no chronic illness in the family.

Physical Examination

She was a young girl (lady) in good general condition. She was not pale not jaundiced, not cyanosed and had no lymphadenopathy.

Her temperature was 36.8°C , pulse rate of 74 beats/min. Regular and of good volume. The respiratory rate was 20/minute and blood pressure was 110/70mmHg.

The respiratory cardiovascular and central nervous systems were normal.

Abdominal Examination

The abdomen was not distended, and was moving with respiration. There was mild hypogastric tenderness. There were no masses palpable. Bowel sounds were normal. The liver, spleen and kidneys were not palpable.

Pelvic Examination

She had normal external genitalia. A speculum examination was done and showed healthy vaginal canal, and there was slight bleeding from the cervix. On digitalexamination, the vaginal wall was healthy and moist. The cervix was soft and cervical os was admitting a finger. Products of conception were felt in the cervical canal. The uterus was bulky approximately 12 weeks size. The pouch of Douglas and adnexia were empty. There was fresh blood on the examining fingers.

Diagnosis

A diagnosis of incomplete abortion in a teenager.

Management

The patient was informed of the problem and the mode of management and hence she gave consent for evacuation of the uterus.

The patient was taken to the procedure room in Ward 1D. On the couch, in the lithotomy position, vulvo-vaginal toilet was done and the patient was draped with sterile towels. Pelvic examination was repeated and confirmed earlier findings.

A sterileusco's speculum was gently introduced into the vagina exposing the cervix, which was then held with a tenaculum forceps. The uterine cavity was evacuated using a karman syringe with canular size 10, to aspirate the products of conception, which was done systematically in a clockwise direction until a gritty feeling of the uterine cavity was noted. About 100mls of products of conception were aspirated and were not foul smelling. The instruments were removed and vulval toilet was repeated. The patient was repositioned into the supine position and taken back to the ward.

Post Operative Care

The patients vital signs were monitored 1/2 hourly, until when she was stable. She was put on caps doxycycline 100mg, 12 hourly, tabs metronidazole 400mg, and tabs paracetamol 1gm 8 hourly. She was counselled on use of contraception and the available methods. She opted for oral contraceptives. She was also counselled on risks of contracting STI in unprotected sex. She was discharged home to continue with oral medication for 5 days.

Discussion

The patient presented was a teenage who was admitted with incomplete abortion and manual vacuum aspiration of the products of conception was done.

Teenage pregnancy is a growing worldwide problem both in developing and developed countries alike. The majority of teenage pregnancies are unwanted and are associated with medical, psychosocial and social repercussions. The main immediate consequences of an unwanted pregnancy are induced abortion, lack of parental care, personal and family disruption, adoption and abandonment (1).

The true incidence of abortion is not known because only those abortions that develop complications end up in hospitals. In Kenyatta National Hospital, Mati and Aggarwal (2) reported up to 60% of the total gynaecological emergency admissions comprised of abortions, with 16% of them suspected to have been induced.

Studies in Africa and even in America show that girls are becoming sexually active at increasingly younger ages and teenage sexual activity is on the increase (3, 4, 5, 6). In Kenya, Lema found that 23.8% of adolescents aged 12 - 19 years studied were sexually experienced and 62.3% of sexually experienced girls had started coitus at 14 - 17 years of age (7).

Abortion in Kenya is an illegal procedure unless done for medical reasons. This leads to many patients refusal to admit that there was interference of the pregnancy and majority of them may present to hospital only when there are complications such as sepsis and severe haemorrhage. The patient presented gave no history of interference.

Although no age group or social status could be exempted from abortion, majority of patients are usually young, single women. Aggarwal and Mati (8) found that 28% of them were below 19 years of age, among whom 62.3% had interference and 79% were single. The teenagers engage in sexual activities at a stage in their life when the consequences of

premarital sex are not well known to them, thus they are not psychologically or socially ready for parenthood hence the tendency to terminate the pregnancy. There is a tendency for a repeat teenage pregnancies, which suffer a similar fate to previous ones. Studies have shown that once an adolescent has been pregnant, recurrence before age 20 years is higher.

Teenage pregnancy and abortion are indications of unprotected sex and can be used as indicators of high risk behaviour. The adolescent is at high risk of contracting Sexually Transmitted Disease (STD). In the last decade most countries have reported a rise in STDs with rates for teenagers rising disproportionately (9). In rural Kenya 58% of teenagers examined were found to suffer from at least one type of STD (10). They do not relate their sexual behaviour to the risk of contracting STDs including HIV. Their knowledge of HIV/AIDS as a STD does not appear to have deterred them from becoming sexually active, having multiple partners and indulging in unprotected sex (9).

The diagnosis of incomplete abortion is based on history provided by the patient and clinical examination. Patients may present with lower abdominal pains, per vaginal bleeding, with an history of amenorrhoea. The cervix is found open with products of conception in the cervical canal. Ultrasound may be done to confirm presence of retained products of conception. The patient presented was diagnosed clinically from history of amenorrhoea, abdominal pains and vaginal bleeding. Pelvic examination revealed a bulky uterus with a dilated cervix and products of conception felt at the cervical canal.

Management of incomplete abortion is by surgical evacuation of uterus. Dilatation and sharp curettage can be done but this has the risk of uterine perforation and if curettage is vigorous may lead to Asherman's syndrome. Suction curettage is more preferred to sharp curettage since it is faster and safer.

A plastic flexible Karman canular with a syringe as a source of vacuum suction is portable, inexpensive and convenient for out patient use. Kizza (II) at Kenyatta National Hospital found that the technique was effective and safe especially in early gestation and

anaesthesia was not required. The patient presented was done MVA using Karmans canular and syringe successfully. Kizza also noted that with use of MVA the hospital stay was reduced to a minimum with an average of 6 hours (9). The patient was admitted at night and treated and discharged the following morning.

The complications that follow MVA of incomplete abortion are mainly sepsis and haemorrhage. Sepsis is usually due to prolonged duration from time of onset of abortion to the time of the procedure, as well as to the circumstances leading to the abortion. Makokha (12) reviewing maternal mortality at Kenyatta National Hospital noted that of 22.2% deaths were due to post abortion sepsis, 85% of them had evidence of interference. Severe or persistent haemorrhage is not common after the procedure and is normally associated with advanced gestation where the amount of retained products of conception may be high. Mutungi found that 66.6% of teenagers induced the abortion after 12 weeks gestation, which was thought to be due to illegality of the procedure and lack of financial ability to do it early. The patient presented had none of these complications after MVA.

There are no effective methods available to reduce sexual activity among teenagers with sexual experience. Contraceptive use among the teenagers is limited on one hand and on the other sexual activity is increasing. Most FP programs in Kenya and in other African countries do not have guidelines on contraception for teenagers. Contraceptive services are discouraged for them in the belief that by doing so, they would be encouraging immorality. Instead easy access to modern, effective contraceptive methods should be made available to every woman who is capable of achieving pregnancy. In Kenya contraceptive use among teenagers is quite low and was found to be between 2 - 11% in various studies (5, 14).

The concept of post abortion care (PAC) has gained wide acceptance as one way to improve services provided to women with complications from spontaneous or unsafely induced abortions, to break the cycle of repeat abortions. Most contraceptive methods can be used in the 1st 7 days after 1st and 2nd trimester abortions. Safe post-abortion

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Case No. 11

Vesicovaginal Fistula – Successful Repair

Name	:	R. M.	IPNO. :	0732403
Age	:	20 Years	DOA :	18/07/2001
Parity	:	1 + 0	DOD :	29/07/2001

Presenting Complaints

Patient presented with complaints of leakage of urine for 8 months duration.

History of Presenting Complaints

Patient was referred to our gynaecology out patient clinic from Jamaa Hospital with history of leakage of urine since her last delivery on 20th December 2000. The patient had obstructed labour for three days and was delivered by emergency caesarian section at Pumwani Maternity Hospital of a macerated stillbirth, with a birth weight of 4.0kg. An indwelling catheter was left insitu for one week and on removal she started leaking urine.

Past Obstetric and Gynaecological History

She attained her menarche at the age of 13 years. The periods were regular with a flow of 3 days in a cycle of 28 to 30 days. Since her last delivery she had not resumed her menses. She was para 1 + 0 and her last delivery was in December 2000 when she had a still birth. She had not used any method of contraception.

Past Medical History

This was not significant.

Family and Social History

She was married, housewife, staying with her husband in Kayole Estate. Husband was an office messenger with a construction firm in Town. She neither smoked cigarette nor drunk alcohol.

Physical Examination

She was in good general condition and had no pallor, oedema, jaundice or lymphadenopathy. She was afebrile and her blood pressure was 110/70mmHg, pulse rate was 72/min. regular and of good volume and a respiratory rate of 20 per minute.

Central nervous, respiratory and cardiovascular system were essentially normal.

Abdominal Examination

Abdomen had normal fullness and was moving with respiration. She had a midline sub-umbilical surgical scar. There was no area of tenderness or any masses palpable.

Speculum Examination

The external genitalia was normal. The perineum had excoriation, was wet and had an offensive ammoniacal odour. The anterior aspect of the vaginal wall had a defect at mid vagina through which urine was leaking. The defect measured. 2cm x 3 cm. The cervix was healthy. There was no vaginal discharge or bleeding. Digital examination was done and found that the lower third of the vagina was stenotic with defect in the mid vaginal region. The cervix was firm with closed os and the uterus was anteverted and of normal size.

Impression

Diagnosis of vesicovaginal fistula was made.

Investigations

1. Haemogram.

Haemoglobin	-	11.2g/dl
WBC	-	$4.2 \times 10^9/l$
Platelet	-	$241 \times 10^9/l$
RBC	-	$3.2 \times 10^9/l$

2. Urea and Electrolytes

Urea	-	4.2mmo/l
K ⁺	-	3.5mmo/l
Na ⁺	-	135mmo/l

3. Urinalysis - No Abnormality detected.

Management

The nature of the illness and planned mode of management was explained to the patient. She was to be examined under anaesthesia and repair of the fistula was to be done. Consequently the patient gave an informed consent for the planned management. She was put on light diet and had soap enema the night before surgery as well as morning of the operation. She was starved overnight.

Pre-operative Examination Under anaesthesia

On the day of the surgery, the patient was premedicated with intra-muscular atropine sulphate 0.6mg and pathidine 50mg. The patient was wheeled to theatre and put under general anaesthesia. She was placed in exaggerated lithotomy position, vulvo-vaginal

toilet was done and she was draped with sterile clean towels. Examination was done and it was noted that the perineum was wet with urine. Anvards speculum was introduced into the vaginal cavity and urine was noted to be leaking from a defect over the mid anterior vaginal wall measuring 2x 3cm and bladder wall was prolapsing through the defect. The fistula was about 5cm from the urethra and 2cm from the cervix. The urethra and the cervix were normal. A decision was made to repair the fistulae in lithotomy position.

Repair of the Fistula

An episiotomy was performed after both labia major were stitched away to expose the field of operation. Two transverse incisions were made around the fistulae and the vaginal mucosa dissected away from the bladder mucosa. The fistula was closed in 2 layers, with interrupted vicryl 4/0 and 3/0 starting the repair at the two lateral ends and proceeding medially from both sides. Then a urinary catheter was introduced to the bladder and retained. After this methylene blue dye was instilled into the bladder. The dye test was negative as there was no leakage. The vaginal wall was then closed using vicryl 3/0 and the episiotomy closed with catgut 2/0. Two pieces of gauze on surfratulle were left in the vagina for 24 hours.

