CASE NO.15 : FOOTLING BREECH IN A PRIMIPARA: CAESAREAN SECTION- LIVE BABY

Name:	S.M.	Parity:	0+1
Age:	25 years	LMP:	22.01.03
IP NO:	0931900	EDD:	29.10.03
DOA:	30.10.03	Gestation:	40^{+} weeks
DOD:	6.11.03		

Presenting Complaints

The patient presented to our labour ward from casualty at 10.15p.m. with complaints of lower abdominal pains since 1.00 p.m.This was accompanied by draining of liquor.

History of presenting Complaints

She was admitted through casualty as a referral from Provide International Medical Centre with a diagnosis of breech presentation in a primigravida. She had developed lower abdominal pains that were intermittent and progressive associated with lower backache starting from 1.00p.m.

Past Obstetric and Gynaecologic History

She was a para 0+1. She had an abortion at four months in 1999, at the time she had malaria infection and she was done evacuation of the uterus. She attained menarche at 15 years. She had regular menses thereafter lasting 4 days with cycles of 28 days. She was using the natural family planning method (save days with periodic abstinence) prior to the index pregnancy.

Past Medical History

She was admitted in 1999 for malaria.

Family and Social History

She was a married lady who worked as a clerk with a city firm and her husband was a businessman. She was educated up to Fourth Form. They both lived at Uhuru. She was a second born in a family of seven siblings and all were alive and well. There was no

family history of chronic illness in the family. She did not smoke or drink alcohol and had no known allergies.

Antenatal Attendance

She attended antenatal care at Kayole from five months. Then she shifted to Vicky Medical Clinic because of transport problems. The antenatal follow up was uneventful. The diagnosis of breech presentation was made on 1.10.03, at 36 weeks of gestation. She had antenatal profiles done; with Khan – negative and blood group 0 Rhesus-D positive. She was maintained on iron and folate and received tetanus toxoid vaccine. There was no record of the planned mode of delivery and was never referred to a tertiary institution

Physical Examination

She was in good general condition, not pale, afebrile with leg oedema. The blood pressure was 120/80mmHg, pulse rate of 82/min, respiration of 20/min and a temperature of 36.4°C. The central nervous, cardiovascular and respiratory systems were normal.

Abdominal Examination

The abdominal was uniformly distendend and moved with respiration. The fundal height was term with a longitudinal lie. The presentation was breech with the station of the breech four fifths above the pelvic brim. The fetal heart tones were regular at a rate of 140/min.

Vaginal Examination

She had normal external genitalia. The fetal leg was outside the introitus and was not cyanosed. The cervical os was 7cm dilated and no cord was felt. Meconium-stained liquor was draining.

Diagnosis

Primipara with footling breech in labour.

Management

The patient was informed of her condition and the need to be done an emergency caesarean section was explained to her which she consented. An intravenous line was established, blood was drawn for cross-matching one unit and 500mls of Ringers lactate was started. She was shaved, premedicated with intramuscular atropine 0.6mg, and then wheeled to theatre.

Operation

Once in theatre on the operating table she was placed in lithotomy position. Then vulvo-vaginal toilet done, draped and aseptically catheterized. About 100mls of clear urine was obtained. She was put in supine position, abdomen cleaned and draped.

A pfannenstiel incision through which the abdomen was opened in layers was made. The uterine cavity was accessed through a transverse incision in the lower uterine segment.A live female infant with no obvious malformations was delivered by breech extraction.The liquor was adequate and there were no uterine defects The baby had apgar score of 9 at 1 minute and 10 at 5 minutes with a birth weight of 3040gm. The placenta was fundo-anterior and was delivered by controlled cord traction and uterus closed in three layers. After a correct count of instruments, gauze and packs, the abdomen was closed in three layers with blood loss estimated at 500mls.

Post Operative Care

The vital signs were observed quarter hourly until she was fully awake, then four hourly thereafter. She was put on intravenous normal saline alternating with 5% dextrose 500mls to run four hourly until bowel activities were restored. Analgesia was provided by intramuscular Pethidine 100mg given eight hourly for 48 hours then Paracetmol 1gm eight hourly for five days. She had antibiotic cover of intravenous Gentamycin 80mg eight hourly and crystalline Penicillin 2mu six hourly for 24 hours and thereafter oral Amoxicillin 500mg eight hourly. On the first post operative day (POD), the bowel

activities were restored and she was started on oral sips. She commenced on oral drugs and light diet on the second POD.

The wound was exposed on the fifth POD and it was clean and healing well. She was discharged home in good condition for review in six weeks.

Post Natal Follow Up

The patient failed to appear for the appointment.

DISCUSSION

The patient presented here was a 25year old para 0+1 with footling breech presentation at term in labour, delivered via emergency caeserian section to a live female infant with a birth weight of 3040gms and a good Apgar score (9/1; 10/5). Postnatal period was uneventful.

Breech presentation challenges the clinician with many unique problems and difficult decisions[1]. The management of breech presentation before and during labour remains controversial. Breech presentation occurs when the fetal pelvis or lower extremities engage in the maternal pelvic outlet[1]. The incidence of breech presentation varies with foetal maturity 3% - 5 % at 40 weeks gestation, 7% at 38 weeks, 16% at 32 weeks. Njuki noted an incidence of 3.5%[2] at Kenyatta National Hospital (KNH). There are three types of breech. The most common (65%) being frank breech, in which the thighs are flexed on the abdominal wall and both legs extended at the knee. Next is the complete breech with a frequency of 10% in which both the thighs and legs are flexed. Finally the incomplete or footling breech (25%) , in which one (single) footling breech or both (double footling breech) legs are extended at the hip joints.The patient presented had a single footling breech for which she was delivered by an emergency caesarean section to a female baby of good apgar score with a birth weight of 3040 grams.

In majority of the cases there is no known cause. But various factors are known to be associated with this condition, these include; prematurity being the most common, oligohydramnios, uterine anomalies such as bicornuate or septate uterus, pelvic tumous obstructing the birth canal, multiple gestation and fetal congenital malformations[1]. None of these were elucidated in this patient. The patient presented came to us in advanced first stage of labour with a leg outside the introitus and she had to undergo an emergency caesarean section. Given that breech presentation was diagnosed at 36 weeks gestation in a primary health care facility, she should have been referred to a tertiary institution where external cephalic version (ECV) could have been attempted or elective caeserian section planned. Throughout the antenatal period the patient was never told about her condition and the need for operative manipulation at a tertiary institution to minimize perinatal morbidity/mortality. External cephalic version results in considerable reduction in the risks of caesarean section and of vaginal breech delivery, which often entails operative vaginal delivery with episiotomy[4].

In appropriately selected cases, ECV using tocolytics at term reduces the occurrence of breech presentation in labour. The success rate of ECV varies from 8% to 97%[4]. There are risks associated with ECV i.e fetal bradycardia in 3.5% and perinatal death was 7.6 of 1000.

Breech presentation results in the three-fold to ten-fold excess of perinatal morbidity and mortality in comparison to cephalic presentation. Many authors observed that much of the neonatal morbidity associated with vaginal delivery is attributed to footling breech. The likelihood of a prolapsed cord and a trapped head are both increased when at least one of the femora is extended. The three major contributions to perinatal loss are prematurity, congenital anomalies and birth trauma[6]. The most common single cause of death in breech delivery is intracranial haemorrhage due to tentorial tears[4,6]. Our patient had footling breech and was a primigravida, she was delivered by caesarean section with good outcome. There appears reasonable evidence that the route of delivery has an impact on perinatal morbidity and mortality of the breech fetus younger than 32 weeks gestation age in regard to intraventricular haemorrhage (IVH). Thus caesarean section for breech presentation of these young fetuses is recommended[5]. The same can not be said for the older fetuses. The recommendation for routine elective caesarean section to deliver the near term or term breech fetus cannot be substantiated by studies. Selection of the appropriate candidate relies on good clinical sense. Between 40-60% of near term or term breech fetuses may be delivered safely vaginally[5,6].

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LONG COMMENTARY IN OBSTETRICS

TITLE: QUALITY OF RECORD KEEPING IN THE INTRAPARTUM PERIOD AT THE PGH KAKAMEGA

ABSTRACT

Background

Medical records are important audit documents.They can be used to influence policy and protocol formation to improve the delivery of health services.A one month baseline survey in Western Province as part of the Safe Motherhood Demonstration Project (SMDP) showed major gaps in quality of records in the intrapartum period. Standard Partographs were used in 28.7% of normal deliveries, delivery summaries used in 72.4% and other records mainly admission notes, used in 5% of the cases.An intervention programme was instituted by SMDP in several health institutions in Western Kenya beginning with Provincial General Hospital Kakamega (PGHK), a referral and teaching hospital in the province.It was considered important to conduct an audit of medical records in the intrapartum period in this facility since this may have a bearing in the records' quality in the province.

Objectives

The main objective of this study was to assess the quality of the patients' records in the intra-partum period before and during implementation of the SMDP.

Methodology

The study was conducted at Kakamega Provincial General Hospital. Comprehensiveness of recording of biodata, history taking and examination findings were assessed for two groups.The proportion of cases in labour managed by use of partograph and its appropriate use was also determined. The first group of 200 randomly sampled patients notes included women who delivered between 1-9-2000 and 28-2-2001 before the introduction of SMDP. This was compared with the second group which included 200

women whose patients notes were randomly sampled for the period between 1-7-2001 and 31-12-2001 during the implementation of the SMDP.

Results

Retrieval rate of patients notes before SMDP was 86.9% and during SMDP it was 89.6%. Sociodemographic data, history taking and data on general and obstetric examination had a near universal recording in both groups except data on alcohol consumption, smoking, menarche, previous pregnancies and contraceptive use. There was a significant improvement in recording of diagnosis and plan of management during the SMDP ($p=0.037$). The partograph was used in only 11% of patients before SMDP (mostly by student midwives) as compared to 85% during SMDP ($p=0.000$). Records on fetal condition and progress of labour were significantly improved during the SMDP ($p=0.000$). Records on summary of labour likewise significantly improved during the SMDP ($p=0.02$).

Conclusion / Recommendation

The quality of record keeping in the intrapartum period at the PGH Kakamega greatly improved during the implementation of the SMDP. SMDP is feasible and should be scaled up as part of the package to improve obstetrical outcome.This could be achieved by continuous medical education and seminars for all medical personel.

INTRODUCTION

Medical Records in the intrapartum period include maternity admission book, patients case notes, the partograph, delivery book and operating theatre register. They play an important role in the management of patients and are used retrospectively to get biodata, examination findings, investigations ordered and their results, diagnosis and treatment. Properly kept and utilized medical records especially the partograph in the intrapartum period have been shown, worldwide, to improve the outcome of labour and minimize the caesarian section rate. In Kenya, this was demonstrated by Wasike[14] who evaluated the impact of the Ministry of Health partograph on the actve management of labour at Moi Teaching and Referral Hospital Eldoret. Wanjara[15] also showed improved outcome of labour when managed using the partograph. In the baseline survey[3] of December 2000 in Western Province as part of the safe motherhood demonstration project on approaches to providing quality maternal care in Kenya, 243 case records were examined. Standard partographs were used in 28.7% of normal deliveries, delivery summaries used in 72.4% and other records mainly admission notes used in 5% of the cases.This was a one month survey of all the health institutions in Western Province.This study was undertaken to provide an audit of medical records at the Provincial General Hospital Kakamega being a referral hospital for Western Province.

LITERATURE REVIEW

In 1994 Kenya was among the 179 countries which endorsed the programme of Action Of United Nations International Conference on Population and Development (ICPD) in Cairo. Consequently the "Natioal Reproductive Health Strategy",[1] whose goal among others was Reproductive Health Research was set up. It also aims at reducing maternal mortality from 584/100,000 live birth to 175/100,000 live birth in 2010.

In order to achieve the above goal, one must bear in mind that the perinatal and maternal mortality/morbidity partially depends on how well the intrapartum period is managed. Otsea.[2] noted that half a million women worldwide die yearly due to pregnancy related and child bearing complications among which 99% are in the developing world.

A preliminary survey by the Safe Motherhood project in Western Kenya[3]revealed very poor record keeping especially in the intrapartum period with only 28.7% using standard partograph in normal labour and delivery. This is despite numerous research works showing the obvious advantage of using a partograph as an intrapartum record and tool of appropriate management of labour.

Friedman [4]in 1954, following a study on a large number of women in the USA, described a normal cervical dilation pattern. He divided labour functionally into two parts:-

1. The latent phase which extends over 8-10 hours and up to 3 cm dilatation
2. The active phase characterized by acceleration from about 3-9 cm at the end of which deceleration occurred.

This work has been the foundation on which others have been built.

In 1996, Hendricks et,al[5] demonstrated that in the active phase of a normal labour, the rate of dilation of the cervix in primigravidae and multiparae varies little and that there is no deceleration phase at the end of the first stage of labour.

Philpott [6,7,8] in extensive studies of primigravidae in Central and Southern Africa, constructed a normagram for cervical dilation in his population and was able to identify deviations from normal and provide a sound scientific basis for early intervention leading to the prevention of prolonged labour.

Since then various authors have developed similar normograms in other geographical areas. None of these have shown significant differences between ethnic groups.

In the Nairobi Birth Survey III 1981[9] a total of 5293 births taking place in the City of Nairobi were studied. It was shown that the health centers, which are responsible for the antenatal care of nearly 70% of Nairobi women, conducted only 10% of the deliveries, the rest being transferred to hospitals. The intention of setting up safe delivery facilities in these health centers was to enable them to handle the low risk cases and thus reduce overcrowding at the hospitals which would then concentrate on high risk cases.

In 85% of the cases, labour was not complicated and most likely the majority of these had a normal antenatal record. Thus antenatal care and delivery for a large proportion of Nairobi mothers can be carried out at health center delivery units without increasing the risk to either the mother or the baby as long as guidelines for risk factors are clearly defined.

In 20% of the women, labour exceeded 12 hours. This is a high risk group where operative delivery rate and perinatal mortality and morbidity rates were highest. Perinatal mortality and morbidity was shown in the study to increase with the length of labour, the increase starting after 12hours and more than doubling after 18hours in labour.

Recognizing the unacceptably high maternal mortality ratio, the preventable nature in majority of the cases and the social consequences of a mother's death to her family and children as demonstrated by Mahler[10] and Otsea, the WHO[11] developed a universal partograph and extensively tested it in a multi-centre trial in Indonesia, Malaysia and Thailand. The WHO[12,13] model of partograph was devised by an informal working group, who examined most of the available published work on partographs and their

designs. It represents in some ways synthesized and simplified compromise, which includes the best features of several partographs. It is based on the following principles:

1) The active phase of labour commences at 3cm cervical dilation.
2) The latent phase of labour, should last not longer than 8 hours.

3) During active labour, the rate of cervical dilation should not be slower than 1cm/hour.
4) A lag time of 4 hours between a slowing of labour and the need for intervention is unlikely to compromise the fetus or the mother and avoids unnecessary intervention.
5) Vaginal examinations should be performed as frequently as is compatible with safe practice (once every 4 hours is recommended).
6) Midwives and other personnel managing labour may have difficulty in constructing alert and action lines and it is better to use a partograph with preset lines, although too many lines may add further confusion.

The partograph is an ideal tool in the management of labour both at health centre level as a criteria for referral, and at hospital level as a criterion for active management of labour or operative intervention[11, 12,13]
The average time in labour after admission to a health institution in the developing world is 5-6 hours. In most cases, therefore, not more than 2 vaginal examinations should be necessary, as noted by Wasike.[14]

The partograph, is basically a graphic representation of events of labour plotted against time in hours. It consists of three components:
a) The fetal condition
b) The progress of labour
c) The maternal condition.
It can be used for all labours in hospital. In the periphery, it would only be used for low risk labours where spontaneous vaginal delivery is anticipated. High risk patients should be transferred to hospital immediately.

The progress of labour. – This part of the graph has as its central feature a graph of cervical dilation against time. It is divided into a latent phase and the active phase.

The latent phase

The latent phase is from the onset until the cervix reaches 3 cm dilation. If this phase is delayed for longer than 8hours in the presence of at least 2 contractions in 10 minutes, the labour is more likely to be problematical and therefore, if the woman is in a health centre, she should be transferred to hospital. If she is in hospital, she needs critical assessment and decision about subsequent management.

The active phase

Once 3cm dilation is reached, labour enters the active phase.In about 90% of primigravidae, the cervix dilates at a rate of 1cm/hour or faster in the active phase.

The alert line drawn from 3cm to 10 cm represents this rate of dilation. Therefore, if cervical dilation moves to the right of the alert line, it is slow and an indication of delay in labour. If the woman is in a health centre, she should be transferred to hospital; if in hospital, she should be observed more frequently.

The action line is drawn 4 hours to the right of the alert line. It is suggested if cervical dilation reaches this line, there should be a critical assessment of the cause of delay and a decision about the appropriate management to overcome this delay.[11]

This partograph is designed for use in all maternity settings, but has a different level of function at different levels of health care. In a health centre, the crical function is to give an early warning that labour is likely to be prolonged and that the woman should be transferred to a hospital (alert line function). In the hospital setting, moving to the right of the alert line serves a warning for extra vigilance; but the action line is the critical point at which specific management decisions must be made.

