CASE RECORDS AND COMMENTARIES

FOR THE

EXAMINATION OF MASTERSHIP OF MEDICINE

IN

OBSTETRICS AND GYNAECOLOGY

OF THE

UNIVERSITY OF NAIROBI

SUBMITTED BY

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APRIL, 1985

ACKNOWLEDGEMENTS:

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

My sincere acknowledgements, therefore, go:

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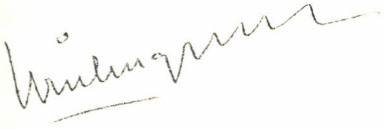
To the Ministry of Health for making it all possible.

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

To the Nursing Staff for their devotion to work.

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

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



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

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

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

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

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KENYATTA NATIONAL HOSPITAL:

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

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

THE OBSTETRIC UNIT:

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

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

ANTENATAL CLINIC:

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

(i) PRIMIGRAVIDA: Teenage, elderly or short.

(ii) MEDICAL DISEASES: Cardiac disease, hypertension, diabetes mellitus, thyrotoxicosis and Rhesus isoimmunization.

(iii) PREVIOUS OPERATIVE DELIVERIES: Caesarean section, vacuum extraction and forceps delivery.

(iv) PREVIOUS OBSTETRIC COMPLICATIONS: Ruptured uterus, vesico-vaginal fistula (repaired or unrepaired) and postpartum haemorhage.

(v) BAD OBSTETRIC HISTORY: Stillbirths, neonatal deaths, recurrent abortions.

(vi) GRANDMULTIPARITY: Para 5 or more.

(vii) OTHER INDICATIONS: Previous history of infertility, ovulation induction, suspected multiple pregnancy, and members of staff or their wives.

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

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

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

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

Clinical Pelvimetry:

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

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

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

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

Amniocentesis for surfactant test:

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

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

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

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

Surfactant Test (Bubble or Shake test):

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

LABOUR WARD:

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

Pelvic Examination:

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

The First Stage of Labour:

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

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

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

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

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

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

The Second Stage of Labour:

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

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

Episiotomy:

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

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

Operative Vaginal Delivery:

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

Third Stage of Labour:

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

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

Postnatal Management:

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

The Newborn:

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

The Nursery:

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

Perinatal Mortality Meetings:

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

Postnatal Clinic:

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

CAESAREAN SECTION:

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

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

Technique of Caesarean Section:

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

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

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

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

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

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

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

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

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

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

(i) For a repeat caesarean section, or if the patient has had previous laparatomy, the old abdominal scar is first excised before opening the abdomen.

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

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

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

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

(v) Tubal Ligation if requested is performed after the closure of the uterus. The Pomeroy's technique is the one that is employed in our unit.

Post-operative Management:

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

(i) Nil by mouth for 24-48 hours.

(ii) Intravenous fluids of 5% dextrose to alternate with normal saline. She is given 500mls every 6 hours for 24-48 hours.

(iii) Her vital signs are checked ½-hourly until she is fully recovered from anaesthesia, thereafter every 4 hours.

(iv) Analgesia is provided by Pethidine 100mg 6-hourly for 48 hours.

(v) A strict input-output record is kept.

(vi) Where antibiotics are indicated, ampicillin is used. In severe infection this may be combined with either Gentamycin, I.V. Flagyl or Dalacin-C (clindamycin).

(vii) Patients are encouraged to get out of bed soon after the I.V. fluids are stopped.

(viii) Post-operative haemoglobin check is done on the third post-operative day.

THE CYNAECOLOGY UNIT:

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

The Gynaecology Wards:

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

The Acute Gynaecology Ward:

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

(i) Abortions: All categories of abortions constitute about 60% of the admissions to this ward. Evacuation of the uterus is done daily from 8.30a.m. Uncomplicated abortions do not stay longer than 24 hours in the ward.

(ii) Pelvic infections: Including acute pelvic inflammatory diseases, post-abortal sepsis, pelvic abscess, and puerperal sepsis. These patients are managed with antibiotics and emergency laparatomies where indicated.