Post Operative Care

The patient was kept in the recovery room, where her vital signs were observed half hourly for the first 2 hours, then 2 hourly. She was then taken to the ward on 4 hourly observations of blood pressure, pulse rate, respiratory rate and temperature. She was continued with intravenous fluids 500mls 4 hourly for 24 hours then oral fluid 4000mls in 24 hours. She was given pethidine 50mg intramuscularly 8 hourly for 24 hours and then oral paracetamol 1gm 8 hourly for three days to control pain. No antibiotics were prescribed. The urethral catheter was to drain continuously and if blocked to be flushed. The urinary bag was emptied 2 hourly and kept lower than the bed. She remained dry of

urine and was discharged home on the 7th post operative day to come again to GOPC on her 14th post operative day for a repeat dye test and removal of the catheter.

Follow Up

She was seen in the GOPC on her 14th post operative. The incision site had healed well and dye test was negative. The catheter was then removed. She was instructed to abstain from sexual intercourse for four months and in her future pregnancies delivery would be by elective caesarian section.

Discussion

Presented is a 20 year old para 1 + 0 who presented with VVF followed a prolonged obstructed labour. Successful repair of the VVF was performed.

The actual incidence of fistulae is impossible to calculate but Harrison has suggested an incidence of 95 per 100,000 (1). By far the leading cause of vesicovaginal fistula in Africa is obstetric trauma. Mati (1982) reported that 87.8% of the cases of urinary fistula were labour related in his series (2), while Orwenyo (1984) reported a rate of 90.7% (3). This figure is in contrast to the situation in developed countries in which obstetric trauma is rarely responsible for fistulae formation (4). In developed countries the commonest causes of V.V.fistula is from operative incidences, cancer of the cervix and radiotherapy (4). The patient presented developed vesicovaginal fistula (VVF) after an obstructed labour which ended in a caesarian section.

Obstructed labour is primarily due to cephalo-pelvic disproportion leading to compression of the anterior vaginal wall and the bladder base between the fetal skull and the pubic bones or the posterior vaginal wall and the rectum being compressed between fetal skull and the sacrum leading to vesicovaginal fistula and rectovaginal fistula respectively (5). In this patient VVF occurred.

It has been pointed out that cephalo-pelvic disproportion is a common and very important obstetric complication in Africa (2, 3). It has been suggested that the small pelvis may be a result of protein malnutrition in childhood. Improvement in childhood diet has been recognised as one major contribution to the reduction of cephalo-pelvic disproportion in developed countries. In Kenya the peak incidence was observed in the 20 to 24 year age group (2). Our patient was 20 years old.

In the majority of women suffer the injury while giving birth to their first child and in most cases the baby is a stillborn or dies shortly after birth. The still birth rate has been

reported to range between 64% and 79% (2). The patient presented sustained a fistula while giving birth to her first child and the outcome was a macerated stillbirth.

Most patients are totally or almost totally incontinent of urine. The vulva usually becomes reddened, tender and excoriated over time. The odour of urea may be so offensive as to be disgusting and embarrassing to the patient, frank psychotic depression may result from prolonged incontinence, if repair is delayed (4). Our patient had the above symptom though she had no psychotic depression.

The fistula should be confirmed by a careful speculum examination. If it is difficult to demonstrate it, then the bladder can be filled with dilute solution of methylene blue and then inspect the anterior vaginal wall and vaginal vault. A more accurate way of demonstrating the fistula may be by use of 3 cotton tampons placed in the vagina and the methylene blue instilled into the bladder and patient request to walk about for 10 – 15 minutes, then the tampons removed for inspection (4). The patient presented had a large VVF, which was easily demonstrated on speculum examination.

Vesicovaginal fistulae are still a major cause of concern in many developing countries. Measures for prevention must include universal education, an improved status of women and improved and accessible medical services, including contraceptive services.

Obstetric fistula is associated with other complications including rectovaginal fistula. In 10% of cases (2), obstetric palsy, severe vaginal stenosis; and secondary amenorrhoea may occur. The patient presented had not resumed her menses since her last delivery and hence has secondary amenorrhoea. Once a fistula is formed, continuous drainage of the bladder and control of infection with antibiotics have been shown to reduce the size of the fistula and may even lead to closure of the fistulae (5). Our patient had catheter insertion and left insitu for 7 days post delivery though on removal, she had leakage of urine.

The repair of fistulae should not be attempted until about three months after the causative labour. Then can reduced the size of the fistula by spontaneous leaking and allows tissue resection to subside and revascularisation to occur (5, 6). Currently early (6 – 8 weeks) full repair advocated as soon as the slough has disappeared (7). Therefore the recommendation currently is, any women who develops an obstetric fistula should have a catheter inserted as soon as possible. As soon as the slough has disappeared and the fistula is clean early repair (6 – 8 weeks) should be performed unless the fistula is already healed.

Post operative care is very important. The bladder should be maintained as empty as possible and must not be allowed to be distended. Catheter can be left insitu to drain the bladder continuously though some authors feel that catheter can cause bladder trauma and hence injury to the area of repair. Suprapubic drainage of the bladder can be done (4). The patient present had urethra catheter retained for 14 days and removed after the dye test.

A successful repair is gauged by whether the woman is continent of urine. The site and extend of the fistula may affect operative success, but Lawson states that an experienced surgeon supported by a competent nursing staff should be able to achieve 75% success at the 1st attempt, and a further 15% at a second attempt. Since each successive repair produces more scare tissue, successful repair at the 1st attempt is the goal. Our patient had 1st repair, which was successful.

Genital fistula is associated with many social problems such as unemployment, divorce, failure to observe religious activities and change in sexual relationship with spouse. About 89.3% of the patients have been reported to be unemployed and 10% of them attributed their unemployment to their illness (Amoth – 2001). Also a divorce rate of 2.7% ha been observed in patients with fistula (8).

Delivery after VVF repair should be by caesarian section particularly if the fistula has resulted from obstructed labour. Our patient was advised to have caesarian delivery in her future pregnancies.

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Case No. 12

Displaced Intrauterine Device – Removal by Dilation and Curettage

Name	:	M. W.	DOA	:	18/08/1999
Age	:	39 Years	DOD	:	20/08/1999
Parity	:	1 + 0	IPNO.	:	0600374

Presenting Complaint

She presented at the family planning clinic with complaints of inability to feel the threads of her intrauterine device.

History of Presenting Complaint

She presented to the clinic on her routine check up and complaint that she could not feel the threads of her intrauterine device. She had regular checks during her previous visits and confirmed the presence of the thread. This made to be anxious and therefore an Ultrasound was done which confirmed the device was still insitu, though the threads had cut off. Attempts to remove the device with use of alligator forceps was not successful. This required removal in theatre under general anaesthesia.

Obstetric and Gynaecological History

She was para 1 + 0 with her last delivery being in 1979. Her delivery was by spontaneous vertex. She had her menarche at the age of 12 years; her menstrual cycle occurred regularly every 28 days and the duration for flow lasted 3 – 4 days. They were painless. Her last period was on 12/08/99. She had a copper T device, which was inserted in 1995 after she had used oral contraceptive pills since 1979.

Past Medical History

This was not significant

Family and Social History

She was single. She was working as a subordinate staff with the Department of Defence. She had no history of alcohol consumption or cigarette smoking. There was no family history of any major illness.

Physical Examination

She was a young lady in fair general condition. She was not pale or jaundiced and had no oedema. Her blood pressure was 110/70mmHg pulse rate was 80 per minute regular and good volume. Her respiratory rate was 22 per minute with a temperature of 36.5°C.

Central Nervous, Respiratory and Cardiovascular Systems were essentially normal.

Abdominal Examination

The abdomen was not distended and moved with respiration. There were no scars noted. The abdomen was soft and had no palpable masses. The liver, and the spleen were not palpable.

Pelvic Examination

She had normal, external genitalia and no vaginal discharge noted. Speculum examination revealed normal vaginal walls. The cervix was visible and appeared grossly healthy with a parous os. No IUCD thread were visible from the cervical os and no blood or abnormal discharge was seen. Digital examination revealed a normal vaginal cavity,

cervix and adnexia. The uterus was anteverted and slightly bulky. No blood or discharge was seen on the gloved examining fingers.

Diagnosis

An impression of displaced intrauterine contraceptive device was made.

Investigations

Haemogram	-	Haemoglobin	-	13.5gm/dl
		WBC	-	$9.2 \times 10^9/l$
		RBC	-	$4.8 \times 10^9/l$
		Platelets	-	$346 \times 10^9/l$
Urea and Electrolytes	-	Na ⁺	-	134mmol/l
		K ⁺	-	3.5mmol/l
		Urea	-	6.2mmol/l
		Creatine	-	107µmo/l
Pelvic Ultrasound	-	Bulky uterus with small fibroids with intrauterine device seen in the uterus.		

Management

She was planned for retrieval of the IUCD under general anaesthesia. She was admitted into the acute Gynaecology ward. Diagnosis and plan of management was explained to her. She gave an informed consent for dilatation and curettage of the uterus under general anaesthesia. Intramuscular 0.6mg, atropine sulphates was given for pre-mediation 30 minutes before theatre.

In theatre the patient was placed under anaesthesia. She was placed in lithotomy position. Vulvo-vaginal toilet was done and the patient catheterised. She was then draped and examination under anaesthesia confirmed earlier findings. An Auvard's speculum was inserted into the vagina and cervix visualized, the anterior cervical lip was grasped with a tenaculum forceps. The uterine cavity was sounded and the IUCD felt in the uterus. The cervical canal was then gradually dilated upto Hegar size 8. A small curette was introduced into the uterine cavity upto the fundus, curettage of the uterine cavity was done and a copper T IUCD was removed. The IUCD was preserved for the patient to see. There was no significant bleeding and patient was reversed from anaesthesia.

Post Operative Care

Here vital signs were monitored half hourly until she was fully awake then four hourly there after. Analgesia was provided by oral paracetamol 1gm 8 hourly and antibiotic prophylaxis of tetracycline 500mg 6 hourly and metronidazole 500mg 8 hourly orally for 5 days. She was reviewed the following morning and was found to be in good general condition. She was discharged home to be seen again in the family planning clinic to choose another method of family planning since she was not willing to have another IUCD.

Discussion

Presented is a 39 years old para 1 + 0 who was admitted with a diagnosis of a translocated IUCD. Pelvic ultrasound had located the device in the uterine cavity, dilatation and curettage was done to retrieve the device.

The intra-uterine devices (IUCDs) are made of plastic or metal or a combination of these materials (1). Various types of IUCDs have been in use. Initially the Dalleon Shield Saf – T and later the Lippes Loop were available. There were replaced by the Copper T, Nova T and now by the most commonly available TCu 380A, TCu 220 and multiload 375 (2).

Insertion of IUCDs is usually done during menstruation because this is the time when the cervix is open and the client is not pregnant (3, 6). However other such times when IUCDs are inserted are between 4th and 8th week postpartum, after an abortion/evacuation or at the expiry of one device.

The complications of IUCD use are: Genital tract infection, which may ascending to become pelvic inflammatory disease (cervicitis, endometritis, salpingitis, oophoritis or even pelvic sepsis), menstrual abnormalities, loss of device thread, perforation of the uterus (during insertion) or even pregnancy. Our patient had loss of device threads, which was noted during a routine check up.