Other observations on the progress of labour are also recorded on the partograph and are essential features in the management of labour. In particular, it is important to note the descent of the fetal head through the pelvis and the quality of the uterine activity.

The fetal Condition:- The fetus is monitored closely on the partograph by regular observation of the fetal heart rate, the liquor and the moulding of the fetal skull bones. The maternal condition – Regular assessment of the maternal condition is achieved by charting maternal temperature, pulse and blood pressure, and by regular urinalysis. The partograph also contains a space to chart administration of drugs, IV fluids, and oxytocin if labour is augmented.

Prolonged labour in the developing world is commonly due to cephalopelvic disproportion (CPD), which may result in obstructed labour, maternal dehydration, exhaustion, uterine rupture and vesico- vaginal fistula. Protracted labour is more common in Primigravid women than in multipara and the complications and effects of CPD differ between them. In countries where CPD is not prevalent, abnormal progress of labour is often due to inefficient uterine action. Universally less direct consequences of prolonged labour include maternal sepsis,postpartum hemorrhage and neonatal infection.[13,14]
Early detection of abnormal progress of labour and the prevention of prolonged labour would significantly reduce the risk of postpartum haemorrhage and sepsis, and eliminate obstructed labour, uterine rupture and its sequelae.

The partograph, a graphic recording of progress of labour and salient conditions of the mother and fetus, has been used since 1970 to detect labour that is not progressing normally, to indicate when argumentation of labour is appropriate and recognize cephalopelvic disproportion long before labour becomes obstructed[8].

The partograph serves as an "early warning system" and assists in early decision on transfer, augmentation and termination of labour. It also increases the quality or regularity of all observations on the fetus and the mother in labour and aids early recognition of problems with either.

The partograph has been in use in a number of countries and used extensively in a few. It has been found to be inexpensive, effective and pragmatic in a variety of different settings including developed and developing countries. The three main indicators of quality of care in the intrapartum period i.e. duration of labour, perinatal/maternal,

mortality/morbidity rates operative/intervention rates were studied in a WHO multicentre trial in Indonesia, Malaysia and Thailand.

Three indicators were also studied in Zimbabwe and Malawi before and after the introduction of the partograph. The results showed a tremendous improvement of the indicators in every study.

Wanjara[15] in 1991 revealed poor knowledge, attitude and practice among nurses in a rural hospital. He further demonstrated a drastic reduction of obstetric complications with an introduction of the partograph from 14%-10%. Perinatal mortality went down from 102/1000 to 20/1000 and the number of new borns with a poor apger score reduced from 17% to 3.5%.

Njoroge [16] demonstrated a poor knowledge attitude and practice with increasing age and parity. This is attributed to the fact that the partograph is hardly used outside a training programme.

Wasike [14] 1999 studied the impact of MOH partograph in the active management of labour. This is a modification of the WHO partograph differing from it, by having a key for the nature of contractions (duration, intensity and frequency) and descent of the presenting part placed on the graph with the graduation on the right side of the graph, opposite that of cervical dilatation.

Two populations studied in which one was managed without a partograph (520) and another managed with a partograph (260) in the intrapartum period, were compared. The results showed the same trends as in Wanjara's study in 1991 with an overral better outcome of labour on the group that was managed with a partograph.

There is scanty literature on the other records apart from the partograph in the intrapartum period. MacInerney,et al.[17] , in an audit of care given to mothers in a maternity unity of a large academic hospital found that past medical history was only documented in 54% of the cases admitted. Past obstetric history was documented in

69.8% in comparison with the present antenatal history, which was only reflected in 12.2% of the records.

Fetal heart rate was recorded in only 79% of the cases.
Comprehensive vaginal examination findings were recorded in only 18% with instances where recording reflected inadequate knowledge of the procedure.

The aim of this study is to highlight the state of record keeping in the intrapartum period at the Provincial General Hospital in Kakamega. This is an audit of care given to mothers in labour at the hospital.

RATIONALE OF THE STUDY

Properly kept records especially in the Intra-partum period give a clear picture of how labour was managed and its outcome. They make possible a critical retrospective evaluation that is essential for health providers and policy makers.

The unusually high level of maternal deaths at the Provincial General Hospital Kakamega in December 2000 highlighted by the safe Motherhood Survey necessitated a comprehensive study into the quality of records during the intra-partum period.

The study will enable the Government to institute an intervention strategy enhancing the availability of stationary, constant in-service training and motivation of staff.

OBJECTIVES

Main Objectives

To assess the quality of the patients' records in the intra-partum period before and during implementation of the SMDP.

Specific Objectives

To determine:-

(i) Comprehensiveness of Biodata recording.

(ii) Comprehensiveness of recording history

(iii) Comprehensiveness of recording findings

(iv) The proportion of cases in labour managed by use of partograph.

(v) Appropriate use of partograph

(vi) The state, retrieval and comprehensiveness of records.

RESEARCH QUESTION

How is the state of records in the intrapartum period at the Provincial General Hospital Kakamega?

Hypothesis

The implementation of the safe motherhood demonstration project in Western Province, Kenya increased the use of partograph in the management of labour in Provincial General Hospital in Kakamega.

METHODOLOGY

Methods

Study Design

This was a cross sectional study in which two groups of women were studied in the intrapartum period.

The first group of 200 randomly sampled patients' notes included women who delivered between 1-9-2000 and 28-2-2001 before the implementation of the SMDP.One after every 10 files was picked for the study as they were retrieved chronologically. This was compared with the second group which included women whose case notes were

randomly sampled for the period between 1-7-2001 and 31-12-2001 during the implementation of SMDP.

The data was collected over a period of one month between 1-3-2003 and 31-3-2003.

Study Area

The study was carried out in Kakamega Provincial Hospital situated in Kakamega town, which hosts the administrative headquaters of Western Province. The Province lies in the Western side of Kenya bordering Uganda to the West and Northwest. Rift Valley Province lies to the East and Nyanza Province to the South. It has a population of 3,358,776 out of whom 770,771[18] are women in the reproductive age. Kakamega, Vihiga, Lugari, Bungoma, Mt. Elgon, Busia, Teso and Butere Mumias are the eight Districts in the Province.

The Provincial Hospital is a primary health facility for the town population while providing specialized medical services for referred cases in the entire province. There are eight departments in the Hospital:-

- Casualty
- Outpatient
- Obstetrics/Gynaecology
- Surgery
- Pediatrics
- Internal Medicine
- Psychiatric
- Ophthalmology

Obstetrics/ Gynaecology and surgery have operating theatres for both elective and emergency cases.

Sample size Determination

- Use of partograph in management of labour before introduction of SMDP- 28%

- Use of partograph in management of labour during introduction of SMDP- 42%
- Confidence level of 95% probability that if the two samples differ, this reflects a true difference in the two populations.
- Power of 80% probability that if the two populations differ, the two samples will show a significant difference.

$$\left\{ u\sqrt{[\pi_1(1-\pi_1)+\pi_2(1-\pi_2)]}+v\sqrt{[2\pi(1-\pi)]} \right\}$$

Where

$$\pi = \frac{\pi_1 + \pi_2}{2}$$

u – one –sided percentage point of the normal distribution corresponding to 100%- the power

π_1, π_2 – proportions

v - percentage point of the normal distribution corresponding to the (two sided) significance level

Sample size before introduction of SMDP

= 195 rounded up to 200

Sample size after introduction of SMDP

=195 rounded up to 200

Inclusion And Exclusion Criteria

- *Inclusion Criteria*

All records of patients who had been admitted to labour ward in the latent or active phase of labour.

- *Exclusion Criteria.*

(a) Pregnancy gestation less than 34 weeks

(b) Patients delivered by caesarian section on an elective basis

(c) Patients admitted when in second stage of labour

(d) Cases that required emergency Caesarian section on admission.

Study Procedure

Two research assistants were recruited i.e. a nurse (KRMCHN) and a medical records officer. They were trained about the study during the pre-testing. Working with the delivery book and operating theatre register, which was the sampling frame, 200 case files were picked chronologically by sampling every 10^{th} eligible case between 1^{st} of September 2000 and 28^{th} February 2001. This was the first group. The second group included cases recorded from 1^{st} July 2001 to 31^{st} of December 2001 after the in-service seminar of service providers in the month of May and June 2001. 200 cases were likewise sampled from this group.The a study population of each group was 2000 case records. Data was entered in a structured questionnaire, which had a space for general comments to capture any peculiarities in a case not provided for in the main body.

The questionnaire was pre-coded and information analysed by use of computer and transferred to dummy tables. Descriptive statistics was determined during analysis and appropriate tests applied to determine the quality of record keeping in the intra-partum period.

ETHICAL CONSIDERATION.

Permission to carry out the study was obtained from the Ministry of Health through the provincial General Hospital Kakamega administration and PMO.The records were coded and patients' names were not used The proposal was submitted to the ethical and Research Committee of Kenyatta National Hospital for approval before commencement of the study. Approval was duly granted.

RESULTS

The total number of eligible cases recorded in the delivery book before SMDP (safe motherhood demonstration project) was 2310 while the total number of corresponding files retrieved from the central records was 2009. Retrieval rate was 86.9%. During the SMDP the retrieval rate was 89.6%

TABLE 1: PROPORTION OF RECORDED SOCIODEMOGRAPHIC CHARACTERISTICS

VARIABLE	NUMBER OF FILES WITH RECORDS			
	BEFORE SMDP (N = 200)		DURING SMDP (N=200)	
	Number	Percentage	Number	Percentage
Name	200	100	200	100
Age	200	100	200	100
Inpatient Number	196	98	200	100
Level of Education	193	96	199	99
Res idence	194	97	198	99
Religion	9	5	8	4

Over 96% of case files had all demographic data recorded in both groups except religion where only 4.5% and 4% were recorded.

TABLE 2: PROPORTION OF RECORDED HISTORY TAKING ELEMENTS

VARIABLE	NUMBER OF FILES WITH RECORDS				P value
	BEFORE SMDP (N = 200)		DURING SMDP (N = 200)		
Complaints	**Number**	**Percentage**	**Number**	**Percentage**	
Main Complaints	200	100	200	100	
History of present illness	190	95	192	96	
Past medical history	198	99	200	100	0.284
Family and social history					
Marital status	178	89	200	100	
Employment	166	83	200	100	
Chronic illness in the family	179	90	200	100	
History of twin pregnancy	173	87	200	100	
Alcohol consumption	117	58	144	72	
Smoking	109	55	123	62	0.01
Obstetrics / Gynaecology					
Menarche and its characteristics	106	53	124	62	
Parity	193	97	199	99	
If parous history of previous pregnancy	90	45	100	50	
Contraceptive use	84	42	94	47	
Last Normal Menstrual Period	200	100	200	100	
Expected Date of Delivery	200	100	200	100	
Gestation by dates	200	100	200	100	
Antenatal clinic	175	88	180	90	
Antenatal Profile	151	76	155	78	0.1

As shown in table 2, data on main complaints, history of present illness and past medical history was well taken in both before and during the SMDP intervention with over 95%

of the parameters recorded. There was however significant improvement in data recorded on family and social history with 100% records except data on alcohol consumption and smoking; 72% and 62% respectively during the intervention study, as compared data recording before SMDP- 55% to 90% ($p = 0.01$). Data on obstetric/gynaecology history was well recorded in most parameters with no significant difference in both groups. However data on menarche and its characteristics, history of previous pregnancies and contraceptive use were equally poorly recorded in both groups.

TABLE 3: GENERAL AND OBSTETRIC EXAMINATION RECORDS

VARIABLE	NUMBER OF FILES WITH RECORDS				P Value
	BEFORE SMDP (N= 200)		DURING SMDP (N = 200)		
	Number	Percentage	Number	Percentage	
Pallor	200	100	200	100	
Oedema	199	100	200	100	
Jaundice	198	99	200	100	
Fundal height	200	100	200	100	
Lie	200	100	200	100	
Presentation	182	91	200	100	0.284

There was an almost 100% data recording in both groups except the recording of presentation where 91% recorded before SMDP as opposed to 100% recorded during SMDP.

TABLE 4: RECORDS ON DIAGNOSIS, PLAN OF MANAGEMENT AND PARTOGRAPH PARAMETERS

VARIABLE	NUMBER OF FILES WITH RECORDS				P Value
	BEFORE SMDP (N =200)		DURING SMDP (N = 200)		
	Number	Percentage	Number	Percentage	
Diagnosis	173	86.3	200	100	0.037
Plan of Management	167	83.5	200	100	< 0.05
Partograph use	22	11	170	85	0.000

As shown in table 4, diagnosis and plan of management were recorded in 86.3% and 83.5% in the first group compared to 100% in the second group which was a significant improvement (p = 0.037). A partograph as an intrapartum record was used only in 11% of the first group as compared to the second group where it was used in 85% of the cases (p = 0.000).

TABLE 5: RECORDS ON FETAL CONDITION AND PROGRESS OF LABOUR.

VARIABLE	NUMBER OF FILES WITH RECORDS				P value
	BEFORE SMDP (N = 22)		DURING SMDP (N = 171)		
Foetal Condition parameters	Number	Percentage	Number	Percentage	
Foetal heart rate	22	100	171	100	
Status of membranes and liquor	19	86	171	100	
Degree of moulding	18	82	129	76	
Caput	16	74	132	77	0.000
Progress of labour Parameters					
Cervical dilatation	19	86	171	100	
Decent of presenting part	19	86	171	100	
Uterine contraction	20	91	171	100	0.000

In table 5, the 22 case notes in the first group in which the partograph was used were compared with 171 cases notes in the group during SMDP where the partograph was used. This was done to elicit the appropriateness of use of partograph in both groups.As shown in table 5, the fetal condition and progress of labour data records significantly improved during the SMDP with 100% recording except for moulding and caput 76% and 77% respectively (p=0.000).

TABLE 6: RECORDS ON MATERNAL CONDITION

VARIABLE	NUMBER OF FILES WITH RECORDS				P value
	BEFORE SMDP (N=200)		DURING SMDP(N=200)		
	Number	Percentage	Number	Percentage	
B/p (blood pressure)	120	60.0	185	92.5	
Pulse	150	75.0	200	100	
Respiration	140	70.0	200	100	
Temperature	120	60.0	185	92.5	
Ketonuria	50	25.0	85	42.5	
Protenuria	60	30.0	90	45.0	
Urine Volume	67	33.5	120	60.0	0.01

Table 6 shows records on maternal condition. There was a significant increase in the recording of all the parameters after the SMDP intervention (p=0.01). However, the three important parameters of urinalysis in the intrapartum period remained inadequately recorded.

TABLE 7:RECORDS MADE ON SUMMARY OF LABOUR

VARIABLE	NUMBER OF FILES WITH RECORDS				P value
	BEFORE SMDP (N = 200)		DURING SMDP (N= 200)		
Duration of labour	Number	Percentage	Number	Percentage	
Duration of 1st stage	174	75	192	96	
Duration of 2nd stage	143	72	156	78	
Duration of 3rd stage	142	71	156	78	0.02
4th Stage of Labour					
Blood loss assessment	154	77	191	96	
Status of placenta	146	73	152	76	
Syntocinon/ergometrine given	156	78	179	90	
Status of membranes	149	75	170	85	
Status of cord	134	67	152	76	0.02
New Born					
Status of newborn	197	99	200	100	
Sex	200	100	200	100	
Birth weight	200	100	200	100	0.02

As shown in table 7 there was a marked improvement in recording of duration of labour in the second group especially duration of 1st stage of labour where there was 87% recording in the first group compared to 96% in the second group (p=0.02). There was a lower recording of duration of 2nd and 3rd stages of labour in both groups (71% - first; 78% - second). Fourth stage of labour was also more comprehensively recorded in the second group with the greatest improvement in blood loss assessment (77% first; 96% - second) p=0.02. The lowest recorded parameter here was the status of cord (67% - first; 76% second). Recording about the newborn was almost 100% in both groups. Apart

from the partograph the data was sourced from admission notes, intrapartum case notes and discharge summaries

TABLE 8: RECORDS MADE ON MODE OF DELIVERY

VARIABLE	NUMBER OF FILES WITH RECORDS				P value
	BEFORE SMDP (N=200)		DURING SMDP (N=200)		
	Number	Percentage	Number	Percentage	
Spontaneous vertex delivery	148	100	157	100	
Vacuum extraction	3	100	3	100	
Caesarian section	49	100	40	100	1.0

There was 100% record of the mode of delivery before and during SMDP. About 74% of the mothers in the first group had spontaneous vertex delivery in comparison with the second group where the number increased to 78.5%. The rate of vacuum extraction was the same while the number of women delivered by caeserian section in first group (24.3%) was more than in the second group (20%).