(iii) Ectopic pregnancy: Once admitted patients with ruptured ectopic pregnancy are operated on without delay. Those with chronic ectopics or unruptured ectopics usually require senior review and further investigations before laparatomy.

(iv) Bartholin's abscess: Including patients with Bartholin's cyst, are included on the daily evacuation list. Marsupialization is the operation commonly employed.

(v) Trophoblastic disease: Patients with molar pregnancy are included on the

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

(vi) Abnormal Uterine Bleeding: Including dysfunctional uterine bleeding ~~and~~ and postmenopausal bleeding. These patients are usually included on the evacuation list for diagnostic dilatation and curettage.

(vii) Gynaecological neoplasms: By far the majority are patients with carcinoma of the cervix. Others include ovarian cysts and malignancies, carcinoma of the endometrium, vulva, and vagina. Patients with ovarian cysts usually undergo emergency laparatomy from ward 6. Those with carcinoma of the cervix and vagina are worked up in ward 6 and then transfered to ward 39 for radiotherapy.

(viii) Miscellaneous conditions: Including "Lost" coils, severe cervical erosions and severe bleeding fibroids.

Non-Emergency Wards:

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

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

Pre-operative Preparation:

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

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

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

Theatres and Operations:

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

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

(i) I.V. sodium thiopentone and I.V. scoline are used for induction of anaesthesia.

(ii) Nitrous oxide, halothane and oxygen provide maintanance anaesthesia. These are given as a gaseous mixture through a cuffed endotracheal tube.

(iii) Curare is given intermittently for muscle relaxation.

(iv) Atropine and neostigmine are used for reversal.

Position of the Patient:

(i) Supine Position: This is used for most abdominal operations.

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

(iii) Knee-chest Position: This is used in repair of some vesico-vaginal fistulae.

Abdominal Incisions:

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

Operations:

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

Post-Operative Care:

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

The Gynaecology Clinic:

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

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

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

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

Family Planning Clinics:

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

CARCINOMA OF THE CERVIX:

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

LABORATORY FACILITIES:

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

Some of the services offered in these laboratories are:

(i) Cervical cytology

(ii) Semen analysis

(iii) Radioimmunoassay

(iv) Surfactant (Bubble or shake) test.

(v) Bilirubin spectrophotometry

(vi) Kleinhaur test

(vii) Glucose tolerance test

(viii) Pregnancy test

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

CASE NO. 1.

* * * * * *

CERVICAL INCOMPETENCE : MCDONALD'S STITCH

INSERTED - VAGINAL DELIVERY OF LIVE BABY.

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

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

PRESENTING HISTORY

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

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

HISTORY OF PRESENT PREGNANCY

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

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

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

PHYSICAL EXAMINATION

GENERAL EXAMINATION

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

CARDIOVASCULAR AND RESPIRATORY SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

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

VAGINAL EXAMINATION

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

DIAGNOSIS AND MANAGEMENT

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

RESULTS OF THE INVESTIGATIONS

Haemoglobin : 13.8 gm/dl.

Packed Cell Volume : 40.8%

VDRL : Negative

Blood Group : "A" Rh (D) Positive

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

MCDONALD'S CERCLAGE PROCEDURE

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

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

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

POST-OPERATIVE MANAGEMENT

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

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

ANTENATAL FOLLOW-UP AND DELIVERY

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

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

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

POSTNATAL FOLLOW-UP

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

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

COMMENT

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

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

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

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

In the non-pregnant state certain investigations, none of which were performed in this patient, may aid in the diagnosis of cervical incompetenc These are :- 1. A hystero-cervico-gram using a Leech-Wilkinson cannula shows the characteristic "funnel" outline of the contrast media, 2. Hegar's dilator No. "8" passes easily through the internal os, and 3. a positive "traction test" of Bergman and Svenerund.

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

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

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

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

4. Progressive cervical dilatation greater than 2 cm. on initial examination during mid-trimester.

5. Previous diagnosis of cervical incompetence with previous cerclage.

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

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

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

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CASE NO . 2.

* * * * * *

SUCCESSFUL INDUCTION OF LABOUR IN A

RHESUS NEGATIVE PATIENT - LIVE BABY.