It has been shown that about 10 – 15% of the IUCDs users report missing threads (3), failure to locate the threads usually means that: The IUCD threads are too short, retraction in a displaced device intrauterine, detachment of the threads at an attempted removal, device expulsion during menstruation, in a translocated position as in a uterine perforation by the IUCD at insertion or when the patient conceives and the pregnancy pulls the device higher as the uterus enlarges (4).

Diagnosis of displaced IUCD is usually made by the patient complaining of inability to feel the threads during her routine check-ups; speculum examination confirms these complaints, no threads are visible at the external os.

Once complaints of missing tails are reported, the IUCD should be localised. Extra uterine location or malposition of IUCD predispose to the risk of pregnancy. Extra uterine location carries an added risk of gut perforation and for copper containing devices an intense inflammatory reaction with subsequent adhesion formation and intestinal obstruction (5). The incidence of uterine perforation is 0.05 – 13 per 1000 insertion (10). Confirmation is by plain abdomino – pelvic X-ray or ultrasonography (3). Our patient had missing tails which were confirmed by speculum examination and the IUCD was located translocated in the uterine cavity by use of an ultrasound.

Retrieval of displaced or translocated IUCDs is done usually under general anaesthesia, cervical block for out patients. Our patient had removal under general anaesthesia. Translocated IUCDs are retrieved by laparoscopy or laparotomy under anaesthesia the former method for inert devices and the latter for active devices since they are likely to be embedded in the omentum and gut (11). All displaced devices should be removed. Those within the uterine cavity should be removed by first exploring the endocervical canal for threads which may be just retracted or coiled (7). If no threads are retrieved by various methods either by use of a mimarta spiral retriever, a lamical cervical dilation or a karmans canular (6, 7). If these methods fail, dilatation and curettage should be done under general anaesthesia. This is what happened with our patient.

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Case No. 13

Torsion of Ovarian Cyst: Left Salpingo- Oophorectomy.

Name	:	B. A. O	D. O. A	:	5/7/2001
Age	:	45 Years	D. O. D	:	9/7/2001
IPNO	:	0742617	Parity	:	2 + 0

Presenting complaints

Patient was admitted with complaints of lower abdominal pains and vomiting for a duration of one week.

History Of presenting illness

Patient was admitted to the acute Gynaecology ward through Casualty department as a Referral from Equator Nursing Home. She presented with complaints of lower abdominal pains for one week. She also had accompanied vomiting. The pain was colicky in nature and not radiating to other areas. She gave no history of vaginal discharge, dysuria or frequency of micturation. She had no episode of fever or chills.

Obstetric and Gynaecological History

She had her menarche at 14 years .she had regular menses every 28 days, lasting for 4 days until she was underwent TAH in the year 2000. She was para 2 + 0 .Her last delivery was in 1985. She had never used contraceptives.

Past Medical and Surgical History

She had an appendectomy in 1998 at Kenyatta National Hospital, and a Total Abdominal Hysterectomy in 2000 due to symptomatic uterine fibroids.

Family and Social History

She was married with 2 children. She was staying with her family at Kenyatta Estate. She worked as a Nurse with the City Council Langata Clinic. She neither smoked cigarettes, nor drunk alcohol

Physical Examination

She was in fair general condition. She was not pale, not jaundiced and afebrile with a body temperature of 36.8⁰C. Her blood pressure was 120/70mmHg and a pulse rate of 100 beats per minute regular and of good volume. Respiratory rate was 22 per minute. The respiratory, cardiovascular and central nervous systems were essentially normal.

Abdominal examination

The abdomen was not distended. She had a sub umbilical incision scar and a Grid iron incision scar. She had marked tenderness on the left iliac fossa but no mass was palpable. The liver spleen and kidney were not palpable.

Pelvic Examination

She had normal external genitalia. The vaginal mucosa was smooth. The cervix and uterus were not felt. The left adnexia was tender with a cystic mass palpable bimanually.

Investigations

Ultrasound	-	Shown multiseptated left adnexial mass of size 5.5cm x 5.6cm x 3cm.
PCV	-	48% (HB < 16gm /dl) .
U/E	-	Na ⁺ - 145 mmol/l

K ⁺	-	5.5 mmol/l
BUN	-	8.1 mmol/l
Creatinine	-	129µmo/l

Impression

A diagnosis of Torsion of the left ovarian cyst was made.

Management

Patient was explained of the findings and the mode of management. She gave an informed consent for a laparotomy. She was put on intravenous fluid of 5% dextrose alternating with normal saline. Her blood was taken for grouping and cross matching. She was given Intra -muscular atropine sulphate 0.6mg and pethidine 100mg 30 minutes before theatre as pre-medication. She was take to theatre for exploratory Laparotomy.

Operation

In theatre, patient was put under General anesthesia. In semi lithotomy, position vulvo-vaginal toilet was done and the bladder was catheterized aseptically. Examination under anaesthesia confirmed earlier findings. She was repositioned in the supine position. A sub umbilical midline incision was made after removal of the old scar. A normal right ovary and tube were found. The left ovary was enlarged with a torsion on its base. It was markedly congested and gangrenous. There was no ascites or hemorrhage in fluid in the pelvic cavity. The mass was mobilized. The twisted pedicle was double clamped, resected and ligated with catgut number 2. Homeostasis was achieved. The abdomen was cleaned with warm saline. Abdomen was then closed in layers after a correct instrument and swab count. General anaesthetic was successfully reversed.

Post operation Management

The patient was taken back to the ward. Her vital signs were monitored after every 15 minutes till fully awake and then 4 hourly. She was maintained on intravenous fluids for the first 24 hours. Pethidine 100mg was given 8 hourly for analgesia and was changed to tabs Paracetamol 1gm 8 hourly when she started taking orally. Intravenous, Crystalline Penicillin and Gentamycin, were given for antibiotics cover for 4 days. She was discharged on the 4th post operative day on antibiotic and analgesic. The stitches were to be removed on the 10th postoperative day in the nearest health facility and she was booked for review after 4 weeks at the GOPC.

Follow up

She kept her appointment. She was quite well, the wound had healed well and she had no complaints. She was reassured and discharged from the clinic.

Discussion

Presented is a 45 years old para 2 + 0 who presented with acute abdomen and Laparotomy was done due to a torsion of an Ovarian Cyst. Successful left Salpingo Oophorectomy was done.

Torsion of the normal ovary alone is exceptional, but torsion of the normal fallopian tube with or without the ovary is not very, rare (1, 2). Torsion is reported to occur in 50 – 60% of Ovarian masses. Torsion is the fifth most common gynecological surgical emergency with a prevalence of 2.7% (3, 4).

Torsion usually involves small tumors because large tumors are restricted in their movements. Benign Cystic teratomas and Cystomas are the most pathological histologic findings in Ovaries that have undergone torsion (1, 4). Torsion is the most frequent and the most serious complication of benign Ovarian Cyst during pregnancy especially during the first trimester (5).

The clinical finding of torsion are usually non-specific. This may delay in diagnosis and hence surgical intervention. The classic presentation is the acute onset of lower abdominal pain with clinical evidence of peritonitis and an adnexial mass (3). The pain may be slow in onset, intermittent and progressively more severe (4). Our patient present with lower abdominal pains, which increased progressively and was more severe at the time of surgery. In some patients it may present as an acute surgical disorder with shock and peritonitis. It can cause vomiting with bowel and bladder irritation. Muscle guarding and rigidity is usual however this state was not seen in our patient (3).

The diagnosis of torsion is made at operation. Ultrasound usually facilitates delineation of the size and consistence of adnexial mass (2, 4). Magnetic resonance imaging has been reported to be more accurate in identifying the origin of unknown pelvic masses compared to ultrasound (5). The patient presented had ultrasound done which showed an adnexial mass. The deferential diagnosis of an adnexial torsion are ruptured ectopic pregnancy, ureteric colic with calculi, appendicitis, diverticulitis and acute salphingitis.

Torsion is associated with, obstruction of venous return, resulting in extreme congestion and extravasation of blood. Ultimately the arterial blood supply is affected and the tissue distal to the twist becomes gangrenous. Our patient had this kind of scenario.

Historically the adnexial usually were removed because some authors (4) suggested that untwisting of the adnexia could increase the risk of thromboembolism and infection. There is increasing evidence that unwinding the involved adnexia to observe for tissue reperfusion and viability is safe (3). Nevertheless, a significant delay in surgical intervention may result in irreversible necrosis requiring removal of the tube or ovary or both. Our patient had already a gangrenous adnexial hence both tube and ovary were removed.

Laparoscopic management of adnexial torsion has been gaining in popularity. Mage et al showed that unwinding of adnexial was possible in most patients and required no further intervention (6). Thus the weight of evidence warrants conservation of the adnexia provided that there is evidence of reperfusion and that significant delay has not resulted in irreversible tissue necrosis (3).

Our patient had delayed surgery hence conservation of the adnexia was not possible.

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Case No. 14

Uterine Fibroids – Total Abdominal Hysterectomy

Name	:	L. W.	IP No.	:	0705060
Age	:	45 Years	DOA	:	13/3/2001
Parity	:	3 + 0	DOD	:	19/3/2001

Presenting Complaints

She was admitted to ward 1B through the Gynaecology Out Patient Clinic where she had presented with complaints of lower abdominal pains, heaviness on the lower abdomen and slow growing lower abdominal mass.

History of Presenting Illness

She had experienced lower abdominal pains for the last 5 years, which was followed by a feeling of heaviness on the lower abdomen. She later noted a swelling on the lower abdomen, which was slowly increasing in size. Since then she was getting normal flow of her menses and there was no associated dysmenorrhoea. She had sought medical attention in various health institutions until when she came to Kenyatta National Hospital gynaecology Clinic and subsequently admitted.

Past Obstetric and Gynaecology History

She was Para 3 + 0 and her last delivery was in 1981. Her menarche was at 15 years. Her last menstrual period was on 19/2/2001. Periods were lasting about 5 days, and her menstrual cycle was of 25 days, regular and of normal flow. She had no dysmenorrhoea. She had used condoms between 1983 and 1985 and stopped when she divorced. She had not used any other method of family planning.

Past Medical History

This was not significant.

Family and Social History

She was divorced. She had retired as a typist and had 3 living children.

She neither smoked cigarettes nor took alcoholic drinks. There was no history of chronic illness in the family.

Systemic Enquiring

This was unrevealing.

Physical Examination

She was in good general condition, not pale, and had no evidence of oedemia or jaundice. The blood pressure was 120/80 mmHg and a pulse rate of 72/minute, regular and of good volume. Her respiratory rate was 18/minute.

The central nervous system cardiovascular and respiratory systems were normal.

Abdominal Examination

The abdomen was soft with hypogastric distension. A mass arising from the pelvis corresponding to a 26 weeks gestational size was palpated. It was firm, tender, mobile and the surface was irregular. The liver and spleen were not palpable.

Vaginal Examination

The external genitalia were normal. Speculum examination revealed no abnormality of the vaginal vault or cervix. On digital examination the cervix was firm and closed, on bimanual palpation the mass was found to be continuous with the cervix, firm and nodular and mobile. The adnexae and pouch of Douglas were free and non tender.

Impression

A diagnosis of uterine fibroids was made.