ABLE 9: RECORDS ON DURATION OF LABOUR AND APGAR SCORE

VARIABLE	NUMBER OF FILES WITH RECORDS			
	BEFORE SMDP (N=200)		DURING SMDP (N=200)	
	Number	Percentage	Number	Percentage
Duration of Labour	200	100	200	100
Apgar score	200	100	200	100

As shown in table 9, there was 100% record on duration of labour and apgar score before SMDP and during the intervention period.

TABLE 10: DATA ON COMPREHENSIVENESS OF RECORD STORAGE.

VARIABLE	NUMBER OF FILES WITH RECORDS				P value
	BEFORE SMDP (N = 200)		DURING SMDP (N = 200)		
	Number	Percentage	Number	Percentage	
Patients intrapartum notes	200	100	200	100	
Treatment sheet	96	48	176	88	
Observation chart	173	87	199	99	
Newborn notes	100	50	193	97	
Postnatal records	188	94	190	95	
Antenatal notes	86	43	192	96	0.046

Table 10 shows a significant improvement in data storage during the implementation of SMDP ($P<0.05$). The patient's intrapartum notes were recorded 100% in both groups. Data recording and keeping of other parameters i.e. treatment sheet, observation chart antenatal records were more effectively kept in the second group (88% - 99.5%) compared to 48% - 94% in the first group.

DISCUSSION

The study showed a good record retrieval rate of 86.9% in the group before the SMDP and 89.6% in the group during the implementation of SMDP. The general demographic data was well recorded before and during the SMDP implementation. The group before the SMDP intervention study had a record of 96.5% and above while the group, during the SMDP implementation, had a record of 99% and above in all demographic parameters except religion which was poorly recorded in both groups. This may be attributed to the fact that religion is hardly over referred to in management of labour or administratively.

The demographic data is taken in the admission room for all patients due for admission by the nurse on duty. The data is recorded in the file in a structured form, which ensures uniformity and comprehensive data collection.History taking plays an important role in making a diagnosis and plan of management in the intrapartum period. Main complaints, history of present illness and past medical history were equally well recorded with over 95% of the parameters recorded.

Records on family and social history, marital status, employment, chronic illness in the family and history of twin pregnancy were greatly improved in the group during the SMDP implementation (99% - 100%) compared to the group, before SMDP (83 – 90%).

Alcohol consumption and cigarette smoking are known to have hazardous effect on fetal and maternal well-being. Menarche and characteristics of menstrual period help to ascertain the last normal menstrual period. This is the most important parameter in calculating the gestational age. Knowledge of contraceptive use helps ascertain the character of menstrual flow prior to conception while history of previous pregnancies is important in the management of intrapartum period. In this study, these parameters were poorly recorded in the group before the SMDP (58% and 42%) with a slight improvement in the group during the SMDP (62% and 47%).

In comparison with an audit of care given to mothers in a maternity unit in large academic hospital, MacInerney et al[17] found that past medical history was documented in only 54% of the cases admitted.

Antenatal clinic records in Kakamega Hospital improved from 88% in the first group to 90% in the second group. This was much better than in the MacInerney's audit where present antenatal history was reflected in only 12.2% of the records[17].

General and obstetric examination was well documented in both the group before SMDP (91% - 100%) and during the SMDP (100%). There was an improvement in documentation of diagnosis and plan of management from 87.5% and 84% respectively in the group before SMDP to 100% and 96% during the SMDP.

The most important document in the intrapartum period is the partograph. This is a graphic recording of progress of labour and salient features in the mother and fetus. It serves as a tool for early decision making on transfer, augmentation of labour or operative intervention. It is only useful if well documented and timely action is taken. Despite the ample demonstration by WHO of the superiority of a partograph as an intrapartum monitoring tool, it has only been extensively used in a few countries[12]. In this study the partograph was used only in 11% of the patients in the first group compared to 85% in the second group. The SMDP mostly targeted the intrapartum period and there was a great impact. It must be noted that most of the mothers managed by partograph in the first group were study cases by student midwives from the Kenya Medical Training Centre Kakamega. It was therefore not routine to complete a partograph in Kakamega before the introduction of SMDP.

For the purposes of comparing the appropriateness of use of partograph, the 22 cases in which a partograph was used in the first group were compared with 171 cases in the second group where the partograph was used. It is appreciated that study patients by student nurses could skew the results and may not accurately reflect the standard practice of record keeping in the intrapartum period in the hospital.

All parameters on the fetal condition and progress of labour in the group during the SMDP implementation were documented 100%. In the group before SMDP, status of membranes, cervical dilatation and descent of presenting part were recorded in 20 out of 22 partographs (91%). In a set up where monitoring of labour by partograph was not routine it is commendable that only 2 out of 22 partographs mostly filled by student midwives failed to record parameters on fetal condition.During the SMDP on the other hand, the importance of monitoring the fetal condition was fully appreciated and its parameters appropriately recorded.

Appreciation of formation of moulding, caput and significance of a crossed action line is the hallmark in the diagnosis of abnormal progress of labour long before it becomes protracted. In this study, on average, 23% of the partographs both before and during SMDP had no record of degree of moulding and caput formation. This is an area that needs to be revisited both in the KMTC Kakamega and continuous medical education among trained staff in PGH Kakamega. This compares with MacInerney's study where only 18% of the records had complete vaginal examination findings.

In Njoroge's study carried out at a rural district in Kenya, 50% of the respondents had low knowledge of the partograph.[16] He also showed that the ability to use parameters on the partograph to make decisions was low and of the respondents, 60.3% could not apply the findings on the partograph to make a decision on active management of labour. In this study the number of cases who had spontaneous vertex delivery slightly increased during the SMDP (78.5%) as compared to the group before SMDP (74%).

Monitoring the maternal condition is one of the major components of management of labour. Blood pressure measurement helps in diagnosing and monitoring such conditions as preeclamptic toxicosis/ecclampsia and shock. Before SMDP, only 60% of the cases had blood pressure recorded while 92.5% was recorded during the SMDP. Monitoring of pulse, respiration rate and temperature helps in assessing the general condition of the patient. There was marked improvement in monitoring these parameters form 75%, 70% and 60% before SMDP to almost 100% during the SMDP. Urinalysis and monitoring urine output are the quickest means of assessing renal functions, which are adversely affected in such conditions as PET/Ecclampsia, shock, diabetic ketoacidosis. These were

poorly recorded before the SMDP with ketonuria, protenuria and urine volume recorded in 25%, 30%, 33% compared to 42.5%, 45%, and 60% respectively during the SMDP. The importance of urinalysis in monitoring maternal conditions needs to be reaffirmed.

Summary of labour was generally well documented in both groups, the difference being that the majority of labour summaries in the group before SMDP were not recorded on a partograph, which was used in only 11% of the cases. A general improvement in recording summary of labour was noted during the SMDP. The most significant improvement was blood assessment record where 77% were recorded before SMDP, compared to 95.5% during SMDP.

Duration of 1st stage of labour (87% before SMDP; 96% during SMDP) was better recorded than in 2nd and 3rd stage (71% before SMDP; 78% during SMDP). Statuses of newborn, sex and birth weight were commendably well documented in both groups with almost 100% record..

Comprehensiveness of record storage was greatly improved during the SMDP, notably the treatment sheet which was retrieved in 48% of cases in first group compared to 88% of cases in second group. Likewise new born notes and antenatal notes were retrieved in 50% and 43% before the SMDP as compared to 96.5% and 96% of cases after the SMDP respectively.

In conclusion the quality of records in the intrapartum period at the PGH Kakamega before the introduction of SMDP was poor, especially the dismal use of partograph. With the introduction of SMDP the record keeping drastically improved and the partograph was incooperated in the management of labour. Continuous medical education and seminars for all medical personnel through such projects as SMDP should be extended across the country to revive and sustain good obstetric care through appropriate partograph use among other measures. Sustained provision of stationery would ensure uninterrupted record keeping in health delivery centres

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GYNAECOLOGY SHORT CASES

CASE NO 1: BARTHOLIN'S ABSCESS – MARSUPIALISATION

NAME:	V.M	PARITY	0+0
AGE:	16years	D.O.A.	25/8/2002
IPNO:	0820933	D.O.D.	27/8/2002

Presenting complaints

She was admitted to the acute gynaecology ward through Casualty with complaints of painful swelling of the right labium majus for three days.

History Presenting Illness

She had been well until two weeks prior to admission when she noted some yellowish foul smelling vaginal discharge. This was followed by a local pain at the right labium majus a week later, and then she noted a swelling that had increased in size making walking difficult two days prior to admission. She was sexually active and reported sexual intercourse a week prior to the onset of the present illness.

Gynaecology History

She was para 0+0. Her menarche was at 16 years of age. The menstrual cycles were regular, occurring every 28 days and the flow lasted 3 days. Her last menstrual period was 25/8/2002. she had no history of contraceptive use.

Past Medical History

This was non contributory.

Family and Social History

She was a school girl who had just completed standard eight. She was a last born in a family of seven siblings all alive and well. Both parents were alive and well. The family lived in Huruma Estate in Nairobi. There was no history of any chronic illness in the family.

General Condition

She was a young lady in fair general condition. She had no pallor, jaundice, oedema or lymphadenopathy. Her temperature was 37.2°C.

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

Abdominal Examination

The abdomen was scaphoid, soft and had no areas of tenderness. Liver and spleen were not palpable. There were no palpable masses.

Pelvic Examination

There was an obvious swelling visible in the right labium majus, inferiorly about 6 x 4cm in dimensions, cystic. It was pointing medially and was markedly tender. There was minimal yellowish discharge seen from the vaginal introitus. A hymenal ring was noted at the introitus. Digital examination was not done due to the severe pain.

Diagnosis

A right sided Bartholin's abscess .

Investigations

Haemogram:

Haemoglobin	-	12.2 g/dl
Platelets	-	283 x 10^9/1
WBC	-	9.6 x 10^9/1

Urea and Electrolytes:

BUN	-	2.9 mmol/1
K+	-	4.2 mmol/1
Na+	-	137mmol/1

Management

Patient was prepared for marsupialisation of the abscess. Informed consent was signed by a consultant as the patient was below the legal age of 18 years. The procedure was explained to her. Atropin 0.6mg and pethidine 50mg were given intramuscularly ½ hour before theatre. In theatre she was put under general anaesthesia. She was not intubated

but was on spontaneous respiration under mask. In lithotomy position, vulvo-vaginal toilet was done and the operation area was draped. A longitudinal incision was made along the mucocutaneous junction over the most pointig area. Thick yellowish foul smelling pus about 20mls was obtained. The abscess cavity was cleaned with diluted savlon solution. The cavity lining was everted and sutured to adjacent normal skin and mucous membrane using chromic catgut suture No. 2/0. interrupted stitches. A betadine-soaked gauze pack was left in situ to be removed after 24 hours. She was taken to the recovery room after reversal of anaesthesia.

Post-operative management

Vital signs were observed ½ hourly till full awake then she was taken to the ward. She was given 100mg pethidine intramuscularly in the ward and started on Doxycycline capsules 100mg 12 hourly, Noroxine 800mg stat and flagyl 400mg 8 hourly to cover gram negative and gram positive bacteria with anaerobes.

On the second day after surgery, the gauge pack was removed from the operation site and the patient was discharged home on the above treatment for one week and advised to clean the wound three times daily with betadine solution. She was given an appointment at the High Risk clinic after two weeks.

Follow-up

She was reviewed at the high risk clinic and the wound had healed. She was counseled on STI and underwent VCT.

COMMENT

The patient presented here was diagnosed to have a right sided Bartholin's abscess for which marsupialisation was done.

Bartholin "abscess" develops in the gland of the same name; these glands were first described by Thomas Bartholin in 1677 as paired tubulo–alveolar glands that secreted a clear mucoid secretion which is thought to provide continous lubrication for the vestibular surface[1]. They are homologous to Cowpers glands in the male lying posterolateral to the vaginal orifice. They are pea-sized, oval shaped and not normally palpable. Lined by transitional epithelium, the ducts open towards the vestibular surface and secrete a mucoid secretion which has minimal or no role in sexual intercourse[1]. The duct is prone to obstruction following various causes i.e infection, inspissated mucus, congenital narrowing of the duct and mediolateral episiotomy.A mucoid translucent material accumulates forming a cyst; an abscess forms either by primary infection of the gland or a pre-existing cyst gets infected[3]. This patient gave no history of a pre-existing labial swelling prior to the abscess.

The incidence of Bartholin's abscess in Kenyatta National Hospital is about 1.7% of total emergency gynaecological admissions; 82.7% of these patients are aged 12 to 29 years[2]. Ndede in his study KNH found an inicidence of 1.9% with a mean age of 22.5 years[4]. Below age 10 years, the disease usually does not occur hence it is basically confined to the most sexually active groups. The patient described here falls within this age group.

Less than 10% of abscesses are due to gonorrheal infection.The others range through a spectrum of infected cyst to a frank abscess including facultative gram negative rods in pure cultures, to mixed infections with anaerobes, facultative and aerobic members of the vaginal flora [4,5]. No bacteriological studies wer done in our patient as there were no sterile specimen bottles available. Symptoms are usually those of subacute or acute inflammation. Acute cases are associated with great pain and tenderness in the labia on walking, associated with fever and malaise. The gland may be palpable as a "pea" like body deep in the tissues, and a drop of pus may be visible at the duct orifice, seen surrounded by a red zone of inflammation known as the Maaile of Sanger. Mumia at KNH found that almost all patients presented with vulval swelling and difficulty in walking or sitting and all had tenderness and fluctuance of the swelling[2].

Management of bartholin's abscess involves pain relief and surgical drainage of pus. Unlike other abscesses which are effectively managed by simple drainage, bartholin's

abscess almost always seals off with a resultant recurrence.A special surgical technique, marsupialisation, is used. It ensures the stroma remains patent postoperatively.It can be performed under local, regional general anaesthesia[3,6,7] Antibiotics and cleaning the wound with betadine solution and adequate analgesia is given. The patient presented was done marsupialisation under general anaesthesia and put on antibiotics. Marsupialisation is associated with a recurrence rate of 10-15% and this occurs secondary to fibrosis of the orifice. Mumia found a recurrence rate of 15% with 50% of these occurring in the first year.[2]

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CASE NO 2: RUPTURED TUBAL PREGNANCY – PARTIAL SALPINGECTOMY DONE

NAME:	L.N	PARITY	1+0
AGE:	21years	DOA	1/8/2002
IPNO:	0820541	DOD	5/8/2002

Presenting History

She was admitted through casualty with history of low abdominal pain and vaginal spotting for 3 days. She had been treated in a private clinic but the problem progressively worsened. She developed dizziness, weakness and felt nauseated. She decided to seek treatment at Kenyatta National Hospital.

Past Obstetric and Gynaecologic History

She was para 1+0; having had vaginal delivery in 2000 to a live female infant the child was alive and well.She repored a normal puerperium with no signs of sepsis.She had vaginal discharge on and off but never sought medical advice thinking it was normal. Her menarche was at 16 years; she had regular menses occurring every 28 days with a flow of 3 days. Her last normal menstrual period was on 3/7/2002 hence amenorrhea was barely 4 weeks. She had used contraceptive pills till May 2002 then stopped.

Past Medical History

Was not contributory.

Family and Social History

She was a married woman living with her husband at Kibera. She worked as a house help while her husband worked as a cook in a hotel. There was no family history of chronic illness.

General Examination

The general condition was fair but she appeared in pain. She had mild pallor. Her pulse was 98/min, feeble and regular. Temperature 37.2°C, blood pressure was 80/50mmHg.

Abdominal Examination

She had a moderately uniformly distended lower abdomen with marked tenderness and guarding. She also had positive rebound tenderness. Liver and spleen were not palpable.

Pelvic Examination

External genitalia was normal. The cervix was firm long and the os was closed. The adnexa were markedly tender with positive cervical excitation test to the right side. The pouch of Douglas felt boggy. Bimanual palpation was hindered by tenderness. There was blood on examination fingers.

Abnominal Paracentesis

Having swabbed the left iliac fossa area with spirit, the patient was made to lie on the same side. Using a 10cc syringe and 21gauge hypodermic needle, paracentesis was performed at the swabbed area; about 5mls of non-clotting blood was aspirated.

Diagnosis

Ruptured ectopic pregnancy.

Management

The plan to take the patient for emergency laparatomy was made. Two units of blood were requested. An intravenous infusion of N-saline was commenced, an informed consent was taken from the patient and theatre was informed. Routine patient preparation was done. She was premedicated with intramuscular atropine 0.6mg plus pethidine 50 mg. The patient was then wheeled to the operating theatre.

Surgery

Patient was put under anaesthesia before vulvovaginal toilet was done and patient draped and catheterised. In supine position, the abdomen was cleaned and draped. Through a pfannestial incision, the abdomen was opened in layers. A large gush of hemoperitoneum was noted. A ruptured left ampullary pregnancy was noted and the medial side of the ruptured area immediately held between clamps. The right tube and both ovaries and uterus appeared grossly normal. There were no adhensions. The affected portion of the left tube was resected and the stump ligated with a catgut No. 1 suture. A hemoperitoneum of about one litre was evacuated. Having ensured

hemostasis, other abdominal organs were inspected and found normal; swabs and instruments were counted and found correct. The abdomen was closed in layers, skin done with chromic catgut No. 2/0 subcuticular stitch. She was reversed successfully from anesthesia. Total blood loss was about 1 litre.