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

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

PRESENTING HISTORY :

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

HISTORY OF PRESENT PREGNANCY :

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

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

RESULTS OF INVESTIGATIONS :

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY :

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

She was Para 3 + 0:

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

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

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

PAST SURGICAL AND MEDICAL HISTORY :

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

SOCIAL AND FAMILY HISTORY :

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

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

PHYSICAL EXAMINATION :

GENERAL EXAMINATION :

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

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION

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

Liver and spleen were not palpable.

VAGINAL EXAMINATION

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

DIAGNOSIS AND MANAGEMENT :

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

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

RESULTS

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

Spectrophotometry: Optical density difference of 0.020. According to Liley's curve delivery was recommended at term.

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

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

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

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

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

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

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

THE BABY

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

RESULTS OF CORD BLOOD

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

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

POSTNATAL FOLLOW-UP

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

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

COMMENT

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

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

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

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

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

This patient was Para 3 + 0, had a Bishop's score of 8, and was induced with anterior amniotomy followed immediately by syntocinon infusion in titration. She had an induction-delivery interval of $5\frac{1}{2}$ hours. Each of these three favourable factors must have played a role to culminate in such a short induction-delivery interval.

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CASE NO. 3

* * * *

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

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

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

PRESENTING HISTORY

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

HISTORY OF PRESENT PREGNANCY

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

RESULTS OF INVESTIGATIONS

Haemoglobin	:	12.0 gm/dl
Packed Cell Volume	:	34.6%
VDRL	:	Negative
Blood Group	:	"B" Rh (D) Negative
Clinical Pelvimetry	:	Sacral Promontory just tipped: True Conjugate about 10 cm.
Radiological Pelvimetry	:	True conjugate : 10 cm.
		Midcavity : 11 cm.
		Outlet : 12 cm.
Surfactant Test	:	1:1 Positive
		1:2 Positive

Because of a true conjugate of 10 cm. and a positive surfactant test, the patient was admitted on 27.7.1982 for elective repeat caesarean section.

PAST MEDICAL AND SURGICAL HISTORY

She gave no relevant past medical or surgical history.

FAMILY AND SOCIAL HISTORY

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

PHYSICAL EXAMINATION :

GENERAL CONDITION :

Her general condition was good. She was not anaemic clinically, and had no leg oedema or jaundice. Her blood pressure was 110/70 mmHg, pulse was 72 per minute, and temperature was 36^{o}C.

Urinalysis was normal.

RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

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

VAGINAL EXAMINATION

This was not done.

DIAGNOSIS

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

ELECTIVE CAESAREAN SECTION

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

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

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

POST-OPERATIVE CARE :

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

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

POSTNATAL FOLLOW-UP

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

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

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

COMMENT

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

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

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

This patient had positive "Bubble" (surfactant) test in the 1:1 and 1:2 dilutions at 38 weeks gestation. A healthy baby who did not suffer from RDS was delivered 3 days later.

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CASE NO. 4

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FRACTURE OF RIGHT FEMUR IN PREGNANCY :

ASSISTED VACUUM EXTRACTION UNDER

GENERAL ANAESTHESIA- LIVE BABY.

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

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

PRESENTING HISTORY

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

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

ANTENATAL CARE

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

PAST MEDICAL AND SURGICAL HISTORY

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

FAMILY AND SOCIAL HISTORY

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

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

GENERAL EXAMINATION

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

Urine examination revealed no sugar, proteins or ketone bodies.

RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Both were essentially normal.

MUSCULO-SKELETAL SYSTEM

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

ABDOMINAL EXAMINATION

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

VAGINAL EXAMINATION

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

DIAGNOSIS AND MANAGEMENT

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

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

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

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

VACUUM EXTRACTION

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

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

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

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

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

FURTHER MANAGEMENT

In the immediate postpartum period the patient's vital signs were observed ½-hourly and she was given pethidine 6-hourly for analgesia. At 4.00 p.m., about 4-hours after delivery, the patient was fully awake and her vital signs were within normal limits. She was transfered back to ward 21 for management of the fracture.