Investigations

1. Ultrasound-. The uterus was bulky with multiple low echo masses suggestive of uterine fibroids, the largest measuring 8.2x 7.1cm. Both ovaries appeared normal.
2. Haemogram;

Haemoglobin	-	12.5 gm/dl
WBC	-	8.2 x 10 ⁹ /l
3. Urea and Electrolytes

Na ⁺	-	143 Mmol/l
L ⁺	-	4.7 mmol/l
Cl	-	101 Mmol/l
Urea	-	5.7 Mmol
4. Pap Smear - Pap Class I(CIN-0).
5. I. V. U. was reported to have right Obstructive uropathy secondary to a pelvic mass.

Management

Two units of blood were grouped and cross matched and were available. She was counselled for the type of operation planned and gave consent to the operation of total abdominal hysterectomy.

Total Abdominal Hysterectomy

The patient was starved from midnight on the eve of the operation day. Enema was done and premedication of 0.6 mg atropine sulphate and pethidine 100 mg. Intramuscular was given 30 minutes before theatre.

In theatre the patient was anaesthetised and put to the lithotomy position. The vulva and the vagina were cleaned. Bladder was catheterised and 50mls of clear urine obtained. Catheter was left insitu. Pelvic examination under anaesthesia confirmed earlier findings. The vagina and cervix were painted with Methylene blue.

Patient was then put in the supine position and abdomen cleaned and draped. Abdomen was then opened in layers through sub-umbilical mid line incision. A self-retaining retractor was inserted and the gut was packed away using sterile abdominal packs and the pelvis was inspected.

The size of the uterus was found to be 26 weeks with both the ovaries and tube healthy. There was no adhesions. The uterus was delivered through the abdomen incision.

The left round ligament was identified and divided between clamps. The lateral stamp was transfixed using a number 2 chromic catgut. The incision was carried down the anterior leaf of the broad ligament. The ovarian ligament was mobilised clamped and divided and the lateral slump transfixed with chromic catgut number 2.

The ovary was left insitu same procedure was done on the right side connecting the broad ligament incision anteriorly at the isthmus. The bladder was bluntly dissected away and deflected downwards. In the posterior aspect the inferior incision of the peritoneum was also dissected downwards.

The right uterine vessels were identified and double clamped and divided between the clumps. The lateral stump transfixed. The same was done on the other side. The cardinal ligaments were identified and clamped and transfixed on both sides.

The utero-sacral ligament were identified, clamped, divided and transfixed. The anterior vaginal wall was held by little woods forceps and the vault opened between them using a surgical blade. Using scissors, the upper vagina was circumcised to free the uterus. The vaginal vault was closed using catgut No. 2. The vault stump was then peritonised-using catgut No. 1 and haemostasis was achieved adequately.

After a correct count of the swabs and instruments the abdomen was closed in layers. The estimated blood loss was 800mls. The wound was dressed with sterile gauze. Anaesthesia was reversed.

The uterus was cut open longitudinally revealing a normal endometrium. There were multiple intramural fibroids. The specimen was taken for Histology.

Post Operation Management

She was observed in the recovery ward until when she was fully awake then transferred back to the ward.

She was put on intravenous fluids, antibiotics and pethidine. On the first post operative day she was found to have bowel sounds and hence started on oral sips.

Check haemoglobin on the 3rd post operation day was 11.0gmd/l. She recovered well and on the 4th post operation day she was discharged home for removal of stitches in the nearest health institution on the 7th day. She was to come again to the gynaecology clinic after 6weeks.

Histology Report

Histology showed benign uterine leiomyoma and a normal cervix.

Follow Up

She was seen and found to have no complaint during her review at the gynaecology clinic. The wound had healed well and the vulva and vagina were healthy. The vaginal vault was intact. She was discharged from the clinic.

Discussion

The patient presented with a huge abdominal mass and lower abdominal pain. Total abdominal hysterectomy was done and the patient did well post operative and in the follow up.

Uterine leiomyomata are the commonest tumors of the uterus and the female pelvis. They are benign tumors comprised of mainly smooth muscles but containing varying amounts of fibrous tissue (1).

The incidence is not accurately known but frequently quoted as 50% (1). Wanjala (1980) found uterine leiomyomata to account for 66.7% of hysterectomies done at Kenyatta National Hospital (2). The tumors are more common in blacks than in whites ie 3 - 9 times more (1, 3).

They grow larger and occur at an early age in black women. The tumors are rare below the age of 20 years. And the peak incidence has been reported to be 30 - 40years (1, 2, 3). The patient presented was 45 years though the symptoms started 5years earlier when she was 40 years.

The etiology is obscure. Experimental evidence suggest unicellular origin and their growth is dependent on oestrogen production and growth hormone (1,4). The tumor thrives during years of greatest ovarian activity and regress after menopause when the ovarian oestrogen production declines (1, 5).

Nulliparity and low parity have been associated with leiomyomata but its not known whether sterility causes fibroids or vice verse or both conditions have a common cause (1, 5). At Kenyatta national hospital 38% of the patients with uterine fibroids were para 3 and above and 85%of these had not delivered in the past six years before admission (2). Progestins and Gonado trophine releasing hormone agonist, inhibits the growth of leiomyomata. The reason for a high incidence of leiomyomata in nulliparous women is

due to the continuous estrogen secretion especially when uninterrupted by pregnancy and lactation (1). The patient presented was para 3 + 0 having delivered 20 years ago. This shows she had a prolonged exposure of unopposed oestrogen release.

Most leiomyomata are asymptomatic and need only to be observed from time to time. Less than 50% of patients with uterine leiomyomata have symptoms, which include menorrhagia, metrorrhagia, abdominal swelling and spontaneous abortion. Our patient presented with a huge abdominal mass and lower abdominal pains.

Most researchers reported that pain is not a common thing with leiomyomata (1, 3, 4) but experience in Kenyatta National Hospital is otherwise. Pain was found to occur in 57.6% of cases (2) pain is thought to result from degeneration with the tumor, circulatory occlusion, infection, torsion of pedunculated tumor or myometrial contraction to expel a submucous leiomyoma from the uterine cavity (1, 3, 4).

The patient did not present with menorrhagia or pressure symptoms to the bladder and rectum, though IVU done showed obstructive uropathy.

There is no current medical treatment of uterine leiomyomata and therefore the methods of management include hysterectomy, myomectomy or uterine arterial embolisation. (1, 6, 7, 8). The patient presented underwent hysterectomy since she had no desire for further child bearing.

Both ovaries were not removed since she had not gone into menopause, though Mattingly (1977) advised the removal of both ovaries in patients undergoing total abdominal hysterectomy for uterine fibroids after the age of 40 – 45, as the ovaries function of producing oestrogen will continue minimally and there is a risk of 1% developing ovarian cancer after the age of 40 years (1).

Psychosexual issues among women who have undergone hysterectomy have been analysed. Given that the uterus is a symbol of femininity, for some women loss the

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Psycho-sexual issues among women who have undergone

Hysterectomy at Kenyatta National Hospital

Mmed thesis University of Nairobi 1988.

Author	E. D.	Title	1988
Year	1988	Type of literature	1988 (1988)
Year	1988	Type of literature	1988 (1988)

Abstract

The purpose of this study was to determine the psychological status of women who had undergone hysterectomy. The study was carried out in Kenya. The findings are as follows:

1.1.1. Demographic Data

The study was carried out on 100 women who had undergone hysterectomy. The age range was 20-60 years. The study was carried out in Kenya. The findings are as follows:

1.1.2. Psychological Status

The study found that 70% of the women had psychological problems. The most common problem was depression. The study was carried out in Kenya. The findings are as follows:

Case No. 15

Norplant: Removal of Implants and Re-insertion

Name	:	P. A.	Parity	:	2 + 0
Client No.	:	995/96	Date of Insertion	:	18/08/1996
Age	:	35 Years	Date of Removal	:	18/09/2001

Presenting History

The client came to the family planning clinic (clinic 66) for removal of Norplant implants and re-insertion after they had expired. The implants were inserted in 1996. She has since then been followed up in the clinic.

Obstetric and Gynaecological History

She was Para 2 + 0. Her menarche was at the age of 15 years. Her periods had been regular every 28 days lasting 4 days. The flow was normal not associated with dysmenorrhea. Her last menstrual period was on 16/09/2001. Her last delivery was in 1993 by spontaneous vertex and both her children were alive and well. She had used oral contraceptive pills for two years prior to the insertion of the Norplant.

Past Medical History

This was not significant.

Family and Social History

She was a married, housewife staying with her husband at Huruma Estate. Her husband was working with the Ministry of Agriculture. She neither smoked cigarettes nor drunk alcohol. There was no history of any chronic illness in the family.

Physical Examination

She was a young lady in good general condition. She had neither oedema nor lymphadenopathy. Her pulse rate was 72 beats per minute regular and of good volume, blood pressure was 110/70mmHg, respiratory rate was 20 per minute and temperature was 36.6⁰C. Her breasts were normal and the legs had no varicose veins. Her body weight was 64Kg.

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

Abdominal Examination

The abdomen was not distended and was moving with respiration. It was soft and non-tender. The liver, spleen and kidneys were not palpable. There were no pelvic masses.

Pelvic Examination

The external genitalia was normal. Digital examination revealed a firm cervix, the uterus was anteverted and of normal size. The pouch of Douglas was empty. There was no discharge or blood on examining fingers.

Local Examination

There were six Norplant capsules palpable under the skin over the mid portion on the medial aspect of the left upper arm, in a fan-shaped configuration.

Impression

A diagnosis of expired Norplant implants was made.

Management

The removal procedure was explained to the patient and informed that it was to be done under local anaesthesia. For re-insertion she was informed that it was to be done through the same incision as for removal but on the opposite direction of the arm.

The medial aspect of the left upper arm was cleaned with betadine solution and covered with a sterile drape with a window over the area of Norplant implants. 5mls of 1% lignocaine hydrochloride was infiltrated subdermally, slowly under the distal end of the implants. Using a No. 11 scalpel a 3mm incision was made over the original incision site. With the left index finger, pressure was applied to the proximal end of the most medial implant pushing it towards the incision. The distal end of the implant was grasped with a small artery forceps and the scar tissue covering the implant removed with a sharp blade leaving the implant free to be withdrawn. The procedure was repeated for the rest of the other 5 implants.

After the removal of the six expired implants, 6mls of 1% lignocaine was infiltrated subdermally in the opposite direction of the same arm through the same incision. A trocar and obturator were then advanced as superficially as possible under the skin to a depth of approximately 5cm (marked by a sign near the hub) and the obturator removed; the first implant of the new set was loaded into the trocar and then obturator replaced to advance the implant to the end of the trocar, holding the implant stationary the trocar was withdrawn till the mark near the bevel was visible at the incision site which indicated that the placement of the implant. The same procedure was repeated in a fan shaped manner till all the six implants were placed with the apex of the fan towards the shoulder side of the arm. The implants were then palpated and the incision approximated with Elastoplast.

A sterile gauze was then applied and a pressure bandage tied around the area to prevent bleeding. She was advised to keep the area dry and remove the pressure bandage after 72 hours and the Elastoplast was to be removed after 7 days when she was scheduled for review. Paracetamol was advised for pain relief.

Follow – Up

She was seen in the clinic after 7 days. She had no complaints and the wound had healed completely.

Discussion

Presented is a 35 years old para 2 + 0 who had removal of expired Norplant and re-insertion of new ones.