Post Operative Management

She was observed ½ hourly in the recovery room till fully awake then taken to the ward for 4 hourly observations. By the next morning, bowel sounds were present and oral sips and medication were commenced. She was put on Amoxycillin and ponstan. On day three her general condition was good; she had no fever, was now on light diet and was fully mobile. The abdomen was soft. She was discharged on the 4th day on hematinics, analgesics, and antibiotics to be seen in the gynecology clinic after six weeks.

Follow up

The patient turned up for the next appointment scheduled for 19/8/2002 and had no complaints.The wound was well healed. She was discharged from the clinic.

COMMENTS

The patient presented here a 25year old para 1+0 who was admitted with a three day history of low abdominal pain and vaginal spotting for which a diagnosis of ruptured ectopic pregnancy was made and laparotomy was done. Crifford in England described ectopic pregnancy in 1931 as a condition in which the fertilized ovum was implanted anywhere outside the uterine cavity. Approximately 95% of extrauterine implantations occur in the fallopian tube, of which those in the ampulla accounts for 55% of all tubal implantations, the isthmus has 20.25%, infundibulum and fimbria have 17% and the interstitial segment has 2.4%, less often it occurs in the ovary, cornua, cervix and the peritoneal cavity[1]. The patient presented had left tubal pregnancy in the ampullary region. Mwathe[2] found ampullary (34.7%), fimbrial (14.8%) isthmic (19.5%) at Kenyatta National Hospital. The incidence of ectopic pregnancies varies from place to place, but has been reported to be higher in developing countries. Mwathe[2] noted that in Kenyatta National Hospital, 4 to 5 patients were admitted to the acute gynecology ward weekly due to ectopic pregnancy. The incidence appears to be increasing with

industrialization and this has been attributed to: improved methods of diagnosis and reporting, an increase in the prevalence of sexually transmitted infections, the use of contraceptive methods that prevent intrauterine but not ectopic pregnancy e.g intrauterine contraceptive device (IUCD) and progestin only pill, unsuccessful tubal sterilization, fertility induced by ovulatory agents and tuboplasty for infertility.[1,3,4] On the contrary, the mortality rates due to ectopic pregnancy have declined markedly due to earlier diagnosis and intervention although it remains a major cause of mortality in the first trimester of pregnancy[1,3,4].

The aetiology revolves mainly around tubal factors that lead to delay or prevention of transport of the fertilized ovum to the uterine cavity. These can be divided into mechanical and functional factors.The former include salpingitis, peritubal adhesions, developmental anomalies of the tube, previous tubal surgery, tumors that distort the tube and use of IUCD[1,4]. Mwathe[2] in Kenyatta National Hospital found that 53.8% of patients had evident previous pelvic inflammatory disease. The latter delay passage of the fertilized ovum into the uterine cavity. They include external migration of the ovum, altered tubal motility following changes in serum levels of estrogen and progesterone e.g use of progestin only pill, and cigarette smoking at the time of conception [1]. No history of any of these factors was elicited in this patient.

The role of the intrauterine contraceptive device is well documented though a causal relationship is as yet unproven. It is thought that it reduces intrauterine gestations by 99.5% tubal implantation by 99% but ovarian pregnancies not at all [5], thus accounting for the apparent relative increase in tubal and ovarian pregnancies among its users. In Kenyatta National Hospital Mwathe actually found that 52.4% of those with ectopic pregnancy had the device in situ at the time of presentation[2].

The patient discussed here had not used the device but had used oral contraceptive pills for which no increased risk of ectopic pregnancy (during or after use) has been reported [6].

Interesting to note is the fact that the first reported pregnancy resulting from in vitro fertilization (IVF) was tubal pregnancy[8]; it is speculated that accidental injection of the embryo into the tubes may have occurred during embryo transfer and since most women undergoing the IVF programme have damaged tubes, the functional ability to transfer the embryo back into the uterus was lacking hence resulting in ectopic pregnancy. Embryonal factors resulting to ectopic gestation include both chromosomal and structural anomalies.

Once the fertilized egg implants in the tubal mucosa the villous trophoblast rapidly invades mucosa and ruptures in to the connective tissue between the tubal serosa and endosalpinx. A haematoma forms and propagates as the pregnancy grows, ultimately bleeding from the fembrial end but not through the lumen. When the serosa is stretched to this limit, tubal rupture occurs[4]. Tubal abortion may also occur. The rupture occurs in very early gestation and some patients may not give a history of amenorrhea. The patient presented here actually had barely four weeks since her last menstrual period. Rupture causes a hemoperitoneum due to haemorrhage from exposed blood vessels from the tubal branches of ovarian-uterine anastomosis.

Ectopic pregnancy can occur in women any age between menarche and menopause but majority in our hospital are in the 20-30 years (72.9%). Those of parity two or less have been found more and comprised 66% in Kenyatta National Hospital[2]. The patient described was a 21 years old para 1+0. There is thus a common element of subfertility in these patients.

The diagnosis of ectopic pregnancy is in a number of cases a major problem. The signs and symptoms tend to be very non-specific especially in a slow leaking or a chronic one; a high degree of suspicion thus is very vital. A ruptured ectopic is usually so dramatic that the diagnosis is rather straight forward in majority of cases. In this regard, any female of reproductive age presenting with a history of amenorrhea of short duration, acute low abdominal pain and pallor should be evaluated for a possible ectopic pregnancy. Majority of patients will present with abdominal pain even prior to rupture. In Kenyatta National Hospital, this accounted for 76.2% while in other centers upto 90 – 100% of patient had abdominal pain, amenorrhea and dizziness as notable symptoms.

Examination findings corroborated with the symptoms will usually help to arrive to a diagnosis; pallor, low abdominal tenderness, and adnexal mass and positive cervical excitation are usually present. The uterus may be enlarged secondary to hormonal stimulus but it is often not as enlarged as one would expect for the period of amenorrhea and is in most cases of normal size.

Blood pressure and pulse changes are related to the magnitude of intra-abdominal haemorrhage while fever is uncommon. This patient had most of these signs including abdominal tenderness, positive cervical motion tenderness, a feeble thready pulse and a low blood pressure. Paracentesis was positive as is common in most ectopic pregnancies presenting to Kenyatta National Hospital (85.6%)[2].

For certainty of diagnosis, where some doubt exists due to other gynaecological and surgical conditions that may mimic ectopic gestation, corroborative tests are normally done. Routine urine pregnancy tests are often negative and false positives also do occur because their sensitivity is based on titres of 700-3500Miu of HCG/ml which are higher than produced in most ectopic pregnancies. Radio receptor serum assays and radioimmunoassay are more sensitive but expensive.

Pelvic ultrasonography has proven a very useful diagnositic tool; definitive diagnosis is the presence of a gestational sac and a fetus in the adnexa with an empty uterus. Most cases are notable at 7 to 8 weeks since the last menstrual period. Other useful confirmatiory tests include culdocentesis, dilation and curettage (for Arias-Stella decidual reaction), laparoscopy and combinations of above diagnostic tests.

Surgical management remains the conventional mode of treatment especially for the ruptured one, and future fertility is not a concern especially where tubal rupture causes extensive tubal damage or excessive intraperitoneal haemorrhage. Hemostatic clamps are placed across the mesosalpinx near the rupture area; the pedicles are cut and suturing done with chromic catgut or dexon sutures. The ipsilateral ovary is normally spared unless it is involved in the ectopic, grossly abnormal or appears to have a compromised blood supply following salpingectomy. Conservative approach to management has been advocated especially in cases where patients have a poor reproductive history. Methods used include fimbrial expression (milking) and sapingostomy; the role of single dose methotrexate therapy is also well documented in unruptured or persistent ectopic gestation[1,3,7,9]. The patient presented here had a left partial salpingerctomy done successfully; the other tube and both ovaries were grossly normal and were spared. She was not transfused despite a blood loss of 1000mls but nevertheless her vital signs and general condition remained stable until she was discharged from the hospital.

Conclusively, it is notable that ectopic pregnancy is a major gynaecological emergency than often proves a diagnostic problem; it is highly related to increased morbidity, morality and impaired fertility among reproductive age women. Generally in these women, the prognosis for a normal intrauterine pregnancy is not good; in those undergoing conservative surgery, normal viable pregnancy rates of 50-85% have been reported[1,3]. Of prognostic significance is the fact that after a single ectopic pregnancy, the chance of another one is increased such that the reproductive capacity of these women

declines further. With the coming of in vitro fertilization (IVF) there is nevertheless hope for a viable intrauterine pregnancy for these women.

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CASE NO.3: HYDATIDIFORM MOLE-SUCTION CURETTAGE

NAME:	P.W	PARITY	2+0
AGE:	26 Years	D.O.A	3/8/2002
IPNO:	0820750	D.O.D	4/8/2002

Presenting Complaint

The patient was admitted to the acute gynaecology ward with a history of low abdominal pain and vaginal bleeding for two weeks.

History of Presenting Complaint

The patient was well until two weeks prior to admission when she started developing low abdominal pain. The pain had progressively worsened and was accompanied by vaginal bleeding. At this time she had amenorrhea of 4 months. On admission, she said she had not expelled any conceputs. She had experienced nausea and vomiting early in pregnancy which had persisted at time of admission. Her last menstrual period had been on 26/3/02 thus, she had an amenorrhea of 18 weeks. When she was seen in the casualty, a diagnosis of threatened abortion had been made and she was admitted.

Past Obstetric and Gynaecologic History

She attained her menarche at the age of 15 years and had then had regular menstrual periods lasting 4 days in a 26 day cycle. She was para 2+0 and all the deliveries were normal. Her last delivery was in 1998. Both children were alive and well. She had used depo-provera for contraception until 2000 when she stopped in order to conceive.

Past Medical History

This was not significant.

Family and Social History

She was a married housewife living with her family in the outskirts of Nairobi. She neither smoked cigarettes nor did she take alcoholic drinks. There was no family history of any chronic illness.

Physical Examination

She was in fair general condition; she was not pale, jaundiced or febrile. She had no oedema or lympadenopathy. Her pulse rate was 76 per minute, regular and of good volume. The blood pressure was 110/70mmHg and the respiratory rate was 20 per minute.

Cardiovascular, Respiratory and Central Nervous Systems.

These were essentially normal.

Abdominal Examination

The abdomen was moving with respiration and there was obvious suprapubic distension. There were no tender areas. The uterus was corresponding to 24 weeks gestational size and there were small mobile non-tender masses palpable in both iliac fossae. The liver and the spleen were not palpable and there was no ascites.

Vaginal Examination

The external genitalia was normal. Speculum examination showed normal vaginal mucosa. The cervix was healthy and the os was 2cm open. Some blood clots with vesicles were seen in the upper vagina. Digital examination revealed palpable biletral ednexal masses which were non-tender. The pouch of Douglas was free. Blood mixed with vesicles was noted on the examination fingers.

Diagnosis

A diagnosis of hydratidiform mole with bilateral ovarian cysts was made.

Management

The diagnosis was communicated to the patient and the mode of management explained to her. She was prepared for suction curettage.

Investigations

Haemogram

Haemoglobin	- 11.5g/dl
RBC	- 4.6 x 10^{12}/1
WBC	- 7.9 x 10^{9}/1
Platelets	- 324 x 10^{9}/1

Physical Examination

She was in fair general condition; she was not pale, jaundiced or febrile. She had no oedema or lympadenopathy. Her pulse rate was 76 per minute, regular and of good volume. The blood pressure was 110/70mmHg and the respiratory rate was 20 per minute.

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WBC	- $7.9 \times 10^{9}/1$
Platelets	- $324 \times 10^{9}/1$

Ureas and Electrolytes:

BUN	- 3.7 mmol/1
Creatinine	- 7.6 ummol/1
Sodium	- 135mmol/1
Potassium	- 3.8mmol/1
Pregnancy test	- Positive
Chest X-Ray	- Normal
Pelvic Ultrasonography	- Enlarges uterus; no foetal pole seen. Characteristic snow-storm appearance.(Difuse mixed echogenic masses) Suggestive of a hydratidiform mole. Bilateral Ovarian cysts measuring 7.6 x 6.4cm on the right and 8.6 x 7.8cm on the left side.

Blood was taken for grouping and cross-matching and two units of blood requested for. She gave consent for suction curettage. Intramuscular atropine 0.6mg stat was given ½ hour before she was wheeled to theatre.

In theatre, an intravenous line was started. General anaesthesia was given and the patient placed in lithotomy position. Vulvo-vaginal toilet was done then she was drapped. She was aseptically catheterized of 200mls clear urine. Examination under anaesthesia confirmed previous findings. The anaesthetist commenced her on 40iu oxytocin in 500mls 5% dextrose running at 30 drops per minute.

An Aurvard's speculum was inserted into the vagina and the anterior lip of the cervix held with a tenaculum. The os was progressively dilated to Hegar's No. 10. Using a large bore metal suction cannula, the uterine cavity was evacuated of its contents. There was substantial bleeding thus intravenous ergometrine 0.5mg was given. The oxytocin infusion was to continue for the next 4 hours. She was reversed from anaesthesia; the estimated total loss was 1500cc. Two units of blood were transfused and she was to be observed in the ward for any further bleeding. Part of the aspirates was sent for histology.

The following day the patient had no major complaints; she had minimal vaginal bleeding. She was discharged home on doxycycline capsules 100mg twice daily for one week flagyl 400mg three times daily for 5 days and ponstan capsules 500mg three times

daily for three days. She was asked to come back to the ward in 10 days' time for post evacuation beta HCG level and sharp curettage.

Histology Report

Numerous vesicles containing clear fluid. Hydropic degeneration with epithelial proliferation seen. This is consistent with hydatidiform mole with no signs of malignant change.

Sharp Curettage

She reported to the ward as per the appointment with results of beta HCG. In theatre, she was put under light general anaesthesia. Vaginal examination revealed that the cervix was admitting one finger; the adnexal masses had diminished in size and the uterus was slightly bulky, anteverted and fully mobile. Gentle curettage was done using sharp metal curette. The curettings were then sent for histology.

Histology Report

Multiple fragments of endometrial tissue with few vesicles. The tissues are necrotic with thrombosed vessels. There were multinucleated giant cell and focal endometrial reaction. No evidence of malignancy. She was discharged home to be followed up at the gynecology outpatient clinic.

Follow up

Beta HCG tests were to be done every two weeks for 3 months, then every month for the next 3 months. During her first follow up visit, she was counseled on the need for contraception and was started on combined oral contraceptive pill. Baseline beta HCG level was 98000 miu/ml. 2nd beta HCG level (after two weeks) was <400 miu/ml. She was to be seen again after every three months for one year. She was seen twice with negative beta HCG levels, after which she was lost to follow up.

COMMENT

This was a 26 year old patient who presented with abnormal vaginal bleeding in pregnancy. A diagnosis of hydatidiform mole was made and uterine evacuation followed by sharp curettage was done.

Hydatidiform mole is one of the variants of gestational tropholastic disease, the other being invasive mole and choriacarcinoma. The incidence of hydratidiform mole varies considerably in different parts of the world form 1 in 200-300 pregnancies in South East Asia to 1 in 2500 in parts of the USA[1].

Moles may be categorized as either partial or complete depending on gross morphology and karyotype. Their aetiology is obscure. Complete moles have chromosomes derived exclusively from paternal chromosomes; their Karyotype is nearly always 46XX, ovum nucleus may be either inactivated or absent. About 10% of complete moles have a 46XX Karyotype also entirely of paternal origin[2,3,4]. Partial moles normally have a triploid karyotype (69XXY or 69XYY), the extra haploid set being of paternal origin. A foetus may be present with a partial mole in which case it also exhibits triploidy with gross multiple congenital malformations [1,4]. Factors associated with development of hydatidiform mole include maternal age, previous molar pregnancy, socio-economic status, maternal blood group and probably diet. It has been found that women between 45 and 49 years have 24 times risk of developing molar pregnancy as compared to those in 25 to 29 years of age. Those who have had molar pregnancy before and are para 3 and above have an increased risk while poor nutritional status and adverse socio-economic status are also predisposing factors. A blood group "A" woman with a blood group "A" man have least risk while a blood group "A" woman with a blood group "O" man and woman who is blood group "AB" have greatest risk[1,3]. The patient presented here was of fairly low socio-economic status and was 26 years of age. Her parity was two. Her blood group was "O" while her spouse's blood group was not ascertained.