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

RESULTS OF INVESTIGATIONS

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

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

COMMENT

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

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

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

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

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

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

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

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

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

The vacuum was applied for 20 minutes in this case, and the cup was re-applied once. The other precautions were also observed. The baby who was delivered was asyphyxiated and had poor Apgar score. His condition, however, improved after mucus extraction and oxygen by mask.

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

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

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CASE NO. 5

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TWIN PREGNANCY : SPONTANEOUS VAGINAL DELIVERY

AT TERM - LIVE BABIES

TWIN PREGNANCY : SPONTANEOUS VAGINAL DELIVERY AT TERM - LIVE BABIES

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

PRESENTING HISTORY

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

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

ANTENATAL CARE

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

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

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

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

PHYSICAL EXAMINATION :

Her general condition was satisfactory. She was well nourished and was of average height. She had no pallor, jaundice or oedema. Her blood pressure was 100/60 mmHg, pulse was 84 per minute and temperature was 36.4°C. Urinalysis was normal.

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

ABDOMINAL EXAMINATION

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

VAGINAL EXAMINATION

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

DIAGNOSIS

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

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

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

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

DELIVERY OF THE SECOND TWIN

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

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

POSTPARTUM CARE

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

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

POSTNATAL FOLLOW UP

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

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

COMMENT

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

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

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

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

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

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

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

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

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CASE NO. 6.

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UMBILICAL CORD PROLAPSE : EMERGENCY CAESAREAN

SECTION - LIVE BABY.

UMBILICAL CORD PROLAPSE : EMERGENCY CAESAREAN SECTION - LIVE BABY

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

PRESENTING HISTORY

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

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

ANTENATAL CARE

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

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

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

PAST MEDICAL AND SURGICAL HISTORY :

There were no relevant past medical or surgical illnesses.

SOCIAL AND FAMILY HISTORY :

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

PHYSICAL EXAMINATION :

GENERAL EXAMINATION :

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

VITAL SIGNS :

Blood Pressure : 110/80 mmHg.

Pulse : 104 per minute regular

Respiration : 32 per minute

Temperature : 37.8°C

URINALYSIS :

Sugar : Nil

Albumin : Nil

Bilirubin : +++

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION :

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

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

AGINAL EXAMINATION :

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

DIAGNOSIS AND MANAGEMENT :

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

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

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

LOWER UTERINE SEGMENT CAESAR AN SECTION (L.U.S.C.S.)

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

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

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

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

POST-OPERATIVE CARE :

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

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

RESULTS OF INVESTIGATIONS :

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

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

POSTNATAL REVIEW :

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

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

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

COMMENT :

This patient had 3 related obstetric problems :-

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

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

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

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

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

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

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

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

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

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

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CASE NO. 7

* * * *

YOUNG PRIMIGRAVIDA WITH CONTRACTED PELVIS

AND FACE PRESENTATION : EMERGENCY

CAESAREAN SECTION - LIVE BABY.

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

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

PRESENTING HISTORY

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

ANTENATAL CARE

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

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

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

PAST MEDICAL AND SURGICAL HISTORY

This was not significant.

FAMILY AND SOCIAL HISTORY

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

PHYSICAL EXAMINATION

GENERAL EXAMINATION

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

RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

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

VAGINAL EXAMINATION

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

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

DIAGNOSIS AND MANAGEMENT

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

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

EMERGENCY CAESAREAN SECTION

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

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

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

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

POST-OPERATIVE CARE :

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

RESULTS OF INVESTIGATIONS :

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

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

COMMENT :

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

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

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

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

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

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

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

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CASE NO. 8

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YOUNG PRIMIGRAVIDA WITH BREECH PRESENTATION:

EMERGENCY CAESAREAN SECTION - LIVE BABY

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

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

PRESENTING HISTORY

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

ANTENATAL CARE

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

PAST MEDICAL AND SURGICAL HISTORY

This was not relevant.

FAMILY AND SOCIAL HISTORY

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

PHYSICAL EXAMINATION

GENERAL CONDITION

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

VITAL SIGNS :

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

URINALYSIS :

Proteinuria	:	+
Sugar	:	Nil
Ketone Bodies	:	Nil

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION :

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

VAGINAL EXAMINATION :

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

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

DIAGNOSIS AND MANAGEMENT :

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

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

EMERGENCY L.U.S.C.S.