The implant system was introduced by the Population Council in 1983 and is currently approved in many countries including Kenya, where it has been in use since 1986 as a family planning method (1). Norplant is the registered trademark of the Population Council for Levonorgestrel subdermal implants which is a set of 6 small, plastic capsules measuring 34mm long and 2.4mm diameter. Each contains 36mg of levonorgestrel released at a low, steady rate of about 85Mcg per day. They have a shelf life of five years from the date of manufacture and an additional five years effective life once inserted (1, 2). It is a long acting reversible contraceptive method.

After 24 hours of insertion plasma levels of levonogested range from 0.4 – 0.5mg/ml below which is associated with contraceptive failure (2, 3). These hormonal levels are much lower than those reached with oral contraception but their effectiveness is greater because of the levels are sustained unlike in pills were the concentration in blood peaks only after absorption from the gut (3, 4).

Norplant acceptance rate have continued to rise over the few years since program inception, and stood at 5.5 percent of all new acceptors in 1994 (5). Continuation rates are high up to 95% over the first year and 80% over the second year. About 33 – 78% of Norplant users complete 5 years (6). Our client had completed 5 years and even after removal she opted for a re-insertion of the implants and were inserted on the same arm in the opposite direction.

Norplant prevents conception through three possible mechanisms. Levonogestrel acts on the hypothalamus and pituitary to suppress the luteinising Hormone (LH) surge responsible for ovulation (2, 3, 4). It makes cervical mucus thick and scanty inhibiting sperm penetration (2, 3).

Norplant has some advantage over the other methods (6, 7). It offers long-term pregnancy protection that is reversible. It is effective within 24 hours of insertion and fertility returns almost immediately after capsule removal. It does not have estrogenic side effect and being a progestin may help prevent endometrial carcinoma development (7). Its use is independent of coitus or activity like pill taking and no routine return visits are required. Efficacy is high and 1st year pregnancy rates are only 0.2%, with accumulative 5 years pregnancy rates of 3.9% (8). It is safe for breast-feeding mothers (3).

The most frequently reported side effect is disruption of the menstrual cycle and about 10% of clients discontinue Norplant in the first year due to irregular bleeding which is reported by 60 – 70% of clients in the first 3 – 6 months of insertion (2, 3). This was reported as the commonest cause for discontinuation of the method in Kenya (1). Other menstrual problems include ammenorrhoea and spotting.

The irregular bleeding is due to periodic peaks of estradiol since gonadotrophins are not totally suppressed, while ammenorrhoea results from endometrial atrophy (2, 3). No increase in ectopic pregnancies has been reported with Norplant even though some cycles are ovulatory. There has been equally no significant changes in body metabolism, although clients have been noted to have a slight increase in weight and blood pressure. Haemoglobin levels have been noted to increase especially when amenorrhoea sets in, thus Norplant is combative against anaemia (2, 3, 4). Babies born of mothers, who conceived while on Norplant use, were reported to be normal (3). Our client had none of these complications.

Contraindications of Norplant insertion include patients with active liver disease, breast cancer, unexplained abnormal vaginal bleeding and pregnancy (7). Norplant insertion is discouraged for the women who may change their mind quickly and want to become pregnant in the near future.

Norplant insertion and removal are minor surgical procedures that can be done by the physician or other trained family planning providers. In Kenyatta National Hospital, this is usually done by nurses in the family welfare clinic. The insertion takes barely 5 – 10 minutes while removal is slightly more difficult and can take 15 – 30 minutes. The time of insertion is usually best 5 – 7 days from the start of menstruation to ensure the patient is not pregnant (3).

Complications after insertion are rare, minimal local swelling is reported, while infection in the local area is equally common. Our patient never got any of these complications and healed well.

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GYNAECOLOGY LONG CASE-

THE ROLE OF MYOMECTOMY IN THE MANAGEMENT OF UTERINE FIBROIDS AT KENYATTA NATIONAL HOSPITAL

Summary

This was a retrospective descriptive study to determine the role of myomectomy in the management of uterine fibroids in Kenyatta National Hospital. A total of 206 patient's files who had myomectomy at the Hospital between January 1995 and December 1998 were analyzed.

Patients socio-demographic factors e.g. age, level of education and marital status were analyzed. Also analyzed was the patients past obstetric outcomes, investigations done, indications for myomectomy, intra-operative finding and complications related to myomectomy.

The age range for the patients who underwent myomectomy was between 16 years and 52 years. The majority of patients were aged between 26 and 35 years i.e. 65.9%. The mean age for the patients who had myomectomy was 32.6 years. 36.4% of the patients were single while 60.7% were married. 64.5% of the patients had attained secondary education and or above. 42.2% of the women undergoing myomectomy had not conceived at all. Infertility contributed a lot in the indication for myomectomy with 34% of patients with primary infertility. The major complication noted was intra-operative transfusion i.e. 29.1%.

20% of the patients who had complications, as compared to 5.9% of the patients who had no complications, had anaemia as an indication for myomectomy. This was statistically significant ($P < 0.001$). The mean size of the uterus for those patients who had intra-operative complications was 16.7 gestational weeks as compared to 14.3 gestational weeks for those who had no complication. This was statistically significant ($P < 0.001$).

The study revealed that most of the patients who had myomectomy were single, in their reproductive age and with low parity if not nulliparous and hence there was a need to preserve their child bearing potentials. Intra-operative complications were related to the uterine size, number of fibroids and in those patients who were anaemic and with

recurrent spontaneous abortions. Therefore patient selection based on uterine size, and use of gonado trophine releasing hormone agonist should be encouraged, to improve on the hemoglobin level for those patients with anaemia, and shrink huge fibroid so as to reduce intra-operative complications. A prospective study is recommended whereby the surgical technique may be standardized and patient selection done pre-operatively, to see if the outcome of myomectomy will be improved.

INTRODUCTION AND LITERATURE REVIEW

Myomectomy is a conservative surgical management of uterine leiomyoma especially for those women who wish to preserve or improve their reproductive potentials. Many women, whether they plan to attempt pregnancy or not, for various psychological, emotional or cultural reasons are reluctant to proceed with hysterectomy and wish to preserve the uterus.

With the improvement of assisted reproductive technology, myomectomy is increasingly becoming a common procedure, so as to preserve the uterus. Many women these days are delaying in getting their first child either due to many years in school or college and therefore they may present with symptomatic uterine fibroids before they start their obstetric career.

Uterine leiomyomata are the commonest tumors of the uterus and the female pelvis. They are benign tumors composed of mainly smooth muscles but containing varying amounts of fibrous tissue (1).

The incidence is not accurately known but frequently quoted as 50% (1). Wanjala (1980) found uterine leiomyomata to account for 66.7% of hysterectomies done at Kenyatta National Hospital (2). The tumors are more common in blacks than in whites i.e. 3 – 9 times more (1, 3).

Patients with uterine leiomyomata often have a positive family history of uterine leiomyomata, though the etiology is obscure but the growth is dependent on estrogen and growth hormone (1, 4).

Nulliparity and low parity have been associated with leiomyomata, but its not known whether sterility causes fibroids or vice verse or both conditions have a common cause (1, 5). Progestins and Gonado trophin Releasing Hormone agonist inhibits their growth. At Kenyatta National Hospital 38% of patients with uterine fibroids were para 3 and

above and 85.5% of these had not delivered in the past six years before admission (2). The reasons for a high incidence of leiomyomata in nulliparous women is due to the continuous estrogen secretion especially when uninterrupted by pregnancy and lactation (1).

Most leiomyomata are asymptomatic and need only to be observed from time to time. Less than 50% of patients with uterine leiomyomata have symptoms, which include, menorrhagia, metrorrhagia, pain, and abdominal swelling and spontaneous abortion (1). There is no current medical treatment of uterine leiomyomata and therefore the methods of management include, hysterectomy, myomectomy or uterine arterial embolization (1, 6, 7, 8, 9).

Non-surgical treatment of leiomyomata has been primarily through the use of gonadotrophin-releasing hormone agonists, which suppress the circulating Oestradiol and progesterone levels by shifting down pituitary ovarian axis. The suppression in steroid hormones level results in significant fibroid shrinkage, but long-term use of these compounds is not recommended because patients suffer significant bone loss and the fibroid grows again on stopping the drugs. New anti-steroidal compounds such as the anti-progestines RU 486 and the selective estrogen receptor modulator raloxifene are now being tested as possible therapeutic agents for fibroid (8).

Many studies have been done to show the importance of myomectomy in reproductive health. Donald and Jane reported their experience of 64 myomectomies (7). Indications included pelvic mass, menorrhagia, anaemia, and pregnancy wastage. Although infertility was not the primary indication in any case, 32 patients were nulligravid, only 10 patients were parous and 14 had a history of spontaneous abortion or pregnancy wastage. The average age of the patient was 35.8 years. There was no major complications and no patients received blood transfusion. Follow-up reviewed 3 patients with recurrent tumor necessitating repeat procedures. Successful pregnancies occurred in 40% of those attempting pregnancy (7).

Li Tc, Mortimar R and Cooke I D in the United Kingdom found that the pregnancy loss prior to myomectomy was 60%, which was reduced to 24% after myomectomy, there was no instance of premature labour or scar rapture among 25 live births. They concluded that myomectomy for intramural and subserosal fibroids may significantly improve the reproductive performance of women presenting with infertility or pregnancy loss (10). Buttram and Reiter reported that 41% of the patients in their study on reproductive performance before and after surgery had spontaneous abortion, which was reduced to 24% after myomectomy (6).

Berkeley and colleagues reported 16% pregnancy rate following myomectomy (15). Other success rates have been reported by other researchers. Babakhina and co-workers reported pregnancy rate following abdominal myomectomy of 40 – 50%, most of the pregnancies occurring within the first year of surgery (16).

Myomectomy can be achieved through abdominal, vaginal laparoscopic or hysteroscopic approach. The surgeons expertise in laparoscopic suturing is a crucial requirement for laparoscopic myomectomy. Hysteroscopic myomectomy is the best treatment for women with submucous myoma (11, 12).

In the United Kingdom a study done to determine the long-term follow-up of hysteroscopic myomectomy showed that 71.4% of the women operated were satisfied with the results of the surgery. Sixteen women in this study required further surgery for fibroid and six ultimately underwent hysterectomy. Survival analysis showed that the risk of further surgery was 21% at four years after the myomectomy.

The success of myomectomy depends on the size of the fibroid and the site. Large fibroids may be difficult to remove and also are associated with a lot of haemorrhage intra operatively. Gonado trophin releasing hormone agonists (GnRHa) have been shown to be of benefit to shrink the tumor size and reduce the vascularity of the tumor if given pre operative. In Bulgaria it was found that those patients put on Goserelin, amenorrhea was achieved in 76% of patients after 7 – 8 weeks of treatment. After 3 months treatment

with Goserelin, Haemoglobin levels increased from 8.9 ± 0.9 g/l to 11.7 ± 1.1 g/l and total uterine volume decreased by 30% before surgery (8, 13).

In Kenyatta National Hospital GnRH agonist are not used pre operatively due to high cost of the drugs. Majority of the planned myomectomy may turn out to be hysterectomy due to the big size of the tumor or intra operative haemorrhage. Also myomectomy may fail if there is degeneration of the fibroids and also if there is diffuse fibroids.