The classical pathological features of a complete hydatidiform mole include numerous vesicles with absence of a foetus and foetal membranes. Histology reveals large vascular and edematous villi with a variable degree of trophoblastic hyperplasia. These features were evident in the specimen obtained from the patient presented. By contrast, partial

moles have a less clear cut picture with focal vesicle formation, a fetus with membranes, less obvious molar degenerations, variable trophoblastic hyperplasia and vesicles with same degree of vascularity[1,2,3,4]. Initially the symptoms and signs are those of early pregnancy but as the mole developes these get more exaggerated. Excessive nausea and vomiting accompanied by vanigal bleeding following a period of amenorrhea are suggestive of molar pregnancy. In 90% of cases, vaginal bleeding with occasional dark brown vaginal discharge in early pregnancy is highly suggestive of molar pregnancy. The initial diagnosis is thus highly likely to be that of threatened abortion. This happened in the patient presented here. In many cases the mole may not be suspected until spontaneous abortion occurs.

The features in the uterus include being larger than dates, doughy consistentcy, foetal parts not felt and foetal movements and heart tones not appreciated. Bilateral ovarian enlargements is found in up to 50% of cases[1,4]. Pre-eclampsia develops in up to 50% cases and earlier than in pregnancy with a normal fetus; thyrotoxicosis has been reported[1,3,4]. The passage of vesicles from the uterus is conclusive evidence but rarely occurs until abortion is imminent[1,3]. The patient presented had exaggerated nausea and vomiting extending to the second trimester. She had 18 weeks of amenorrhea and a uterus that was 20 weeks in size. There were no features of pre-eclampsia or thyrotoxicosis. Ultasonography shows a characteristic snowstorm appearance, no fetal poles and no fetal cardiac activity[1,4]. This was demonstrated in the patient described here. A positive pregnancy test with the urine diluted 100 times is highly suggestive but not conclusive evidence of molar formation. Serum levels of BHCG are the most reliable diagnostic measures' generally, a hydatidiform mole results in urinary output of 100,000 miu/ml of HCG per 24hours[1,2,3,4]. The patient had a baseline beta HCG levels of 98000 miu/ml.

Management of molar pregnancy involves stabilizing the bleeding patient and prompt evacuation of the uterus. Evacuation may be achieved by either using extramniotic prostaglandins or by suction curettage. Prostaglandins are recommended especially in presence of a coexisting fetus. Surgical evacuation by hysterectomy may be considered in the older woman who have the desired family size, though this is rarely done[1,2,3,4,5]. At Kenyatta National Hospital, suction curettage is the method advocated. This is what was done to the patient described here. If a mole had already been spontaneously expelled or evacuated by suction, the uterus must still be explored within 1-2 weeks, sharp curettage

should be done and currettings sent for histology[1,4]. This was done in this patient and is routinely done in Kenyatta National Hospital. There is no need to treat the lutein cysts in the ovary no matter the size; they regress spontaneously once the mole is evacuated as happened in this patient.

The complications on hydatidiform mole include severe haemorhage, pre-eclampsia, infection, perforation of the uterus and simultaneous or subsequent development of choricarcinoma[1,2,3,5]. The patient presented here lost 1500mls of blood during evacuation and was transfused two units of blood. She did not develop any other complication. Majority of molar pregnancies eventually regress completely, a few progress to choriacarcinoma, while some may develop into invasive mole[1,5]. Makokha[6] reported that at Kenyatta National Hospital, 16.9% of choriocarcinoma had antecedent molar pregnancy. Adequate follow up of these patients is thus vital. A continuous surveillance for at least two years has been recommended after a complete mole and 6 months following a partial mole. During this period of follow up, patients are encouraged to use effective contraception; for those not ready for surgical sterilization oral contraceptives or barrier methods are advocated[4]. The patient presented here was followed up for one year during which time she remained normal. She had been started on oral contraception throughout this period of follow up.

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CASE NO 4: CYSTIC ENDOMETRIAL HYPERPLASIA – TOTAL ABDOMINAL HYSTERECTOMY

NAME:	M.W	PARITY	3+1
IPNO	0820688	D.O.A.	8/8/2002
AGE:	40 years	D.O.D.	17/8/2002

Presenting Complaints

She was admitted with complaints of abnormal vaginal bleeding for 5 years.

History Presenting Complaint

She had been well till 1997 when she developed heavier and prolonged menses. This was associated with episodes of intermenstrual bleeding in form of spotting. There was abdominal pain in form of cramps when the bleeding was heavy. She had been treated on oral progestins for one year with good response; for about 8 months prior to the admission, this hormonal treatment was not effective. A dilatation and curettage done earlier had temporarily relieved the bleeding.

Obstetric and Gynaecologic History

She was para 3+1; all her deliveries were by caesarean section and the three children were alive and well. Her last delivery was in 1996 at which time a tubal ligation was also done. She had a spontaneous abortion at 8 weeks gestation in 1991 and uterine evacuation was done. Her menarche was at 15 years of age; thereafter, she had regular periods every 28 days with a flow lasting 3 to 4 days. Her last menstrual period was on 4/1/98, the flow was moderate with no associated dysmenorrhea. She had used oral contraceptives from 1993 to 1995 then stopped in order to conceive.

Past Medical History

This was not significant.

Family and Social History.

She was married and worked as a nurse in a mission hospital. She lived with her husband and three children in Meru. She neither smoked cigarettes nor took alcohol. There was no family history of chronic illness.

Physical Examination

She was in good general condition and not obese. She had no pallor, jaundice, oedema or palpable lymph nodes. Her blood pressure was 130/80mmHg, pulse rate of 80/min, respiratory rate of 18/min and the temperature was 36.6 °C.

Respiratory and Central Nervous Systems

These were essentially normal.

Abdominal Examination

The abdomen was not distended and moved with respiration; there was a subumbilical midline surgical scar. She had no areas of tenderness. The liver, spleen and uterus were not palpable; no masses were felt.

Pelvic Digital Examination

Her external genitalia was normal; the cervix was firm about 2cm long, and the os, was closed. The uterus was normal size, anteverted and freely mobile. The adnexa were normal and the pouch of Douglas was free. There was blood staining on examination fingers.

Diagnosis

Menorrhagia.

Investigations

Haemoglobin

Haemoglobin	-	14.8g/dl
WBC	-	2.2 x 10 9/1
Platelets	-	290 x 10 9/1

Urea and Electrolytes:

Sodium	- 136mmol/1
Potassium	- 4.6mmol/1

BUN	- 4.8mmol/1
Pap smear	- Class 1 (CIN O)
Endometrial Biopsy	- Endometrial curettings showing features consistent with cystic (simple) glandular endometrial hyperplasia.

Management

In view of the history and the histological report, a diagnosis of simple endometrial hyperplasia was made. This and the plan of management were explained to her and she gave an informed consent for total abdominal hysterectomy. She was admitted to the gynaecology ward on 8/8/02. She autodonated one unit of blood and grouping and cross matching was also done and two more units were requested. On operation day an intravenous line was commenced; she was premedicated using 0.6mg atropine intramuscularly and then wheeled to theatre.

Total Abdominal Hysterectomy

In theatre anaesthesia was induced using intravenous sodium thiopental 200mg. She was intubated and anesthesia maintained using halothane/oxygen/nitrous oxide gases. She was then placed in semilithotimy position. Vulvovaginal toilet was done and she was aseptically catherised obtaining clear urine. She was repositioned supine and abdomen was cleaned and draped. A subumbilical midline incision was made, removing old scar tissue and abdomen was opened in layers. The gut was packed with moist packs away from the pelvis. On inspection, all the pelvic organs looked grossly normal and there were no adhesions. Both round ligaments were identified, grasped between clamps, cut and ligated. The fallopian tubes, ovaries and upper part of broad ligaments were similarly identified; the pedicle was tied leaving the ovaries laterally. The utero-vesical peritoneum was dissected medially then deflected downwards with the bladder towards the cervix. Similar dissection was done on the posterior side. Laterally on either side, the uterine vessels were identified, clamped and cut; both cardinal ligaments were then ligated and cut freeing the uterus from its supports. The anterior vagina was opened just below the cervix and amputated all round thus completely freeing the uterus that was lifted out of the pelvis. The vaginal vault was closed with interrupted mattress sutures and the peritoneum with continuous suture. Having achieved hemostasis and ensuring swabs and instruments were correctly counted; the abdomen was closed in layers. The

urethral catheter was removed, vulva toilet done and a sterile and applied on the vulva. Anaesthesia was reversed and the patient was wheeled to the recovery ward. Total blood loss was about 350mls. The uterus specimen was sent for histology.

Post Operative Care

Her vital signs were observed ½ hourlsy till she was fully awake then 4 hourly thereafter. One unit of autodonated blood was transfused; she was to continue on intravenous fluid 500mls 5% dextrose alternating with normal saline 4 hourly till bowel sounds reappeared. Pethidine 100mg given intramuscularly 6 hourly for 24 hours was used for analgesia after which oral paracetamol 1g three times daily was allowed. Prophylactic intravenous gentamycin 80mg 8 hourly and chrystalline penicillin 2 mega 6 hourly were given for 48 hours followed by the same erythromycin 500mg 8 hourly orally for 5 days. On the second day, bowel sounds were present and oral sips were allowed then free fluids and light diet. Early mobility was encouraged. The rest of the post-operative period was uneventful. She had her stitches removed on the 7th post-operative day and the wound was well healed. She was discharged home to come for review in the gynaecology clinic after 6 weeks.

Follow-up

She did not turn up as per scheduled appointment.

Histology Report of the Uterus

Normal size uterus with blood clots in the cavity. Hyperplastic endometrial glands appearing closely packed. Features consistent with simple endometrial hyperplasia.

COMMENT:

The patient was 40 years old para 3+1 who had abnormal uterine bleeding due to endometrial hyperplasia; total abdominal hysterectomy was done.

The term endometrial hyperplasia covers two quite distinct conditions; these are cystic (simple) glandular hyperplasia and atypical hyperplasia[1]. This patient had cystic glandular hyperplasia. Little data is available on the incidence of the condition world wide due to different criteria utilized in diagnosis of the various endometrial lesions; additionally, hyperplasia is often found in association with endometrial carcinoma and all histological stages between simple hyperplasia and anaplastic carcinoma can be demonstrated in a specimen[2,3].

Cytic hyperplasia is a benign condition; it occurs frequently in women at or approaching menopause in certain anovulatory young women, in women on excessive prolonged exogenous estrogen usage and in some women with rare oestrogen producing tumors [1,2,3,4]. The commonest age is 40-50 years. The patient presented here was 40 years old and had been on combined hormonal pills for about 2 years.

The condition is generally associated with unopposed hyperestrogenic states, a common cause being a succession of anovulatory cycles[1]. It has been reported in patients with the Stein-Leventhal (Polycystic ovary) syndrome[1,3,4,5]. Obesity has been reported to predispose to endometiral hyperplasia and carcinoma; this is due to peripheral conversion of adrenal adrostenedione to oestrogen in adipose tissue hence making obesity a hyperestrogenic condition[5]. Patient with hypogonadism who are on estrogen replacement therapy have been known to have a high incidence of endometrial hyperplasia than the general population; when such oestrogen dose is decreased or withdrawn benign cystic hyperplasia reverts to proliferative or inactive endometrium[8].

The uterus is usually normal in size or moderately enlarged with thick endometrial lining; curettage yields abundant red, soft material and polypoid areas may also occur. Histology shows dilated non-crowding cystic glands with increased normal mitotic figures with little or no glandular activity seen [1,3,4]. This histological pattern was present in the specimen from this patient.

Cystic glandular hyperplasia is a relatively common condition; it presents clinically with irregular uterine bleeding rarely with other symptomatology[1,3,4]. The correct diagnosis is made only by endometrial biopsy or a fractional dilatation and curettage. This can also

be done as an office procedure using a vabral aspirator, Novak's curette or Karman's Cannula[4]. Hysteroscopy has been increasingly used as a diagnostic method; it is reported to be quick, safe and accurate outpatient procedure for both diagnosis and treatment. Endometrial polyps and myoma can be diagnosed by hysteroscopy during investigation for abnormal uterine bleeding[4,7]. The patient described had a dilatation and curettage done; this was both diagnostic and therapeutic. Histological diagnosis was made from the specimen obtained.

The initial management of cystic endometrial hyperplasia is hormonal; by using cyclic progesterones, most patients respond well with resumption of regular bleeding. For those whose problem is anovulation especially where pregnancy is desired, induction of ovulation with clomiphene citrate is done. Where hormonal treatment is not effective, and the patient has desired family size, hysterectomy is the best option[8]. The patient described had temporary relief after curettage and hormonal therapy; having had a desired family size and recurrence of abnormal bleeding, hysterectomy was done.

Where facilities are available, hysteroscopic endometrial ablation using laser surgery provides a conservative alternative method in patients who may otherwise merit hysterectomy[9]. The prognosis in cystic endometrial hyperplasia is excellent; there is no convincing evidence that this pathology carries a high risk of malignant change. Cystic glandular hyperplasia is therefore not a precursor of endometrial adenocarcinoma[1,2,3,4,5,8]. Prevention measures include cautions administration of exogenous oestrogens, and removal of oestrogen producing ovarian tumors; in young patients with chronic anovulatory cycles, cyclic progesterones and ovulation induction should be attempted. Regular follow up of these patients with endometrial biopsies is emphasized.

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CASE NO 5: SECONDARY INFERTILITY – TUBAL SURGERY

NAME:	M.N	PARITY	2+0
AGE:	29 Years	D.O.A	15/3/2002
IPNO:	0819117	D.O.D	23/3/2002

Presenting Complaints

She was first seen in the Gynaecology Clinic with a history of inability to conceive for 6 years.

Past Obstetric and Gynaecology History

She was para 2+0 her last two deliveries were in 1992 and 1996 by caesarean section, reasons for which were not clear.

Her menarche was at 13 years; the menses were regular, occurring every 26-28 days and flow lasting 3 days. They were painless. Her L.M.P. was on 24/2/2002. She had used the IUD from 1996 to 1999 for contraception following which she was unable to conceive. She lived with her husband and had regular coitus.

Past Medical History

She had been admitted on 7/2/2001 with an acute episode of P.I.D which was confirmed on laparoscopy.

Family and Social History

She was a married lady living with her husband in Mathare. She worked as a hairdresser while her husband operated butchery. This was her second marriage; her two children were from the first marriage. It was not clear whether her present husband had children in other relationships. She did not smoke cigarettes nor take alcohol. Her mother was hypertensive.

General Examination

She was in good general condition, not pale, afebrile, not jaundiced and had no oedema or lymphadenopathy. Her secondary sexual characteristics were normal. Her vital signs were normal.

Central Nervous, Respiratory and Cardiovascular Systems

These were essentially normal.

Abdominal Examination

The abdomen was scaphoid and moving with respiration. There was a midline subumblical incision scar. A laparoscopy scar was also noted semi-circularly just below the umbilical scar. The abdomen was soft with no tenderness; the liver and spleen were not palpable and there were no other masses.

Pelvic Examination

The external genitalia were normal. The cervix was smooth, firm and the os was firmly closed. The uterine size was normal. The adnexa and Pouch of Douglas was non tender and free of masses. No blood or abnormal discharge was noted on the examining fingers.

Impression

Secondary infertility.

Investigation done

Haemoglobin	-	14.2g/gl
Urea/Electrolytes:		
Na+	-	134mmol/1
K+	-	4.6mmol/1
BUN	-	2.2mmol/1
Creatinine	-	99umol/1

Seminalysis - Normal with a total sperm count of 81 million per ml.

HSG - Normal uterine cavity. Both tubes were demonstrated with hydrosalpinx terminally. Right tube showed free spill but left tube had no spill.

Management

Patient was planned for open tubal surgery; pre-operative investigations were done as outlined above. An informed consent was obtained on admission; the patient was pre-medicated with pethidine 50mg and atropine 0.6mg given intramuscularly ½ hour before theatre, then she was wheeled to theatre.

Surgery

In theatre, the patient was put under general aesthesia. Vulvovaginal toilet was done and she was draped and catheterized. Examination under anaesthesia was done and the previous findings were confirmed. The patient was then placed supine, abdomen scrubbed and draped. A mildline subumblical incision was done after removing the old scar, and then the abdomen was opened in layers.

A right sided ovarian cyst about 5x5cm in size with right tube adherent to it was found; its capsule was shelled out for histology and the ovary was repaired. The right tube was adherent on the fimbriant end to the right ovary and had no free spill. Adhesiolysis was done on both tubes. Cuff salpingostomy was done on both tubes for terminal hydrosalpinx. Adhesions in the Pouch of Douglas were also lysed using bipolar diathermy electro-coagulation.

Dye instillation after tubal surgery showed bilateral peritoneal spill. Haemostasis was achieved. The abdomen was cleaned using Dextran 70 solution leaving some in the peritoneal cavity. After swabs and instruments were counted and found correct, the abdoment was closed in layers. The anesthesia was reversed. Blood loss was estimated to be about 200mls. The patient was removed to the recovery room.

Post Operative Care

She was observed ½ hourly in recovery room till she was fully awake then transferred to the ward for 4 hourly observations. She was maintained on intravenous fluids of N-saline alternating with 5%dextrose 500mls 4 hourly until the bowel sounds were heard. She was started on prophylactic crystalline pencilline 2 mega units 6 hourly and pethidine 100mg 6 hourly given intramuscularly for 24 hours. On the second day, the bowel sounds were present and oral Amoxycillin and mefenamic acid were commenced. The wound was left open on the third day, when solid foods were also permitted. The patient

was discharged home on the fourth day to come for removal of stitched on day 7. On day 7, al stitches were removed, the wound was fully healed and she was told of the surgery findings and what was done. She was advised to attend the gynaecology clinic for review after six weeks.