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

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

POST-OPERATIVE CARE

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

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

POSTNATAL VISIT

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

COMMENT

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

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

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

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

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CASE NO. 9

* * * *

TOTAL PLACENTA PRAEVIA : EMERGENCY CAESAREAN

SECTION - LIVE BABY

TOTAL PLACENTA PRAEVIA : EMERGENCY CAESAREAN SECTION - LIVE BABY

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

PRESENTING HISTORY

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

ANTENATAL CARE

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

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

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

She was married and worked as a typist. Her husband was a sales representative. The couple and their children lived in Nairobi. There was no family history of twins, hypertension or diabetes mellitus.

PHYSICAL EXAMINATION

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

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

ABDOMINAL EXAMINATION

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

SPECULUM EXAMINATION

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

DIAGNOSIS AND MANAGEMENT

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

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

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

RESULTS OF THE INVESTIGATIONS

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

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

EMERGENCY CAESAREAN SECTION AND BILATERAL TUBAL LIGATION

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

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

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

POST-OPERATIVE CARE

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

POSTNATAL REVIEW

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

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

COMMENT

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

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

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

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

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

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

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

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

In prolonging the intrauterine development, this conservative management aims to reduce prematurity and thence perinatal mortality. However, severe haemorrhage, as occured in this case, onset of labour, intrauterine fetal death, and unequivocal evidence of a badly malformed fetus militates against this temporizing management and termination of pregnancy is then expediated.

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

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CASE NO. 10.

* * * * * *

OBSTRUCTED LABOUR AND FETAL DISTRESS:

EMERGENCY CAESAREAN SECTION - LIVE BABY.

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

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

PRESENTING HISTORY :

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

ANTENATAL CARE :

She had not had any antenatal care.

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY :

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

PAST MEDICAL SURGICAL HISTORY :

This was not relevant.

SOCIAL AND FAMILY HISTORY :

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

PHYSICAL EXAMINATION :

GENERAL EXAMINATION :

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

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

VITAL SIGNS :

Blood Pressure : 100/60 mmHg.

Pulse : 102 per minute regular with good volume

Respiratory Rate : 38 per minute

Temperature : 37.8°C

RESPIRATORY AND CARDIOVASCULAR SYSTEMS :

Both were essentially normal.

ABDOMINAL EXAMINATION :

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

VAGINAL EXAMINATION :

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

DIAGNOSIS AND MANAGEMENT

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

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

EMERGENCY LOWER UTERINE SEGMENT CAESARIAN SECTION :

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

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

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

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

POST-OPERATIVE CARE :

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

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

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

POSTNATAL FOLLOW UP :

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

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

COMMENT :

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

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

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

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

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

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

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

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

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

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CASE NO. 11.

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ANAEMIA IN PREGNANCY: SUCCESSFUL MANAGEMENT

AND TERM DELIVERY - LIVE BABY.

ANAEMIA IN PREGNANCY : SUCCESSFUL MANAGEMENT AND TERM DELIVERY - LIVE BABY

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

PRESENTING HISTORY:

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

ANTENATAL CARE:

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

PAST OBSTETRIC AND GYNAECOLOGY HISTORY:

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

PAST MEDICAL AND SURGICAL HISTORY:

This was non-contributory.

SOCIAL AND FAMILY HISTORY:

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

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

PHYSICAL EXAMINATION

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

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

Respiratory, and central nervous systems were essentially normal.

CARDIOVASCULAR SYSTEM:

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

ABDOMINAL EXAMINATION:

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

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

DIAGNOSIS AND MANAGEMENT

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

RESULTS OF INVESTIGATIONS:

1. *HAEMOGRAM:* *HAEMOGLOBIN :* *4.2 gm/dl.*

   PCV : 12%

   MCHC : 35%

   FILM : Marked anisocytosis with both microcytes and macrocytes prevailing. Moderate poikilocytosis with few target cells. Slight polychromasia with normoblasts seen. Marked hypochromia.