Myomectomy should be performed with the same principle of atraumatic technique used in other fertility operations, because myomectomy itself may decrease fertility due to adhesion formation (1, 6). The operative field is kept moist and free of clots with a solution of Ringer lactate containing Heparin. Very fine instruments and sutures are used and tissue is handled gently to avoid unnecessary trauma to serosal surfaces. Sutures on serosal surface should be of a fine absorbable non-reactive material. Running suture lines are preferable to avoid extra knot volume. Haemorrhage is minimised by use of special tourniquets to control bleeding and use of hypotensive anesthesia is recommended (1).

As many tumors as possible should be removed through a single incision. Methods of removing myomata through a single anterior incision have been described by Bonney. The linear or elliptic incision should usually be over the largest myoma. It should be carried through the superficial myometrium, directly into the underlying myoma. Bonney's hood can be used to remove a large leiomyoma in the uterine fundus. The myoma is first exposed through an elliptic incision made transversely across the anterior fundus, taking care to avoid the interstitial portion of the fallopian tubes of each side. After the primary tumor is removed, other leiomyomata can also be removed through the same incision. Posterior uterine incisions if made adhesions are more likely to develop, and will likely involve the tubes and the ovaries as well (1).

The incident of complications of myomectomy including haemorrhage, infections, post-operative intestinal obstruction from adhesions was considered to be too high. Advances in surgical techniques to control intra-operative bleeding during myomectomy along with

advances in anaesthesia, blood transfusion therapy have made myomectomy a safe alternative to hysterectomy in women with symptomatic leiomyomata. Patients prepared for myomectomy should be counselled for possible intra-operative hysterectomy if intra-operative findings contra indicate myomectomy. An extensive multiple myomectomy is a major operation with the potential for a higher morbidity than that found with hysterectomy (1).

Psycho-sexual issues among women who have undergone hysterectomy have been analysed. Given that the uterus is a symbol of femininity, for some women loss of the uterus means the end of fertility and for some women fertility is an essential aspect of being a woman. Women with these feelings may experience both lower self-esteem and depression, either of which can cause sexual dysfunction. At Kenyatta National Hospital Efenesh (1998) showed that the ability for post hysterectomy psychosexual adjustment with respect to sexual desire reduces with advancing age. It was also found that pain and depression due to loss of the uterus were the commonest cause of loss of sexual desire post hysterectomy (14).

Therefore it was important to carry out a study on myomectomy to show its value in reproductive health so that uterus preservation can be attained, so as to satisfy the psycho-emotional well-being of women in their reproductive age.

RATIONALE

Majority of the ladies with symptomatic uterine leiomyoma will prefer a conservative management due to desire and necessity to retain and improve their reproductive potentials for those with infertility. Many women whether they plan to attempt pregnancy or not, for various psychological, emotional or cultural reasons are reluctant to proceed with hysterectomy and wish to preserve the uterus.

Studies on myomectomy have been done in other parts of the world but none has been done in Kenya despite the fact that myomectomy is gaining popularity world over. With

the onset of AIDS there are generally few adoptive infants available to the infertile couple or patients after hysterectomy than in the past.

There is advancement in the degree of sophistication of assisted reproductive technology allowing pregnancy to occur without fallopian tubes or ovaries, but a successful pregnancy is not possible without a uterus, which should be preserved for those with desire for future child bearing.

As more women delay child bearing due to time taken in school and colleges majority of them develop leiomyoma before they start getting children and therefore myomectomy is becoming an increasingly common surgical treatment.

Therefore this study was done to evaluate the various indications of myomectomy. Complications and outcome of the procedure were also analysed.

HYPOTHESIS

Myomectomy is a useful procedure in the management of uterine fibroids.

BROAD OBJECTIVE

To determine the role of myomectomy in the management of uterine fibroids in Kenyatta National Hospital.

SPECIFIC OBJECTIVES

- a. To determine the socio demographic factors of patients undergoing myomectomy.
- b. To determine the indications for myomectomy
- c. To determine the rate of intra operative hysterectomy in planned myomectomy.
- d. To determine the complications associated with myomectomy.

- e. To determine the effect of myomectomy on relief of symptoms due to uterine fibroids.

METHODOLOGY

- Study Design

This was a retrospective study on myomectomy procedures performed over a period of 5 years between January 1995 and 1998 December at Kenyatta National Hospital. The period was chosen so that one could be able to assess from the patients record their progress for at least 2 year period after the operation.

- Study Area

The study was carried out at Kenyatta National Hospital (KNH) which is situated in Nairobi the Capital City of Kenya. It is both a teaching hospital as well as the National referral Institution.

Facilities for surgery consists of well equipped theatres. One emergency and non-emergency theatre amongst 10 other theatres for general surgery are available for gynaecological surgical cases. The Bilateral tubal ligation theatre and laparoscopy theatre are situated at the Family Welfare Clinic next to the Casualty Department. These are for day cases and the patients are prepared from clinic No. 18.

Non-emergency cases are admitted through clinic No. 18, which is run by consultant, senior registrars and senior house officers.

- **Sample Size determination**

The success rate of myomectomy at Kenyatta National Hospital is not known. Using Berkeley and colleagues success rate of 16% after myomectomy for patients with infertility, a sample size of 206 records is required.

The following formula was used for sample size calculation: -

$$n = \frac{Z_{1-\alpha/2}^2 P(1-P)}{d^2}$$

Where n = Sample size to be determined

z = Standard errors from mean corresponding to 95% confidence level

α = Level of significance

p = Success rate (16%)

d = Absolute precision

ELIGIBILITY CRITERIA

Inclusion Criteria

All patients admitted and prepared for myomectomy in the stated duration were part of the study and therefore analyzed for the information needed.

Patients who were prepared for elective myomectomy but underwent hysterectomy were also included in this study.

Exclusion Criteria

Those patients whose files had grossly inadequate information were excluded. Also those patients who did not turn up for follow-up after myomectomy were excluded from the study.

DATA COLLECTION

1. **Personnel:** The study was conducted by the principle investigator under guidance of the supervisors from the Department of Obstetrics and Gynecology University of Nairobi. One record clerk was enlisted to assist in the retrieval of the files from the record office and present them to principle investigator.
2. **Pretesting:** A pretested questionnaire was done at Kenyatta National Hospital by the principle investigator taking a sample size of ten cases.

DATA MANAGEMENT

All the questionnaires were kept under the custody of the principle investigator. Coding of the questionnaires and data entry was done by enlisted data entry clerk.

Data was entered into a microcomputer using SPSS (Statistical Package for Social Sciences) and PC data editor programme. Data validation was done before analysis. Analysis was carried out using SPSS/PC ver 7.5 programme and involved descriptive statistics like frequency distribution, means, standard deviations and cross tabulations.

ETHICAL CONSIDERATIONS

1. The permission to carry out the study was sought from the Kenyatta National Hospital Research and Ethical committee.
2. No questionnaires bore any patients names, they were only identified by serial numbers.
3. The results of the study will be made available to the Director Kenyatta National Hospital and Ministry of Health.

STUDY LIMITATIONS

1. The study was retrospective and this was a major limitation to getting all the information needed.
2. In Kenyatta National Hospital patient's files are stored manually, and therefore file retrieval may not be 100%. Only the files obtained to make the required sample size were analyzed.

Results

A total of 206 patient's file were studied and analysed.

Table I: Age Distribution

Age	No	%
16 – 20	1	0.5
21 – 25	10	4.8
26 – 30	62	30.1
31 – 35	74	35.8
36 – 40	52	25.2
41 – 45	4	2
46 – 50	2	1.1
>50	1	0.5
Total	206	100

Majority of the patients who underwent myomectomy or who were scheduled for myomectomy were of the ages between 26 years and 40 years.

30.1% of these patients were of ages between 26 – 30 years, 35.8% were of ages 31 – 35 years, while 25.2% were of ages 36 – 40 years. Only one patient had myomectomy at the age of 16 years. The mean age for the patients undergoing myomectomy was 32.6 years (Table I).

Table II: Marital Status

Characteristic	No	%
Single	75	36.4
Married	125	60.7
Divorced	5	2.4
Widowed	1	0.5
Total	206	100

Majority of the patient who were scheduled for myomectomy were married. This constituted 60.7% and 36.4% of the women were single. Only 6% of the patient were either divorced or widowed at the time of myomectomy. Though many of the women who were done myomectomy were married, there was need to either preserve or improve their fertility which otherwise could have been compromised by the fibroids (Table II).

Table III: Level of Education

Level	No	%
None and Primary	73	36.5
Secondary	86	41.7
Post Secondary	47	22.8
Total	206	100

Most of the patient who underwent myomectomy had attained secondary education , 41.7% of the study population: 22.8% had attained post secondary education while 36.5% had at least primary education(Table III).

Table IV: Past Obstetric History

Characteristic	No	%
Live Births		
0	113	54.9
1 – 2	83	40.2
3 and above	10	4.9
Abortions		
0	155	75.2
1	40	19.4
2 and above	11	5.4
Previous Pregnancies		
0		
1	87	42.2
2 and above	68	33.0
	51	24.8

Of the patients studied 54.9% had not delivered a live baby while 42.2% had not conceived at all. 33% had at least conceived once, while 24.8% had 2 or more pregnancies. This shows that a good number of the patients who had myomectomy were yet to get their first pregnancy and if they had, the number of children were few, hence the need to preserve the uterus (Table IV).

Table V: Use of Contraceptives

Contraceptives		No	%
Use	Yes	57	27.7
	No	149	72.3
Method	Hormonal	50	96.1
	IUCD	6	2.9
	BTL	2	1

Most of the patients who underwent myomectomy had never used any method of family planning (72.3%). Of those who had used contraceptives before myomectomy, 96.1% had used hormonal forms of contraception. The oral contraceptive pill being the most commonly used (70.2%) Table V.

Table VI: Indications for Myomectomy (N= 206)

Indication	No	% *
Anemia	30	14.6
Menorrhagia	99	48.1
Pelvic Pain	111	53.9
Pelvic Mass	71	34.5
Primary Infertility	70	34.0
Secondary Infertility	76	36.9
Recurrent spontaneous Abortions	18	8.7

* Most of the patients could present with more than one indication.

Various indications of myomectomy were found and included anaemia, menorrhagia, pelvic pain, pelvic mass, primary infertility, secondary infertility and recurrent spontaneous abortions. Most patients had complained of pelvic pain (53.9%). Myomectomy was also done due to primary and secondary infertility, which constituted to 34% and 36.9% respectively. 8.7% of the patients had complaints of recurrent spontaneous abortion (Table VI).

Table VII: Investigations done

Investigation	No	%
Ultrasound Scan	200	97.1
H.S.G.	138	67
PAP Smear	130	63.1
Fulhaemogram	201	97.6
HIV Test	87	42.2

97.1% of the patient had an ultrasound scan done, and 97.6% had a fulhaemogram done. Only 42.2% had ELISA for HIV done in preparation for myomectomy. 67% had HSG done and this was low because majority of the patients had other indications of myomectomy other than infertility. This percentage was low given that HSG should be do to all patients undergoing myomectomy, since it will show the presence, size, and location of submucous fibroids and concomittant tubal disease. These findings will help the surgeon in planning the surgical approach.

Ideally PAP smear should have been done to all patients but only 63.1% had the investigation done. This is because some patients may have intraoperative findings contraindicating myomectomy and hence end up being done hysterectomy (Table VII).