Follow-up

She was seen in the clinic on 6/5/2002. At this time, she complained of left sided abdominal pains; she gave her LMP as 13/4/2002. She was in otherwise good general condition and not pale. The wound was well healed but had started to form small keloids. There were no palpable abdominal masses nor was tenderness elicited. She was put on Buscopan tablets and indomethacin capsules to be seen again in 6 months in the clinic; advice on fertile days of her menstrual cycle was also given.

Histology results of ovarian cyst capsule were ready and showed a corpus luteum cyst with haemorrhage into it and one simple ovarian follicular cyst.

COMMENT

The patient presented here was a 29 years old para 2+0 with inability to conceive in her second marriage for 7 years. Bilateral tubal blockage was diagnosed for which cuff salpingostomy and adhesiolysis were done.

Infertility has been defined as the inability to conceive within a stipulated period, usually one year in a couple of reproductive age who are having regular sexual intercourse without contraception. This definition is based on cumulative probability of pregnancy of 93%. It affects approximately 13-60% of couples of reproductive age[1]. Fertility is childbearing performance while fecundity is childbearing potential and sterility refers to total inability to conceive. While infertility is not a disease in the real sense of the word, it is an extremely agonizing condition for many couples leading to stigma associated with mental disharmony, divorce and ostracism[1,2]. The patient presented here had infertility in a second marriage having been married for six years and living with her husband having regular unprotected sexual intercourse.

Incidence of infertility in most places is reported at 10-20% of all married couples worldwide. A study in the United States in 1987 found the rate to be 13.9% among married potentially fertile couples while in the United Kingdom in 1985, Hull reported an incidence of about 17%[2]. At the Kenyatta National Hospital Gynaecology Clinic, about 60% of all new outpatients complain of infertility with both primary and secondary types reported at equal rates[3]. Thus despite no statistics, available for the whole of Kenya and Kenya having one of the highest birth rates worldwide, it is ironical that the infertility rates are equally high if K.N.H figures are extrapolated countrywide.

The aetiology of infertility is multifactorial, a World Health Organization (WHO) study between 1979 and 1984 in developing countries of Asia, Africa and Latin America found that upto 64% of females in Africa and 28-35% in other areas had infertility that could be traced to pelvic infection; this extrapolated to 49% bilateral tubal occlusion among the African women and 11-15% among the others[4]. Thus, an infectious aetiology can be traced in a woman's history of sexually transmitted diseases, pelvic inflammatory disease and complications of pregnancy including post-abortal sepsis and puerperal sepsis.

In Kenyatta National Hospital, pelvic inflammatory disease has been blamed for tubal occlusion in over 70% of the cases[5,6] for which gonorrheal infection has been found in about 55%; chlamydia trachomatis has now also been found to be a major cause of tubal

blockage while tuberculosis is not common[2,5,6]. Although the gonococcus may be responsible for the acute salpingitis, residual chronic salpingitis and subsequent tubal damage is mainly due to secondary invaders, both aerobic and anaerobic or an initial chlamydial infection. The presence of an intrauterine contraceptive device (IUCD) in situ predisposes to pelvic infection that may subsequently lead to tubal blockage in users thus not recommended for women who have not had the desired family size. Oral contraceptives and barrier methods are protective. Other aetilogical factors contributing to infertility include the male factor, endocrinopathies that affect ovulation, dietary disturbances, anxiety, severe anaemia, tuberculosis, endometriosis and mullerian system defects [1,6].

In the WHO study involving over 5000 women, no demonstrable cause was found in 27% of cases[4]. The patient presented here had history of using the intrauterine contraceptive devise for three years after her second delivery and was on her second marriage. This predisposed her to increased subclinical pelvic infection and indeed she had been admitted with an acute episode of pelvic inflammatory disease previously.

Investigation and subsequent diagnosis of infertility presents a unique problem whereby two individuals must be considered. Factors that influence the reproductive performance of a couple include their ages, frequency of intercourse and duration of coital exposure thus together with the history, five primary tests have been adapted and are useful in the initial evaluation:

1) Documentation of ovulation
2) Comprehensive semen analysis
3) A post-coital test.
4) A hysterosalpingiogram
5) A diagnostic laparoscopy.

The male partner is easily investigated in that a physical examination and a semen analysis, both non-invasive procedures, will usually yield enough information. The male factor has generally been implicated in 30 – 40% of cass of infertility [5,8].

In Kenyatta National Hospital, Mathews et. al. [9] showed that only 48% of males have normal semen analysis in all partners and that upto 30% of azoospermic men had in fact given a history of fatherhood. In this patient, the husband's semen analysis was done and reported to have been normal.

Investigations pertaining to the female are much more invasive, expensive and time consuming thus the initial ones chosen should be the cheapest and simplest that will provide needed information on ovulation, tubal patency and surgical prognosis.

Routinely done diagnostic tests include a hysterosalpingogram (HSG) and diagnostic dye laparoscopy: these two are complementary tests in that the HSG will show tubal patency while the laparoscopy will show evidence of pelvic adhesions, ovarian cysts or endometriosis, and thus evacuate the possible success of further surgery. HSG has been known to have a fertility enhancing effect hence laparoscopy should be done after six months after a normal HSG report; conception rates have been known to increase by 30% after the examination [10]. Some patients may require hormonal profiles and endometrial biopsy. In the patient described both HSG and lapascope were done; HSG showed tubal status while laparoscopy confirmed the presence of adhesions and a small left ovarian cyst.

Tubal surgery for occluded fallopian tubes was first reported by Schroder in 1884 when he performed a unilateral ampullary cuff salpingostomy; following this many procedures have been described which include adhesiolysis, salpingostomy or fimbrioplasty, end-to end anastomosis and tubal re-implantaion for which microsurgery has perfected the procedure. Success rates for surgery have been particularly promising in patients with proximal tubal blockage with live births of 40 – 60% being reported[11].

Success generally depends on patient selection. It is inversely proportional to the severity of tubal damage and the extend and nature of the commonly associated adhesions. Apart from the extend of tubal damage, female fecundability and length of follow up have been noted to be important factors. Female fecundability decreases markedly after 35 years of age hence a declining success rate is expected after this age; equally, more than 60% of those who achieve intrauterine pregnancy do so after the first year of followup[11]. This is probably the period of time for functional tubal capacity to recover after repair. The role of repeat tubal surgery following failed attempts remains controversial but has been generally abandoned by most surgeons; it has been recommended only in selected patients with limited damage and in fact has been found to have better prognosis for overall term pregnancy rates than that achieved by invitro-fertilization programmes for patients with limited tubal damage.

The patient presented had adhesiolysis and cuff salpingostomy done by macrosurgical techniques. As per her last followup visit, she had not yet conceived such that the

success was not determinable then. Among the complications notable following tubal surgery include an increased incidence of tubal implantation which is five times greater than in those without the disease. Thus, pregnancy in a woman who has had tubal surgery demands vigorous attention.

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CASE NO 6: SYMPTOMATIC UTERINE FIBROIDS – TOTAL ABDOMINAL HYSTERECTOMY DONE.

NAME:	P.O.	PARITY	2+0
AGE:	42yrs	D.O.A	9/9/2002
IP NO:	0820499	D.O.D	17/9/2002

Presenting Complaints

The patient presented with a three month history of abnormal vaginal bleeding, easy fatigability and syncope.

Past Obstetrics gynaecology History

She was para 2+0. Both children were alive and well. Both deliveries were spontaneous vaginal with last delivery in 1980. Menarche was at 17 years. The menstrual cycles before the illness were regular occurring every 28 days and lasting for 4 days; they were also painless. She had amenorrhea for four months following which the periods resumed. They were heavy, prolonged and irregular. She had not used any contraceptive methods. She was admitted 2 months before the present admission with severe anaemia for which she was put on provera tablets 10mg daily, transfused one unit of blood and given hematinics. Ultrasound done then confirmed uterine fibroids.

Family and Social History

She was married with two living children and was employed as a tailor in Nairobi. Her husband was a businessman. There was no familty history of major chronic illnesses. They lived at Posta apartments along Jogoo Road in Nairobi.

Physical Examination

Her general condition was fair; she had mild pallor, no oedema or lymphadenopathy. Her blood pressure on admission was 100/60mmHg, temperature 36.8°C and the pulse rate was 90/min.

The cardiovascular, central nervous and respiratory systems were normal.

Abdominal Examination

The abdomen was moving with respiration, soft and had mild tenderness in the suprapubic region. There was a firm, mobile, solid mass palpable arising from the pelvis and corresponding to a 14 week size uterus. The liver and spleen were not palpable. There was no ascites.

Pelvic Examination

External genitalia were normal. The cervix was firm and smooth with the os closed. The ovaries were not palpable. The Pouch of Douglas was empty. Some blood was seen on the examining fingers. Speculum examination was not done.

Diagnosis

Symptomatic uterine fibroids.

Investigation done:

Haemogram:

Haemoglobin	-	10.5 g/dl.
WBC	-	$5.8 \times 10^{1/1}$
MVC	-	77 FL
Platelets	-	$551 \times 10^{1/1}$

Urea/Electrolytes:

N+	-	137mmol/L
K+	-	4.0umol/1
Creatinine	-	90umol/l
Ultrasound	-	Anteverted uterus with low echomasses within it, the Largest being 4.50 x 3.56 cm. No adnexal masses seen. POD free.
Conclusion	-	Uterine fibroids.

Pap smear was done and found to be normal.

Management

Patient was planned for total abdominal hysterectomy; two units of blood were crossmatched. Investigations done as above. Informed consent was obtained on admission. Pre-medication was done using pethidine 50g and atropine 0.6mg given intramuscularly ½ hour before theatre. She was wheeled to the operating theatres.

Surgery

Patient was put under general anaesthesia. Vulvovaginal toilet was done and she was draped and catheterised. Examination under anesthesia was done and the findings were confirmed as per earlier pelvic examination. The vagina was painted with methylene blue. She was put in supine position. The abdomen was cleaned and draped. A Pfannenstiel incision was made in layers to open the abdomen. A bulky uterus was found with irregular surface and multiple fibroids; a right sided ovarian cyst approximately 5 x 5cm was also noted.

Total abdominal hysterectomy was done as explained in the introduction and the right ovary was excised. The left ovary and tube were normal. Haemostasis was achieved. Swabs and instruments were counted and found correct. The abdomen was closed in layers – skin was done with vicryl and she was reversed form anaesthesia. Blood loss was about 250mls. Specimens were sent for histology.

Post Operative Management

She was observed in the recovery room ½ hourly till she was fully awake then transferred to the ward for 4 hourly observations. She was maintained on intravenous 5% Dextrose alternating with normal saline 4 hourly. Intramuscular pethidine 100mg was given 6 hourly for 24 hours, then she was mobilized and commenced on oral sips and oral erythromycin and Ibuprofen. On day three, light diet was commenced, she was ambulant and the wound was clean and dry. She was discharged home on the 4th post operative day on oral treatment to be seen in the gynaecology clinic after six weeks.

Follow-up

She was seen 1½ months after seeking a medical report to retire from her employment on medical grounds but did not attend the clinic; she was lost to follow up. Histology report

done on 16/10/02 showed normal cervix, ovary and fallopian tubes. The uterine wall had multiple tumours with interlaced bundles of smooth muscle fibres arranged in whirling patterns – features in keeping with those of simple uterine myoma.

COMMENT

This was a 42 year old para 2+0 who presented with a history of abnormal uterine bleeding; a diagnosis of symptomatic uterine fibroids was made for which total abdominal hysterectomy was done. The term fibroid is used to describe a benign uterine tumour composed mainly of smooth muscle cells with some varying amounts of connective tissue; the term leiomyoma is preferred as it emphasizes the origin of this tumour as predominantly from smooth muscle cells as originally suggested by miller and ludovici.[1]

Leinyomata are the most common tumours of the uterus and female pelvis; their true incidence is impossible to determine accurately since majority are not symptomatic though post-mortem reports quote an incidence of 50% generally[2].

They account for 66.7% of all abdominal hysterectomies done in Kenyatta National Hospital[3]. The incidence has a racial component being higher in black women, the reasons for which are not known; they also tend to be larger and to occur in younger women among the black races though they are generally uncommon before 20 years of age[4].

The actual aetiology of fibroids is unknown although there is evidence of several associated factors that predispose a woman to develop uterine fibroids. They have been thought to be oestrogen dependent on their growth since they rarely occur before puberty have a peak at 30 – 45 years and tend to regress after menopause. There is also notable tendency of fibroids to enlarge during pregnancy which has also been noted in women of all racial backgrounds who have taken oral contraceptives[2,4,5]. There are also more common in nulliparous women and in women with relatively low fertility; these are patients with prolonged oestrogen stimulation with no progesterone component. It has been noted that use of progesterones or administration of a long acting Luteinising hormone releasing hormone (LHRH) has led to regression of fibroids thus suggesting their endocrine responsiveness[2,5]. Increase in serum growth hormone or human placental lactogen (HPL) concentrations acting synergistically with oestrogen may also induce tumour growth[5]. Thus sufficient evidence is as yet unavailable regarding the aetiology of fibroids though it seems clear that they arise from a single neoplastic cell derived form myometrial smooth muscles. Racial and genetic predisposition have been noted as well as other risk factors such as follicular ovarian cysts, endometrial hyperplasia and

inflammatory disease. This patient had relative infertility for 17 years on no contraception and was 42 years of age at the time of presentation. She was amenorrheic for four months prior to the symptoms.

This was consistent with findings by Wanjala[3] that 85.5% of these patients had not delivered in the last 6 years or more. Uterine fibroids are recognized depending on their site in relation to the uterine wall namely subserous, submucucous and intramural. They commonly arise in the corpus uteri but can occur in the cervix and between the leaves of the broad ligament. The patient had multiple fibroids of various sizes confined to the corpus uteri mainly subserosal.

Majority of uterine fibroids are asymptomatic with only 20-50% producing symptoms[2,5]. Most will be discovered during investigations as small quiescent uterine low echomasses seen on ultrasound scanning. Symptomatic ones may be single or multiple and the symptoms will depend on the location, size and number of tumours present.

Menorrhagia is the commonest symptom presents in about 30% of patient[5]; it is thought to be as a result of endometrial surface distortion, poor myometrial contractile mechanism, endometrial hyperplasia, increased endometrial cavity size and increased vascularity of the endometrial surface. The patients usually have regular menstrual cycles which tend to be heavy (menorrhagia) but may also be prolonged (metrorrhagia) or both (menometrorrhagia)[2]. This patient presented with menometrorrhagia though periods occurred regularly. Infertility is another common feature of fibroids thought to be as a result of interference with sperm tranport, anovulatory cycles and impingment on endocervical canal and on the interstitial part of fallopian tubes[2,5]. Dysmenorrhoea, abdominal pain, urinary symptoms and fetal wastage also do occur; this patient did not have any of these symptoms.

Diagnosis of uterine fibroids is mainly clinical though many fibroids may be discovered during routine abdominal examination or pelvic ultrasonography[2,5]. Iron deficiency anaemia occurs as a result of menorrhagia though some patients occasionally will present with polycythemia; this is thought to arise as a result of arterial backpressure on the renal parenchyma stimulating renal erthropoietin production hence increased red cell production[2]. The patient presented initially with severe anaemia for which she was transfused; fibroids were confirmed both clinically and by ultrasonography.

Complications of fibroids include anaemia, pressure effects on kidneys and surrounding organs and tendency to undergo secondary changes such as red degeneration, necrobiosis,

hyaline and cystic degeration, calcification, polypoid and rarely sarcomatous change; this patient did not have these secondary changes as confirmed by the histology.

The mode of management of fibroids depends on patient age, parity, desire for future fertility, present pregnancy status and size and symptoms of the tumours. Patients with asymptomatic fibroids whose uteri are less than 10 to 12 weeks gestational size require no more than 6 months interval follow up regardless of fertility status[5]. Patients desirous to preserve fertility are planned of myomectomy while those in whom fertility is of no concern and the fibroids are symptomatic are normally planned for hysterectomy. Medical therapy for uterine fibroids has recently come into focus with use of gonadotroption releasing hormone analogues; these compounds have been noted to cause a reasonable reduction in symptoms and tumour size by thinning of endometrium thus are a useful adjunct to hysterectomy in patients with severe menorrhagia.

There is now a tendancy to perform hysterectomy using laparoscopy for all known indications of hysterectomy including fibrods. In Sweden currently up to 95% of all hysterectomies are done laparosopically[6] a procedure which has been done using hysteroscopy/laparoscopy with good results[7]. This patient had a successful total abdominal hysterectomy done.