2. BLOOD SLIDES: Numerous ring forms of falciparum malaria seen.

3. SICKLING TEST: Negative

4. SERUM BILIRUBIN: TOTAL : 4.5 mg%

   INDIRECT: 4.1 mg%

   DIRECT : 0.4 mg%

5. STOOL : Ova of hookworms seen. 10 eggs per high power film.

6. BLOOD GROUP : "O" Rhesus (D) positive.

7. VDRL : Negative

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

Her treatment was along the following lines:

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

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

5. Alcopar sachets : 5gm. once daily for 3 days.

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

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

ANTENATAL FOLLOW-UP:

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

LABOUR AND DELIVERY:

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

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

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

lasting 30 seconds. Liver and spleen were not palpable.

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

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

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

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

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

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

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

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

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

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

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CASE NO. 12.

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CARDIAC GRADE 1V DISEASE IN PREGNANCY: SUCCESSFUL

MANAGEMENT AND ELECTIVE VACUUM EXTRACTION - LIVE BABY.

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

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

PRESENTING HISTORY

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

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

HISTORY OF PRESENT PREGNANCY

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

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

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

PAST MEDICAL AND SURGICAL HISTORY

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

SOCIAL AND FAMILY HISTORY

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

PHYSICAL EXAMINATION

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

CARDIOVASCULAR AND RESPIRATORY SYSTEMS

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

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

ABDOMINAL EXAMINATION

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

DIAGNOSIS AND MANAGEMENT

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

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

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

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

RESULTS OF INVESTIGATIONS

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

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

MANAGEMENT OF LABOUR

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

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

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

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

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

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

ELECTIVE VACUUM EXTRACTION

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

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

POSTPARTUM CARE

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

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

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

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

COMMENT

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

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

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

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

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

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

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

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

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

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

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

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CASE NO. 13

* * * *

SEVERE PRE-ECLAMPSIA AND POOR BISHOP'S

SCORE : EMERGENCY CAESAREAN SECTION - LIVE BABY

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

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

PRESENTING HISTORY

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

HISTORY OF PRESENT PREGNANCY

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

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

PAST OBSTETRIC AND GYNAECOLOGICAL HISTORY

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

PAST MEDICAL AND SURGICAL HISTORY

This was non-contributory.

SOCIAL AND FAMILY HISTORY

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

PHYSICAL EXAMINATION

GENERAL EXAMINATION

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

VITAL SIGNS

Blood Pressure : 190/110 mmHg.

Pulse : 78 per minute regular

Temperature : 36^{o}C

Respiration : 24 per minute.

URINALYSIS

Volume : 500 mls.

Proteins : 3+

Sugar : Nil

Ketones : Nil

RESPIRATORY AND CARDIOVASCULAR SYSTEMS

Both were essentially normal.

ABDOMINAL EXAMINATION

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

VAGINAL EXAMINATION

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

DIAGNOSIS AND MANAGEMENT

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

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

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

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

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

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

POST-OPERATIVE MANAGEMENT

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

By the second post-operative day her condition was satisfactory. She was afebrile and was passing adequate amounts of urine. Her blood pressure ranged between 140/90-160/100 mmHg. and proteinuria had decreased from 3+to2+. She had passed flatus and bowel sounds were present. Intravenous fluids were stopped and she was started on oral sips of water. Her medication was changed to oral - i.e. ampiclox capsules (500 mg. QID for 5 days), hydrallazine tablets (25 mg. TDS) and Phenobarbitone tablets (30 mg. TDS).

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

RESULTS OF INVESTIGATIONS

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

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

POSTNATAL VISIT

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

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

COMMENT

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

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

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

Pre-eclampsia may be classified as mild to moderate or severe. Gant and associates (6) defined severe pre-eclampsia as the presence of one of the following : Blood pressure of equal to or greater than 160/110 mmHg, oliguria (urine output of less than 600 mls. in 24 hours) cyanosis or pulmonary oedema, visual disturbances, epigastric or right hypochondrial pain, or proteinuria of 3+to4+ or of over 5 grams in a 24-hour collection of urine. This patient had a blood pressure of 190/110 mmHg and proteinuria of 3+ on admission. She also complained of frontal headache and right hypochondrial pain. From all these considerations she had severe pre-eclampsia.