Table VIII: Intra-Operative Findings VI

	Findings	No	%
1.	Size of Uterus		
	8 – 10	22	10.6
	11 – 14	72	34.9
	15 – 20	87	42.2
	>20	17	12.3
2.	Position of Fibroids		
	Subserosal	21	10.2
	Intra-mural	63	30.6
	Sub-mucosal	9	4.4
	Sub-serosal/Intra-mural	71	34.5
	Sub-serosal/Sub-mucosal	2	1.0
	Intra-mural/Sub-mucosal	34	19.3
3.	Number of Fibroids		
	1 – 5	114	55.9
	6 – 10	49	24
	>10	40	19.6
4.	Pelvic Adhesions	96	46.6

Majority of the patients undergoing myomectomy had a uterine size of between 15 – 20 weeks gestational size (42.2%). Only a small percentage had uterus of size below 10 weeks and above 20 weeks gestational size (10.6% and 12.3% respectively).

Intra-operatively most patients were found to have both sub-serosal and intramural fibroids. This accounted for 34.5% of the cases. 4.4% of the patients were found to have fibroids only located in the sub-mucosal region.

Most patients had at least one to five fibroids removed during myomectomy. This constituted about 55% of the patients. A number of patients were found to have pelvic adhesions, 46.6% (Table VIII).

Table IX: Complication of Myomectomy

Complication	No	%
None	85	41.3
Transfusion	60	29.1
Intra Operative Hysterectomy	15	7.3
Post Operative Febrile Illness	21	10.2
Transfusion and Intra Operative Hysterectomy	11	5.3
Transfusion and Post Operative Febrile Illness	9	4.4
Transfusion and Intra-pertoneal Haemorrhage	2	1.0
Hysterectomy and Febrile Illness	3	1.5

41.3% of the patients had no complication at all. 29.9% had blood transfusion during the operation, 14.1 of the patients had intra-operative hysterectomy. Post operative febrile morbidity was 16.1%(Table IX).

Table X: Follow – Up after Myomectomy

Follow – Up	No	%
Conceived	16	8
No relief of symptoms	65	31.6
Relief of Pain	55	26.3
Hysterectomy after myomectomy	2	1
Relief of Menorrhagia	68	33.1
Total	206	100

8% of the patients done myomectomy due to infertility conceived after the operation. 33.1% the patient had relief of menorrhagia and 26.3% had relief of pelvic pain. Only 1% of the patients needed hysterectomy after myomectomy

Table XI: Correlation Between Indications For Myomectomy and Outcome Of Surgery.

Indication	No Complication (N = 85)	Had Complication (N = 121)	P Value
Anaemia	5.9	20.7	0.00307
Pelvic Mass	23.5	42.1	0.006
Recurrent Spontaneous Abortions	15.3	4.1	0.005
Menorrhagia	42.5	52.1	0.16954
Primary Infertility	29.4	37.2	0.24589
Secondary Infertility	40.0	34.7	0.43860

Table XI shows the correlation between indications for myomectomy and outcome of surgery.

20.7% of the patients who had complications, had anaemia as an indication for myomectomy as compared to 5.9% of the patients without complications. This was found to be statistically significant (P- 0.0031). 42.1% of the patients with complications had pelvic mass as an indication for myomectomy as compared to 23.5% of the patients without complication. This was statistically significant(P – 0.006) -Table XI.

Table XII: Distribution of Uterine Size and Number of Fibroids by Complication

Variable	No complication			Had Complication			P. Value
	Mean	S.V.D.	Median	Mean	S.D.V.	Median	
Size of Uterus	14.3	3.6	14.0	16.7	4.5	16.00	<0.001
No of Fibroids	4.6	4.7	3.000	7.9	7.00	6.00	0.0002

The mean size of the uterus for those patients who had intra-operative complication was 16.7 weeks as compared to 14.3 weeks for those who had no complications. This was statistically significant (P<. 0.001).

The patient who had intra-operative complications had a mean of 7.9 fibroids as compared to a mean of 4.6 fibroids for those who had no complications. This was found to be statistically significant (P-0.0002). Therefore the rate of intra-operative complications was related to the size of the uterus and the number of fibroids removed (Table XII).

Discussion

Although Myomectomy was introduced to Gynaecologic Surgery nearly 150 years ago, it is during recent years that it has become an increasingly important procedure performed with greater frequency. This increased use of myomectomy rather than hysterectomy results from the desire and necessity of patients to retain or improve reproductive potentials.

In black women, leiomyomata are not uncommon before 30 years of age. However, they are uncommon in either white or black race before 20 years of age (1). In the series of the patients studied, majority of the patients undergoing myomectomy for management of uterine fibroid were of ages between 26 years and 40 years. 30.1% of the patients were of ages between 26 – 30 years, while 35.8% were of ages 31 – 35 years. The youngest patient to undergo myomectomy at Kenyatta National Hospital during the years of study was a 16 years old girl and the mean age for the patient in the study was 32.6 years. In the study done by Donald and Jane, they found that the average age for the patients who were undergoing myomectomy in their series was 35.8years and their youngest patient was 27 years old (7). This was slightly higher than that found in this study, and agrees well with other studies, that fibroids occur at an earlier age in black women (1,3).

In Kenya there has been a trend over the last 2 decades towards delaying the first birth (KDHS) (17). The median age at first birth is 25 – 29 years. This is one of the factors that typically drives transition from high to low fertility. In this study 42.2% of the patients undergoing myomectomy were nulliparous. In the study done by Donald and Jane, they found that 50% of patients in their series were nulligravid (7). This compares closely to our finding in this study.

Myomectomy was necessary in majority of the patients due to their marital status. In Kenya 30% of the women of reproductive age have never married (KDHS) (17). In this study 36.5% of patients done myomectomy were single ladies. 60.7% of the patients who

underwent myomectomy were married but due to desire for children then myomectomy was done either to improve or preserve their fertility.

Nulliparity and low parity have been associated with leiomyomata, but it is not known whether sterility causes fibroids or vice versa or both conditions have a common cause (1, 5). In our study 42.2% of the patients undergoing myomectomy were nulliparous; 33% had one pregnancy and 24.8% had at least 2 or more pregnancies. This shows that the majority of patients who were scheduled for myomectomy had the desire for children or needed to preserve their reproductive potentials. This is supported more by the fact that 54.9% of the patients undergoing myomectomy had no live births.

Some of the women scheduled for myomectomy had attained post secondary education (22.8%). This can be associated with the delayed first birth since many years are spent in school and hence expose these women to a risk of developing fibroids before getting their first baby. The growth of leiomyomata is dependent on estrogen production, especially when uninterrupted by pregnancy and lactation (1). Prolonged stay in school and colleges exposes these women to fibroids and therefore will require myomectomy.

Patients with uterine fibroids, requiring myomectomy had low usage of contraceptives. 72.3% had not used any form of contraceptive before. Of those who had used contraceptives 96.1% had used hormonal contraceptive methods, oral contraceptive pills being the most commonly used method (70.2%). This shows that majority of the patients undergoing myomectomy still had need for children and had some degree of sub-fertility.

Myomectomy is done to alleviate the symptoms of uterine fibroid, which include menorrhagia, metrorrhagia, pain, abdominal swelling and spontaneous abortion (1, 3, 4). These are the same indications found in our study. 53.9% of the patients had complaints of pelvic pain which closely compared to Wanjala's finding (2), 14.6% had anaemia, 48.1% complained of menorrhagia, while 34.0% and 36.9% complained of primary infertility and secondary infertility respectively. Most of these complaints could occur in

the same patient at the same time. Similar indications were reported by Donald and Jane (7), although in their study infertility was not the primary indication in any case.

Various investigations were done in preparation for myomectomy. 97.1% of the patients had ultrasound done, 97.6% had a full haemogram done, 67% had HSG, 63.1% had PAP Smear while only 42.2% had ELISA for HIV done. Ultrasound was the most commonly used investigation for diagnosis of uterine fibroids in our set up before surgery was done. In other centres, MRI is used for diagnosis and to differentiate between fibroids and adenomyosis (1, 7). Most patients were not screened for HIV apart from those who had myomectomy due to infertility. Also PAP Smear was done in relatively few patients given that all the patient had consented for myomectomy or hysterectomy and hence the need to know the state of the cervix before the operation was done. Since in Kenya there is no Nation programme on screening for cancer of the cervix, then these women undergoing myomectomy provides an opportunity for screenig. HSG was not done to diagnose fibroids but was mainly done to confirm the state of the fallopian tubes for those patients who had myomectomy due to infertility. Preoperative HSG may indicate distortion of the fallopian tubes or uterine cavity, findings that are important in the technique of myomectomy. HSG will show the presence, size and location of submucous fibroids and concomittant tubal disease (1). 67% of the patients had HSG done and this was low.

During surgery the size of the uterus, the location of the tumor and number of fibroids can be used as an indication for hysterectomy. Friedman and Heas, pointed out that many gynecologist advocate surgical removal of leiomyomata when the uterus reaches 12 weeks gestational size or greater, regardless of the presence or absence of significant symptoms (18). In this study 42.2% of the patient had uterus of size between 16 – 20 weeks gestational size, 34.9% had uterine size 12 – 14 weeks gestational size.

Leiomyomata may be single but most are multiple. They develop commonly in the uterine corpus, and much less often in the cervix. They arise in the myometrium. As they enlarge they can remain intramural or extend in an internal or external direction,

thus can become subserous or submucous, in location. In our study 34.5% of the patient had both subserous and intramural fibroids combined, while 30.6% had intramural fibroid. Only 4.4% had submural fibroid without a combination with other localities. A significant number of patients undergoing myomectomy had pelvic adhesions i.e. 46.6%. 55.9% had 1 – 5 fibroids removed during surgery while only 19.6% had more than 10 fibroids removed.

During this study it was noted that 41.3% of the patient had no complications during myomectomy and post operatively. 39.9% of the patients had intra-operative transfusions as compared to Donald and Jane's series of 64 myomectomy where there was no transfusions (7) but Buttram (6) reported an intra operative transfusion rate of 18%. This shows that the intra operative transfusion was too high as compared to those noted in these two studies. There was intra-operative hysterectomy rate of 14.1%, this was high, compared to Donald and Jane study where there were no intra operative hysterectomy done (7). 16.1% of the patients had post-operative febrile illness which was lower than that found by Berkeley (15), who reported a post operative febrile morbidity of 28%. Febrile morbidity is one of the major immediate post-operative complications of myomectomy. Blood transfusion is not save in this era of HIV and therefore should be discouraged by ensuring proper haemostasis and correction of anaemia before surgery.

20.7% of the patients who had complications as compared to 5.9% of those who had no complications had anaemia as an indication for myomectomy. This was found to be statistically significant (P. Value 0.0031). 42.1% of those patients who had complications had pelvic mass as an indication for myomectomy as compared to 23.5% of those who had no complication. This was statistically significant (P. Value 0.006). This shows that anaemia and pelvic mass were contributory factors to complications of myomectomy and therefore patients with anaemia should have their haemoglobin levels corrected before surgery to avoid intraoperative transfusion (1).

The size of the uterus and number of fibroids are related to the rate of complications during myomectomy (8, 13). Large fibroids may be difficulty to remove and also are

associated with a lot of haemorrhage. Those patients who had complications had a mean uterine size of 16.7 weeks gestational size as compared to 14.3 weeks gestational size for those who had no complications. This was statistically significant (P. Value <0.001). Those patients who had complications had a mean number of fibroids of 7.9 as compared to 4.6 for those patients who had no complications. This was statistically significant (P - 0.002).