Complications of abdominal hysterectomy include injuries to the urinary tract and to the gut, haemorrhage, post-operative wound infections and dehiscence and pelvic abscess; vaginal vault prolapse and even vaginal vault granulation tissue formation have been reported[2]. This patient had none of these complications as per the time she was discharged from the hospital.

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CASE NO. 7 : ABDOMINAL PREGNANCY – LAPARATOMY

Name:	J.N.	Age:	42 years
Unit:	0818741	D.O.A:	24/1/2003
D.O.D:	12/2/2003		

Presenting Complaints

She was admitted to the acute gynaecological ward complaining of low abdominal pain and backache for two weeks.

History of the Presenting Complaint

She had developed low abdominal pains in the previous two weeks. The pains were dull initially but were getting worse. They were associated with backache. There was no vaginal bleeding or vaginal discharge. She also had noticed a swelling on the left lower abdomen in the past one week.

Past Medical History

This was not significant.

Obstetric and Gynaecologic History

She was para 4+1. Her last delivery was in 1994. All her deliveries were vaginal and the children were alive and well. She had an abortion in 1996 at 3 months. She was not evacuated. She had not used any contraceptives. Her periods were regular occurring after every 28 days and lasting 4 days. Her last period was 1/10/2002. By dates she had an amenorrhoea of 15+ weeks.

Family and Social History

She was a single peasant farmer at Kiambu. She did not smoke cigarettes or drink alcohol. There was no family history of chronic illness.

Physical Examination

She was in fair general condition, not pale, afebrile (temperature was 36.5°C). Her pulse was 82 per minute and the blood pressure was 110/70 mmHg. The respiratory, cardiovascular and nervous systems were essentially normal.

Abdominal Examination

The lower abdomen was slightly tender. There was a pelvic mass corresponding to 18 weeks of a gravid uterus. It was firm, tender and mobile. The liver and the spleen were not palpable.

Vaginal Examination

The external genitalia was normal. The cervix was parous, its os was closed. The uterus was bulky and there was a mass attached to it superiorly on the left side. The right adnexa was free. The pouch of Douglas was free.

Impression

An impression of a chronic ectopic pregnancy was made.

Investigations and Management

An urgent ultrasound was asked for, blood samples for grouping and cross-matching and Haemaglobin and electrolytes were taken in case of surgical intervention.

Investigations

U/S report 25/1/96	There is a single intrauterine fetus which is not viable. The Placenta is fundoposterior. There is no evidence of uterine Fibroids and there are no adnexal masses.
Bed side clotting time:	9 minutes
Pregnancy test	Negative
U/E	BUN = 4.1mmol/1 Na+ = 132mmol/1 K+ = 4.49mmol/1
Hemogram	Hb = 10.4mmol/1 WBC = 5.2 x 10^9/1 PLT = Adequate
U/S report 2/2/96	The uterus is anteverted, normal in size, shape and echopattern. There is a fetus seen in the right adnexa. The fetus head shows spalding. No cardiac activity was seen. The placenta is implanted posteriorly. Conclusion: Uterus normal, extauterine pregnancy with fetal death.

Management

Following the initial ultrasound report the patient was induced with extraamniotic prostaglandin F2α. However after three days of induction with no response a diagnosis of possible abdominal pregnancy was entertained and a second pelvic ultrasound was

requested. This confirmed extrauterine pregnancy and the patient was planned for laparotomy.

Informed consent was taken, 2 units of blood were asked for.

Laparotomy

This was on 6/2/2003. A lower midline incision was used. The findings were:

A gestational sac was found posterior to the uterus.

- The gestational sac loosely adherent to the omentum.
- The uterus was bulky, both the fallopian tubes and the ovaries were normal.
- The placental tissue necrotic and attached to the posterior aspect of the uterus. The fetus and the liquor were evacuated; the loosely adherent necrotic placental tissue was gently dissected out. Several figures of 8 were used to achieve haemostasis. The pelvis was cleaned with saline and irrigated with rifocin. Blood loss was minimal. The abdomen was then closed in layers.

Post Operative Care.

She was put on parental antibiotics, analgesis and fluids. She started taking orally the following day and she was ambulant. Recovery was uneventful. She was to attend the gynaecologic clinic after six weeks but she never turned up.

DISCUSSION

Abdomianl pregnancy (abdominocyesis) is a potentially life threatening variation of ectopic pregnancy that resides within the peritoneal cavity exclusive of intratubal, ovarian and ligamentous site of implanation. Abdominal pregnancy is often unsuspected and infrequent enough to challenge the diagnostic decision making and surgical skills of any doctor who encounters such a patient.[1]

Abdominal pregnancy can either be primary or secondary. Primary implantation of fertilized ovum on the peritoneal is so rare that some authors doubt its existence. In secondary abdominal pregnancy, the primary site of gestation may have been tubal, ovarian or even uterine.[2] Abdominal pregnancies have also been classified according to the gestational age and also by location of implantation site, as this is of a greater clinical value. An abdominal pregnancy which is twenty or less weeks is termed an early abdominal pregnancy while that above twenty weeks is said to be advanced [3] The patient presented had an early abdominal pregnancy and is most likely a secondary one considering the fact that a placenta as attached to the posterior uterine surface.

The commonest implantation sites are the uterine surface, broadligments or cul de sac. However the pregnancy could be located in the liver, spleen, lesser sac of the stomach or under surface of the diaphragm.[4] The patient presented had the placenta attached to the posterior surface of the uterus.

The incidence of abdominal pregnancy has been reported to be I in 1975 deliveries at Kenyatta National Hospital and the ratio of abdominal to ectopic pregnancy was 1:98.[5] The USA the incidence of abdominal pregnancy was found to be 1:4857 deliveriies.[6]

Abdominal pregnancy may be suspected in relation to the bizarre pregnancy symptoms such as history suggestive of tubal rupture or abortion, a pregnancy complicated by unusual gastrointestinal symptoms, fetal movements that are very marked or painful, easy palpation of fetal part and movements, pregnancy described by multipara as "different" and false labour near term. A small uterus may be felt in the pelvis by examination early in pregnancy. Palpation of fetal parts through the vaginal fornix or a palpable placental mass and unusually loud vascular sounds may also lead to suspicion of abdominal pregnancy.[6] The patient presented came with abdominal pains and pelvic mass that was separate from the uterus on examination.

Most abdominal pregnancies are diagnosed at laparotomy. Failure of the uterus to contract in response to oxytocin or prostaglandins used to induce labour should raise suspicion of an abdominal pregnancy.[7] Aids in diagnosis of advanced abdominal pregnancy include; plain abdominal x-ray, hysterosalingography, ultrasound, magnetic resonance imaging and computerized tomography. In Kenyatta National Hospital 64% of the cases were diagnosed by ultrasound.[5]

In the patient presented suspicion were raised after failed induction with syntocinon despite the earlier ultrasound report. The abdominal pregnancy was confirmed on the second scan.

Treatment consists of the immediate surgical removal of the fetus and membranes and ligation of the cord near the placenta. The placentae removal is associated with lowest morbidity but highest maternal mortality.[1] If the complete blood supply of the placenta can be easily approached and controlled, then its complete removal is recommended.[3,6] If the placenta is implanted on the posterior peritoneal surface placental conservation should be done. Unfortunately, the placenta if left on the abdominal cavity commonly causes complication in form of infection, abscess, adhesions, intestinal obstruction, paralytic ileus, hypofibrinogenaemia, secondary haemorrhage, post partum preclampsia or eclampsia.[2,7] In the past, methotraxane has been used to effect more rapid degradation of abdominal placental tissue. However, accumulation of large amounts of necrotic tissue and the high risk of infection has lead to recent recommendations to avoid its use.[1] Patients with retained placenta should be followed up until it has completely resolved.

In the patient presented the placenta was necrotic and loosely attached to the posterior uterine surface. It was then evacuated. No complications post operatively were encountered.

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CASE NO. 8 GENITAL INJURY FOLLOWING SEXUAL ASSAULT EXAMINIATION UNDER ANAESTHESIA AND REPAIR

Name: J.W. Age: 8 years

IP NO: 0800997 DOA: 19.9.2002

DOD: 21.9.2002

History of presenting complaint

She was admitted to the acute gynaecological ward with history of vaginal bleeding after having been assaulted by a known person in the neighbourhood in his house at 6 p.m. It was not established how she went into his house. This was about five hours prior to admission. The incidence had not been reported to the police. She had informed her mother about it and was taken to a private clinic and then referred to Kenyatta National Hospital.

Past medical and surgical history

She had not suffered any major illness requiring admission to hospital.

Family and social history

She was a standard I pupil, a first born in a family of three siblings. Her mother was unemployed and single.

General Examination

She was in fair general condition, shy and apprehensive. She was not pale, was afebrile. She had blood clots on the legs and her clothes were blood stained.

Cardiovascular System

Her pulse was 88 beats per minute. Heart sounds were normal and there were no murmurs.

Respiratory Systems

The respiratory rate was 24 per minute. The lung fields were clear.

Central Nervous System

This was normal.

Abdominal Examination

The abdomen was moving with respirations and not distended. There was suprapubic tenderness. There were no masses felt and there was no hepatospleenomegaly.

Vaginal Examination

There was active bleeding noted at the introitus. Blood clots were noted from the vaginal canal. The labia majora was normal. The labia minora and hymenal ring were covered with blood clots and tender. Further examination was not possible.

Diagnosis

Genital trauma following sexual assault.

Management

The patient was prepared for examination under anaesthesia and repair of injuries sustained. Consent for the procedure was given by her mother. Intramuscular atropine 0.3mg was given as a premedication.

Examination and Repair

In theatre, the girl was put under general anaesthesia, induced with ketamine and maintained on halothane, nitrous oxide and oxygen.

She was put in lithotomy position; vulva toilet was done then draped. Catherization was done with a small folley's catheter which was left in situ. The labia majora was normal. The labia minora were lacerated. The hymen was not seen. There was a tear at the 6 O'clock position, which extended superiorly about 3cm in the posterior vaginal wall. There was dark brown fluid in the vaginal fornices thought to be altered blood. Samples were taken for analysis.

The bladder was not injured and the rectal mucosa was intact. The cervix was normal and uninjured. The uterus felt normal for her age. Using chromic catgut 2.0 the vaginal wall tear was repaired from the apex downwards. No undue bleeding encountered. The

vaginal canal was packed with sofratulle. The catheter was removed. The pack was to be removed after 24 hours. Reversal of anaesthesia was smooth.

Post operative management

Her vital signs were observed half hourly until she was fully awake and 4 hourly thereafter. Analgesia was given with 25 mg pethidine six hourly for one day then paracetamol tablets 500mg 8 hourly. She was to take orally when able. She was given prophylactic antiretroviral and antibiotic drugs in form of combivir and stocrine for 6 weeks and erythromycin 250mg 8 hourly and flagyl 200mg 8 hourly for seven days. The perineal region was to be cleaned with betadine solution every day and kept dry for one week.

The mother requested to be discharged the following day to report to the police. She was counseled and reassured that the child would heal well and this would not affect her child bearing potential. The child was referred to the psychiatric clinic for counselling and follow up and was to be reviewed in the gynaecology clinic in two weeks time.

Results of vaginal fluid

Microscopy – Many RBCs seen
- No spermatozoa seen

Culture - No growth obtained

DISCUSSION

Sexual assault (rape) is a violent crime directed predominantly against women.[1] It is becoming increasingly prevalent in industrialized societies.[1]

Rape is defined as the unlawful sexual penetration (i.e. penile intrusion, however slight, of any of a person's body or of any object in to the genital or anal opening of another person's body); accompanied by any of the following circumstances:

a) Force or coercion
b) The victim being mentally defective, incapacitated, or physically helpless, or

c) The actor accomplishing sexual penetration by fraud.[2]

" Aggrevated rape" is rape involving a weapon, cases wherein the victim is physically injured (including acquiring venereal disease or becoming pregnant) or more than one assailant is involved, or cases in which the victim is less than 13 years old.[2]

With this definition the patient presented had aggravated rape.

However rape is a legal diagnosis.[3] For the physician attempting to care for the victim – patient, rape would be defined as a physical assault involving the genitalia of either the victim or the assailant.

Rape is the most underreported crime in the USA. It is estimated that no more than 20% of all sexual assaults are reported to the authorities and that 3-10 times as many rapes are committed as are reportd.[1,4]

Despite this underreporting, rape is still the most rapidly growing of all violent crimes with an incidence increase of 36% in the United States between 1975 and 1984.[2]

In 1983 the rate was reported as 35.7 per 100,000 total population.[1]

The local incidence of rape is unknown. Sexual assault may occur to a woman at any age regardless of the social class, or race. The age incidence is reported to vary form a 2 month old baby girl to a 93 years old woman. However most of the victims are between 16 – 25 years, and only 7% are under the age of 10 years.[2,5] The patient presented was only 8 years.

Rape is more prevalent in the urban areas. Approximately 50% of all sexual assaults occur in the victim's own home where the rapist gains entry by breaking in or by false pretences. More than 80% of sexual assaults occur within the victims own neighbourhood, and more than 50% of the rapists reside in the same neighbourhood. Approximately 20% of victims are able to identify the rapist by name.

In the case presented, the assailant was well known to the victim who resided within the neighbourhood. Although she could not say how she went into his house it is possible that the assailant lured her by fraud. It is also reported that about three quarters assault cases occur between 6pm and 6am. Those occurring at the assailants home usually involve an acquaintance, a situation wherein the victim accompanies the assailant voluntary to his home.[2] This is what likely happened in this case.

In general, rapists choose the victims bases on perceived vulnerability and/or availability. They prefer the weak and the helpless, or at least the vulnerable. Weapons may be used by the assailants and these include knives, clubs or even guns.[2]

Less than 10% of rape victims are severely injured to require hospitalization.[2,5] This may be related to the degree to which the victim fights back, her age, and whether a weapon is involved. Cartwirght.[6] reported that rape victims sustained non genital injury least often if the assailant had a gun, most often if he had a knife or club, and if no weapon was used an intermediate number were injured. The patient presented did not have non-genital injury and this could be due to the age of the patient and it's also possible that a weapon was used.

Rape of a premanarchial child can cause vulval and perineal contusions and linear, stellate or circumferential tears of the vestibular mucosa. Forceful penile entry into a child's vagina can produce lacerations of the perineum, tears of the vagina, injuries to the bladder and rectum, and perforation of the cul-de-sac, peritoneum. Other effects of rape include marked psychological trauma to the victim and family requiring counseling.[7]

The patient presented sustained vestibular laceration and a vaginal tear, which required repair under anaesthesia. She was also depressed and apprehensive and thus required psychiatric evaluation.

Apart from emotional trauma and varying ranges of physical trauma being addressed, forensic aspects must be considered so as to allow law enforcement agents to successfully pursue and prosecute rapists.

Details of the assault, gynaecological history in order to evaluate the risk of impregnation and acquisition of sexually transmitted diseases. Details of activities between the assault and examination: - whether the patient has eaten, drank, bathed, douched, voided or defeacated, - which may affect findings on physical examination. Physical examination should document the location, nature, and extent of external trauma (ecchymosis, abrasions, lacerations, bite marks and rope marks) and if possible those are photographed.

Other observations which may be used to help to refute allegations include:

- state of clothing – whether torn, muddy or blood stained.
- State of finger nails
- Condition of vulva, hymen and vagina
- Matting of the pubic hair, or staining of the clothing with semen

- Microscopic demonstration of semen or the vulva and assaying of acid phoshatase
- Presence of loose hair which can be shown to be similar to those of the pubis of the accused man and
- The transmission of venereal disease.[2,3]

The appropriate specimens should then be taken including clothing and hair material for histologic and bacteriological studies, labeled and submitted for expert examination.

The medical management of the survivor includes the treatment of physical injuries, the prevention of venereal disease and pregnancy, the initiation of crisis intervention and the collection of forensic data.[2] Treatment of physical injuries should be started immediately after the appropriate examination and collection of samples has been done. The possibility of pregnancy was not considered for the patient as she was prepubertal. Otherwise the morning after pill e.g postinor is taken, one tablet within 12hrs of exposure and the second tablet before 72 hrs after exposure. For the prevention of sexually transmitted diseases, treatment is usually given for gonorrhoea and syphilis with pencillin or tetracycline. However other sexually transmitted infections encountered include trichomonas vaginalis, candida albicans and gardinella vaginalis. Prophylactic treatment to these should be considered.[1] Other possible infections are those due to herpes virus, papilloma virus, hepatitis virus, cytomegalo virus and human immunodeficiency virus (HIV). Our patient was given erythromycin and flagyl, combivir and nevirapine. Serological test for syphilis was to be done on the day of review.

To detect the presence of dried semen on the skin, mons, or clothing a Wood's light examination is performed. Semen fluoresces and dried deposits are detected this way.[2] and samples may be taken for examination of sperm and acid phosphatase (ACP).

In all instances a warmed speculum, lubricated with water, is inserted into the vagina to visualise the cervix. Speciments for wet preparation and permanent stain, ACP, and foreign antigens are collected from the posterior vaginal fornix. Endocervical swabs for gonorrhoea and/or chlamydia testing are collected next. This was not possible in this young patient who was bleeding. In analysis of the vaginal fluid taken in theatre and sent to the laboratory, only red blood cells were found.