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

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

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

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

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

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

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

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

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CASE NO. 14.

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

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

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

PRESENTING HISTORY

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

ANTENATAL CARE

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

She made three further visits to the clinic. Her last visit was on 21.1 at 34 weeks maturity. Her antibody titres at 27+ weeks maturity was 1/64 and 34 weeks it had deteriorated to 1/1024. Because of this, she was admitted to Ward 3 for spectrophotometry and surfactant test.

RESULTS OF INVESTIGATIONS

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

RESULTS Cont'd

Indirect Coombs Test : Positive

Antibody Titres : 1/64 (on 30.8.1982, at 27+ weeks gestation)

: 1/1024 (on 21.10.1982, at 34 weeks gestation)

Husband's Blood Group : "O" Rh (D) Positive

Rh-Genotype : $D\bar{c}E/D\bar{c}e$ (R_2R_0)

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY

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

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

KEY:

P.M.H - Pumwani Maternity Hospital

K.N.H. - Kenyatta National Hospital

F.D. - Forceps Delivery

S.V.D. - Spontaneous Vertex Delivery

C/S - Caesarean Section

M - Male

F - Female

A/W - Alive and Well

MSB - Macerated Still-Birt

NND - Neonatal Death

MEDICAL AND SURGICAL HISTORY

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

SOCIAL AND FAMILY HISTORY

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

PHYSICAL EXAMINATION

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

ABDOMINAL EXAMINATION

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

The liver and spleen were not palpable.

VAGINAL EXAMINATION

This was not done.

DIAGNOSIS AND MANAGEMENT

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

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

RESULTS

Surfactant Test : 1:1 Negative ½; 1:2 Negative.

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

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

EMERGENCY CAESAREAN SECTION

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

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

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

THE BABY

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

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

RESULTS OF THE BABY'S INVESTIGATIONS

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

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

POST-OPERATIVE CARE

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

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

POSTNATAL REVIEW AND LATER EVENTS

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

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

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

COMMENT:

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

TWO PREVIOUS CAESAREAN SECTION SCARS:

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

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

RHESUS ISOIMMUNIZATION:

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

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

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

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

(1) Her in-born ability to respond to Rh-antigenic stimulus; about two-thirds of Rh-negative women are responsive.

(2) ABO incompatibility between the fetus and the mother. This reduces the incidence of Rh-immunization to about one-tenth.

(3) Variations in the strength of the Rh-antigenic stimulus, depending on the Rh-genotype of fetal red cells.

(4) The volume of fetal blood entering the maternal circulation, with 0.25 mls representing the critical sensitizing volume; and with the likelihood and severity of sensitization increasing with greater volumes.

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

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

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

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

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PREVIOUS UTERINE SCAR : SCAR DEHISCENCE IN LABOUR - UNEVENTIFUL OUTCOME

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

PRESENTING HISTORY:

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

PAST OBSTETRIC AND GYNAECOLOGIC HISTORY:

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

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

HISTORY OF PRESENT PREGNANCY:

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

ANTENATAL INVESTIGATIONS:

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

PAST MEDICAL AND SURGICAL HISTORY:

She gave no relevant past medical and surgical history.

FAMILY AND SOCIAL HISTORY:

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

PHYSICAL EXAMINATION

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

ABDOMINAL EXAMINATION:

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

VAGINAL EXAMINATION:

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

DIAGNOSIS AND MANAGEMENT

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

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

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

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

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

EMERGENCY CEASAREAN SECTION:

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

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

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

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

POST-OPERATIVE CARE:

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

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

POSTNATAL REVIEW:

She attended the postnatal clinic on 15.121985. Her L.M.P. had been on 9.2.1985. She was well and had no complaints. Her blood pressure was 110/70mmHg. and urinalysis was normal. The abdomen was soft and the scar well healed. The uterus was completely involuted and was retroverted.

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

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

COMMENT:

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

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

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

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

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

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

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

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

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

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

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

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

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