Most of these conditions leading to complications have been shown be managed by use of Gonadotropin releasing hormone agonists (GnRHa) which lead to shrinkage of the tumor size, reduce the vascularity of the tumor and increase haemoglobin levels if given pre-operative. With use of GnRHa, tumor mass can be reduced by 30% before surgery (8). In Kenyatta National Hospital GnRHa are not routinely used because of lack of these drugs in the hospital and most patients cannot afford to buy the drugs. Due to the benefits obtained from use of these drugs, patients with huge fibroids and those who are anaemic should be encouraged to use them before surgery.

Of the patients who were done myomectomy due to infertility, 8% conceived, this was too low compared to findings in other studies (6, 7, 16). 26.3% of the patients had pain relieved and 33.1% had relieve of menorrhagia after myomectomy. Only 2 patients had hysterectomy after myomectomy during the period studied. Myomectomy has an excellent record in reducing heavy menstruation in patients with a complaint of menorrhagia (1). Pain and discomfort and dysmenorrhea can also be relieved but the results are not dramatic (1). Donald and Jane reported a recurrence rate of 6.4%, which required hysterectomy.

The impact of abdominal myomectomy on infertility is difficulty to assess. Other factors besides leiomyomata may be present to a varying degree. The extent to which the uterine cavity or the fallopian tubes are distorted also varies. In this study the conception rate for those patients done myomectomy due to infertility was low.

Conclusion

1. Most of the patients who had myomectomy were women in their reproductive years between 26 and 35 years.
2. Patients undergoing myomectomy were either nulliparous or had a low parity and were single.
3. Most patients, who had myomectomy, had no HSG done before surgery.
4. The size of the uterus was related to intra-operative complications. The complications were less when the uterine size was less than 14 weeks. Intra-operative complications of myomectomy occurred more in patients with uterine size of 16 weeks gestational size and above.
5. The more the number of fibroids removed, the more the complications encountered.
6. Intra-operative transfusion was a common complication encountered during myomectomy.
7. Intra-operative hysterectomy, during myomectomy was found to be higher when compared to other centres.
8. Myomectomy leads to relief of menorrhagia related to uterine fibroids.
9. There was no mortality noted related to myomectomy during the period of the study. This is an indication that myomectomy is a safe procedure.

Recommendations

1. Myomectomy is an important procedure in the management of uterine fibroids and hence should be encouraged even to women who are not interested in giving birth but willing to retain their uterus for psycho-social reasons.
2. Since the commonest complication of myomectomy is haemorrhage, which is related to the size and number of fibroids, then GnRHa should be introduced to our hospital, so that these complications can be reduced. This will reduce intraoperative transfusion, which is no longer safe due to high prevalence of HIV.
3. A prospective study should be done to assess patients selection pre-operative and to assess surgical technique so as to improve on the outcome of myomectomy.

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Appendix I

Questionnaire:

A. IDENTIFICATION.

Interviewers name. _____

In-patients numbers. _____

Serial number. [][]

Age [][]

Tick [] either case or control.

Cases - Teenage mothers. []

Control - Mothers of age 20years and above but below 35 years of age. []

B. SOCIODEMOGRAPHIC DATA:

1. Marital status? (Tick one.)

1. Single []

2. Married

3. Divorced/Separated

4. Widowed.

2. What level of schooling did you complete?

1. None []

2. Primary

3. Secondary

4. Post secondary

5. Others (specify)-----

3. What is your occupation at the moment?

1. Student []

2. House wife.

3. Self employed.

4. Civil servant.

5. Unskilled
6. Professional
7. Others (specify)-----

C. OBSTETRIC AND GYNAECOLOGICAL HISTORY:

1. How many pregnancies have you had before? []
2. What was the out come of the pregnancies?
 1. Abortion
 2. Ectopic pregnancy
 3. Still birth.
 4. Live birth
 5. Neonatal death
 6. Others (specify)-----

3. What complication have you had during this pregnancy?

(Check from ANC card) – Tick as many as possible

NO.		YES	NO
1	Hypertensive disease		
2.	Anaemia		
3.	Malaria		
4.	Bleeding in pregnancy <28 weeks		
5.	Bleeding in pregnancy >28 weeks		
6.	Premature rupture of membranes		
7.	Cardiac disease		
8.	Diabetes disease		
9.	DVT		

10. Others (Specify)

4. What was your last L.M.P.? / / / / / /
 E.D.D.? / / / / / / / / / /
 Gestation period? weeks
5. At what age did you start getting your periods first? [] []
6. Have you attended an ANC in this pregnancy?
 Yes. []
 No []

7. Where did you attend your ANC and how many times? (Tick as many)

NO.	PLACE	WHERE?	HOW MANY TIMES
1.	Traditional birth attendant		
2.	Health centre		
3.	Hospital clinic		
4.	Private G.P.		
5.	Private Obs./Gyna		

6. Others (specify)
8. At how many weeks of pregnancy did you start attending ANC? []
9. During your current pregnancy were you given any counseling or information regarding parenthood and delivery?
 1. Yes []
 2. No []
- If yes who gave the counseling?
1. Parents. []
 2. Peer []
 3. By friend []
 4. Medical person []

D. CONTRACEPTIVE HISTORY:

1. Do you know any methods of preventing unwanted pregnancy?

- 1. Yes
- 2. No

2. If Yes have you been using contraceptive methods prior to this pregnancy?

- 1. Yes
- 2. No

If yes, which method? (Tick as many as possible)

- 1. Pills
- 2. Injectable
- 3. Condoms
- 4. I.U.C.D.
- 5. Rhythm
- 6. Diaphragm
- 7. Norplant
- 8. Tubal ligation
- 9. Natural method

3. Have you been able to get your supply of contraceptives easily?

- 1. Yes
- 2. No

If no, why not?

- 1. Not aware of where to get supply
- 2. Refused by medical persons
- 3. Fear of using contraceptives
- 4. Others (Specify)

4. After this pregnancy are you planning to use any family planning method?

- Yes
- No

E. OBSTETRIC OUT COME:

1. When you went into labour where did you go first?
 1. Home
 2. TBA
 3. Health centre/Dispensary
 4. Others [specify] _____
2. General condition of mother on admission (Clinical assessment)
 1. Good
 2. Poor
 3. Very poor
3. State of the fetus on admission?
 1. No fetal heart heard
 2. Fetal heart irregular or rapid
 3. Fetal heart normal
4. Mode of delivery
 1. Spontaneous vertex
 2. Breech
 3. Vacuum
 4. Caesarean
 5. Others [specify] _____
5. Placental delivery?
 1. Spontaneous
 2. Controlled cord traction
 3. Manual removal
 4.
6. Duration of labour [Hours] (Check from the partogram
7. Blood transfusion

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

8. Infants condition at birth?

- 1. Fresh still birth
- 2. Macerated still birth
- 4. Live birth
- 5.

9. Birth weight in grams

10. APGAR score at 5 minutes

11. Out come of live birth?

- 1. Well
- 2. Admitted to Nursery
- 3. Neonatal death
- 4. Admitted to nursery and followed by neonatal death

12. Maternal out come? (Tick appropriately)

- 1. Uneventful
- 2. Febrile morbidity $T > 38$ 6 hrs after delivery
- 3. Wound sepsis.
- 4. Genital injuries e.g. perineal tear
- 5. Death
- 6. PPH

Others (specify)-----

Appendix II

Study Questionnaire

A. Identification

Interviewers name

Inpatients number

Serial numbers [] [] []

Age [] []

B. SOCIAL DEMOGRAPHIC DATA

1. Marital Status? (Tick one)

1. Single
2. Monogamous marriage
3. Polygamous Marriage
4. Divorced/Separated
5. Widowed

2. Level of Education

1. None
2. Primary
3. Secondary
4. Post Secondary
5. Others (Specify)

C. GYNECOLOGY AND OBSTETRIC HISTORY.

1. Parity [] + []

2. Age at first pregnancy []
(if applicable).

3. Number of years since last delivery [] AS POSSIBLE

4. Use of contraceptive Yes []

No []

5. If yes which contraceptive method

a) Natural contraception []

b) Pills []

c) IUCD []

d) Barrier methods []

e) Norplant []

f) Injectable (Depo Provera) []

D. INDICATION FOR MYOMECTOMY

(Tick as many as possible)

NO.	INDICATION	YES	NO
1.	Anaemia		
2.	Menorrhagia		
3.	Metromenorrhagia		
4.	Pain		
5.	Pelvic mass		
6.	Primary Infertility		
7.	Secondary Infertility		
8.	Recurrent Spontaneous abortion		

Others Specify

E. INVESTIGATIONS DONE (TICK AS MANY AS POSSIBLE)

NO.	INVESTIGATION	YES	NO	RESULTS
1.	Ultra Sound Scan			
2.	HSG			
3.	PAP Smear			
4.	Full Haemogram (HB)			
5.	ELISA for HIV			
6.				
7.				

F. Size of the uterus [] [] weeks (on palpation).

G. INTRA-OPERATIVE FINDINGS

1. Uterus Normal Yes []
No []
2. Uterine Fibroids Serosal []
Intra Mural []
Sub Mucosal []
3. Number of Fibroids [] []
4. Pelvic Adhesions Yes []
No []

H. COMPLICATION OF MYOMECTOMY

(Tick as many as possible)

NO.	COMPLICATIONS	YES	NO
1.	Intra Operative Transfusion		
2.	Intra Operative Hysterectomy		
3.	Post Operative Fibrile Illness		
4.	Post Operative Intra Peritoneal Bleeding		
5.			
6.			
7.			

I. FOLLOW UP AFTER MYOMECTOMY (Tick as many as possible)

1. Conceived []
2. No. Conception []
3. Repeat myomectomy []
4. Hysterectomy []
5. Relief of pain []
6. Relief of menorrhagia []

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726562 - 6
726450 - 9
726581 - 2
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Email: knh@healthnet.or.ke

Ref: KNH-ERC/01/1045

11 June 2001

Dr. Sammy Kyalo Josphat
Dept. of Obs/Gynae
Faculty of Medicine
University of Nairobi

Dear Dr. Kyalo,

RE: RESEARCH PROPOSAL "OBSTETRIC PERFORMANCE OF TEENAGE MOTHERS IN A RURAL SET UP MACHAKOS" (P922/10/2000)

This is to inform you that the Kenyatta National Hospital Ethical and Research Committee has reviewed and approved the revised version of your above cited research proposal.

On behalf of the Committee I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of data base that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Thank you.

Yours faithfully,

MEDICAL LIBRARY
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Vera
for: PROF. A.N. GUANTAI
SECRETARY, KNH-ERC

c.c. Prof. K.M. Bhatt,
Chairman, KNH-ERC,
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Deputy Director (CS),
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Ref: KNH-ERC/01/1129

30 August 2001

Dr. Sammy Kyalo Josphat
Dept. of Obs/Gynae
Faculty of Medicine
University of Nairobi

Dear Dr. Kyalo,

RE: RESEARCH PROPOSAL "RETROSPECTIVE STUDY TO ASSESS THE ROLE OF MYOMECTOMY IN THE MANAGEMENT OF UTERINE FIBROIDS AT KENYATTA NATIONAL HOSPITAL" (P937/11/2000)

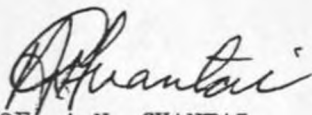
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Thank you.

Yours faithfully,


PROF. A.N. GUANTAI
SECRETARY, KNH-ERC

c.c. Prof. K.M. Bhatt,
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