No sperms were identified. It was not possible to get transport medium for gonococcus or chlamydia.

As most patients suffer significant emotional trauma as a consequence of sexual assault, the physician must be prepared to provide access to counseling. It is preferable that following psychologic counseling to be provided by individuals who have extensive experience in the management of crisis response to rape.[1]

We referred the patient to our psychiatric colleagues for follow up. Some of the early emotional and psychiatric problems associated with rape victims include fear, shock and disbelief with agitation insomnia, headache and muscle tension. Others are disorganization, nightmares and emotional lability.

Later on rape victims experience difficulty in establishing sexual relationships, neurotic and psychotic behavioural disorders, suicidal behaviour and substance abuse.[1]

The prognosis for complete recovery is improved if persons responsible for the victims care have a well developed understanding of the emotional and physical consequence of the physical assault.

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CASE NO. 9: UTERINE PROLAPSE – VAGINAL HYSTERECTOMY WITH ANTERIOR AND POSTERIOR COLPORRHAPHY

Name:	M.M	I.P:	0817420
Age:	41 years	Parity:	9+0
D.O.A:	24/12/2001	D.O.D	14/7/2002

Presenting Complaint

She was admitted as a referral from Kangundo Hospital via Machakos with a diagnosis of uterine prolapse. She had delivered a preterm baby weighing 1.5Kg on 22/12/2001. The labour was reported to have been uneventful. However, the following day she felt and saw a mass protruding from the vagina. On examination she was found to have uterine prolapse and referred for further management.

Past Medical History

She was being followed up for portal hypertension at Kangundo Hospital. She had had abdominal swelling for 3 years and umbilical swelling for 2 years.

Obstetric and Gynaecologic History

She was para 9+0. Her last delivery was in December 2001. All the previous deliveries and were normal. She had never used contraceptives.

Family and Social History

She was a married peasant farmer. She did not drink alcohol or smoke cigarettes. There was no history of tuberculosis or diabetes.

Physical Examination

She was found to be a sick looking middle aged lady. She was wasted, mildly pale and had a tinge of jaundice. There was no fever or lymphadenopathy. The respiratory, cardiovascular and central nervous systems were normal.

Abdominal Examination

The abdomen was grossly and uniformly distended, the umbilicus was everted. There was massive splenomegally 12cm below the subcostal margin and gross ascites. The liver was not palpable and there were no pelvic masses. She also had a reducible periumbilical hernia.

Vaginal Examination

The vulva was hyperemic at the introitus. The cervix and the body of the uterus were seen prolapsed outside the introitus. The cervix was hyperemic at some parts. A cystocele and a rectocele were also noted.

Diagnosis

A diagnosis of chronic liver disease with ascites and portal hypertension with procidentia was made.

Plan of Management

She was first to be managed for the ascites by the physicians after which she would be reevaluated for vaginal hysterectomy and anterior and posterior colpoperineorrhaphy.
She was transferred to the medical wards and managed with aldactone 200mg once daily, lasix 40mg once daily, low salt diet, high carbohydrate diet and had several ascitic taps. After 3 months the ascites subsided and the patient was comfortable. She was transferred back to ward 1B for management of uterine prolapse. The diagnosis being liver cirrhosis ad procidentia.

Investigation

Abdominal ultrasound:	The liver is dense, shrunken, with periportal fibrosis. The Portal vein appeals prominent 2.3 cm in diameter. The spleen is enlarged with a normal homogeneous echo-pattern. There are varices along the splenic vessels. Ascites seen. No other abdominal mass seen. Conclusion: portal hypertension.
Stool o/c	No ova or cysts seen.

Haemoglobin	9.18 g/dl normochronic, normocytic, no malaria parasites.
WBC	6.1 x 10^9/1
PLT	112 x 10^9/1
Urea/Electrolytes	Na^+ = 135 mm/1
	K^+ = 5.6mmol/1
	Urea = 98.6mmol/1.

Ascitic tap

Bacteriology	No leucocytes
	No bacteria
	No AAFBs seen
Culture	No growth
Biochemistry	Sugar = 1.1mm0l/1
	Protein = 94.3g/1
Liver functions tests	
Total protein	61g/dl (low) (68-85)
Albumin	14g/dl (low) (26-47)
ALT	13Iu/1 (low) (24-60)
AST	43Iu/1 (l4-41) High
ALP	120lu/1 (53-114) High
Urinalysis	NAD

Pre-operative check Hb = 11.9g/dl.

Operation

She was ready for operation on 6/7/2002 after missing theatre severally due to technical problems. The patient was put under general anaesthesia. In lithotomy position, vulvovaginal toilet, draping and catheterization was done. The uterine procedentia, cystocele and rectocele were confirmed at E.U.A.

The cervix was grasped with ovum forceps and sim's speculum was used to retract the posterior vaginal wall.

The cervix was pulled down and the portio vaginalis was circumcised after infiltration with "Jungle Juice". With sharp and blunt dissection, the bladder was mobilized from the cervix. The cul de sac was opened posteriorly and similarly the uterovesicle peritoneum was opened anteriorly. About 2 litres of amber coloured peritoneal fluid was drained.

The uterosacral and the cardinal ligaments were identified, clampsed, divided and ligated. The broad ligament together with the uterine vessels were clamped and ligated bilaterally. The ovarian ligaments and the fallopian tubes were clamped, cut and ligated thus achieving the delivery of the uterus through the vagina. Both the ovaries looked healthy and were left in situ. The vaginal vault was suspended by suturing the vault to the cardial ligaments and the uterosacral ligaments. The vault was then closed.

A triangular shaped wedge of the vaginal mucosa with its apex just below the urethra and its base at the vesico-vaginal junction was dissected off. The fascial tissues were then sutured and approximated to achieve bladder support. The redundant vaginal mucosa was trimmed then closed over this.

A similar procedure was carried out posteriorly removing a triangular shaped wedge of the vaginal mucosa with its base at the peritoneal mucocutaneoous junction. The elevator and muscles were approximated and the vaginal mucosa closed over this excision. The redundant tissue was trimmed. Blood loss was minimal. A urethral catheter and a vaginal pack were left in place.

Post Operative Care

She received routine post operative care with antibiotics and analgesics. The vaginal pack was removed after 24 hours. The operation site was intact with no haematoma formation.

She was allowed to take orally on waking up form anaesthesia. The urinary catheter was removed after 48 hours. Sitz baths twice daily were instituted. She also continued with aldactone and lasix. The post operative period was generally uneventful. The wound healed well. She was discharged through the liver clinic and was to be seen in gynaecologic clinic in six weeks.

Follow-up

She attended the gynaecologic clinic after 6 weeks. She had no vault prolapse. Histology showed normal uterus, endometrium and cervix. She was being followed up in the liver clinic.

DISCUSSION

Genital prolapse refers to various anatomical abnormalities involving the vaginal canal and surrounding structures associated with loss of fascial and ligamentous support. These include urethrocele, cystocele, uterine prolapse, vaginal vault prolapse, entorocele, rectocele and relaxed vaginal outlet.[1,2]

Genital prolapse is a common gynaecological problem in developed countries. Cox and Webster reporting on genital prolapse among the West Pokot tribes in Kenya had noted it was relatively uncommon in East Africa as compared to similar age groups in Europe and the USA [3] Mwalali found the incidence of genital prolapse at Kenyatta National Hospital to be 0.6% .[4]

Ulterine prolapse almost always occurs in combination with cystocele or rectocele or both and is thus referral to as uterovaginal prolapse.[1,2] The degree of descent of the uterus varies and is described as first degree if the cervix described reached the introitus; second degree if the cervix protrudes through the introitus when the woman strains or is standing; and third degrees if the entire uterus is protruding from the introitus.[1,2] In Kenyatta National Hospital the second degree prolapse was found to be commonest.[4] The patient presented here had a third degree prolapse.

The aetiological factors in genital prolapse have their origin in the stresses of child bearing. Genital prolapse usually occur in middle-age and old women who have had

vaginal deliveries. At Kenyatta National Hospital, 76.6% of the patients with genital prolapse were para 5 and above.[4]

Less frequent causes of pelvic relaxation include congenital weakness of the musculofascial supports of the pelvic viscera, conditions associated with raised intra abdominal pressure from any cause (chronic obstructive airway disease, heavy work tumors, ascites etc) aging and lessening of hormone support following menopause.[1,2,5] Obesity has been discounted as a cause of pelvic relaxation .[6]

The patient presented was of high partity (para 9+0). She had ascites due to liver cirrhosis. Both factors must have contributed to her prolapse.

The most common symptom of uterine prolapse is sensation of something coming down the vagina. Other symptoms include a dragging discomfort in the lower abdomen and the pelvis. Urinary symptoms, bowel symptoms, abdominal and back pains may be experienced. A mass protruding through the vagina will also be noted. On pelvic examination, mild degrees of uterine prolapse are recognized by feeling descent of the cervix while the patient strain. Severe forms will be visible at the introitus.[1,2,5]

At Kenyatta National Hospital the most common symptom was sensation of something coming down, which was found in 88.1% of the patients with genital prolapse.[4] The patient presented with a mass coming out of the vagina.

There are two main methods of treating genital prolapse: conservative, using plastic pessaries and surgical. The choice of the treatment depends on the symptoms, age, general physcical condition of the patient and desire for the future child bearing.[1,2,5] This patient was of high parity with procedentia and vaginal hysterectomy and the peritoneal repair was the treatment of choice. Indication for the use of pessaries include early pregnancy, purperium, old unwell patient unfit for surgery and in patients on the waiting lists.[8] However in our unit we hardly use pessaries. Vaginal hysterectomy and pelvic floor repair and Manchester repair accounted for 63.3% and 24.5% respectively for the corrective measures for uterine prolapse at Kenyatta National Hospital.

The rate of recurrence of genital prolapse is lower for vaginal hysterectomy and pelvic floor repair than in other operations such as a colporrhaphy with cervical amputation (Manchester operation and Le Forte operation).[2]

Post operative complications such as haemorrhage, haematoma, urinary tract infection, thromboembolism was not experienced in this patient. Her post operative period was uneventful.

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CASE NO. 10 : NORPLANT- LONG TERM CONTRACEPTIVE METHOD

Name:	P.W.	Parity:	3+1
Age:	28 years	D.O.A:	13/4/2002
0P:	08017240	D.O.D:	13/4/2002

Presenting Complaint

She had come to family planning clinic for insertion of norplant. She had been referred to the clinic by a private practitioner in town.

Obstetric and Gynaecologic History

She was para 3+1. Her last delivery was in 2000. All deliveries were normal vaginal deliveries. She conceived while using the pill in 2001 and termination was done at two and a half months in a private clinic in December, 2001. Her last menstrual period was on 10/4/2002. Her periods were regular occurring every 26-28 days and lasting for 4 days.

Past Medical History

This was not significant.

Family and Social History

She was a married housewife. Her husband was a soldier at Kahawa Barracks. She did not smoke or pertake of alcoholic beverages. There was no family history of diabetes and hypertension or any other chronic illness

Physical Examination

She was in good general condition. She was not pale and was afebrile. She had no jaundice or lympadenopathy. There were no varicose veins. The thyroid gland was not enlarged. The breasts were normal and non-lactating. No lumps were palpated in the breast. The vital signs were as follows; blood pressure was 110/70mmHg, pulse was 74 per minute and the respiratory rate was 20 per minute. She weighed 58Kg.

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

Abdominal Examination

The abdomen was not distended. It moved with respiration. There was no area of tenderness. There was no hepatosplenomegally and no pelvic or other palpable masses.

Pelvic Examination

She had normal external genitalia. Speculum showed normal vaginal walls and the cervix was healthy.

On digital examination the cervix was long, firm and its os was closed. The uterus was normal in size, anteverted and mobile. There were no adnexal masses. The pouch of Douglas was free.

Investigation Reports (Made available from the general practitioner)

Pap Smear: Pap class 1

Pregnancy test: Negative.

Impression

The client was suitable for Norplant insertion

Counselling

This had already been done by the private practitioner; however, we established that she knew other methods of contraception, including intrauterine contraceptive device, bilateral tubal ligation and depoprovera. She also knew about irregular bleeding and a spotting associated with Norplant. They had discussed with the spouse and both opted to try Norplant.

INSERTION

This was done in the procedure room in clinic 66. The patient was placed in the supine position on the table. The left arm was extended and put on arm rest. The left arm was chosen because she was right handed.

The medial aspect of the left upper arm was cleaned with savlon antiseptic, dried and painted with betadine solution. It was then draped with a sterile towel with an aperture exposing the incision site. The incision site was approximately 4 finger breaths (8-12cm)

superior and lateral to the medial epicondyle. Local anaesthesia (1% Lidocaine) was infiltrated in a fan-shaped fashion at the site where the implants would be placed. A volume of about 6mls of anaesthetic was used. A 2mm skin incision was made with no. 11 scalpel at the site 8cm above the medial humeral condyle. The trochar with its obstructor was then advanced laterally under the skin to the mark nearest the hub (4.5cm), the obstructor was removed, and the first implant was loaded into the trochar. The obstructor was replaced and used to advance the implant to the end of the trochar until a slight, initial resistance was met. Holding the obstructor stationary, the trochar was retracted over the obstructor leaving the implant behind.

After the trochar was completely retracted on the obstructor, gentle downward pressure was exerted on the proximal end of the implant while retracting the trochar and obstructor together to the mark closest to the level. This ensured that the implant lay about 0.5cm above the incision. The trochar was not removed until all implants had been placed with the obstructor fully advanced into the trochar, the direction of the trochar was changed so that the neat implant lay at a 15 degree angle from previous implant, forming a fanlike distribution of 6 implants. The same technique for placing the implant was used, but each time a finger was placed over the previous implant for adequate spacing and to prevent inadvertent puncture of implant already placed.

After all implants were inserted, the skin was closed with an elastoplast. The gauze sponges were placed above the site and pressure bandaging was applied to prevent bleeding. She was advised to keep the pressure dressing for one day and the elastoplast for five days. The site was to remain dry for that period. She was to come to clinic incase of discharge, smelling or fever. She was booked to be seen after one month.

Follow-up

On review on 15/4/2002, she was spotting but not bleeding. This had started two days earlier. The wound had healed. Her blood pressure was 110/70mmHg and her weight 58Kg. Pelvic Examination was normal. She was reassured and was to be seen again after 3 months after which she was lost to follow-up.

DISCUSSION

Norplant is one of the contraceptives using progestin – only approach to birth control. It consists of Norplant implants (levanorgestrel) providing 5 years of highly effective contraception.

Others are:-

- Capronor – biodegradable implants with levonorgetrel providing 18 months contraception.
- Depo provera (medroxyprogesterone acetate) providing 3 months of protection.
- Norethindrone ethanthate (NET) injection which protects for 3 months.
- Vaginal rings (levonorgestrel, norethindrone or progesterone) providing 1-6 months of contraception.[1]
- Mirena (IUCD with levonorgestrel), Jadelle, Implanon.

The Norplant subdermal implant system employs silatic tubing permeable to steroids molecules to provide stable circulating levels of synthetic progestrin each measuring 34mm in length with a 2.4mm outer diameter and containing levorgestrel. The capsule is made of flexible, medical grade silastic (polydimethysilicone) tubing which is sealed shut with silastic medical adhesive, silocone type A. The cavity of the capsule has an inner diameter of 1.57mm, with an inner length of 30mm. Each capsule contains 36mg of dry crystalline levonorgestrel for a total of 216mg in the 6 capsules. The levonorgestrel is very stable and has remained unchanged in capsules examined after more than 7 years of use.[2]

Norplant was first introduced in clinical fields in Chile in 1972. By the end of 1988, Norplant had been approved for use in 12 countries. By 1990, Norplant was approved for marketing in the USA, the 20th country to do so.[1,2]

In Kenya, Norplant was introduced in 1986 in a Machakos Project area in collaboration with population council, New York.[3]

The release rate of capsule is determined by its total surface area and the thickness of the capsule wall. The levonorgestrel diffuses through the wall of the tubing into the surrounding tissues where it is absorbed by the circulatory system and distributed systemically, avoiding an initial high level in the hepatic circulation. Within 24 hours after insertion, plasma concentration of the levorgestrel range from 0.4 to 0.5 mcg/ml,

high enough to prevent conception. The capsules release about 80mcg of levorgestrel per day during the first 6 – 12 months of use. This rate declines gradually to 30 – 35mcg per day for the remaining duration of use. After 5 years, the implants release about 25mcg per day. The 80mcg of the hormone released by the implants during the first 2-6 months of use is about the same as the daily dose of levonorgestrel delivered by progestin – only mini pill oral contraceptive, and 25 – 50% of the dose delivered by low dose combined oral contraceptives.[1,2]

Mean plasma concentration below 0.2ng/ml is associated with increased pregnancy rates. After 6 months of use daily, levonorgestrel concentration are about 0.35ng/dl, at 2.5 years, the levels decrease to 0.25 – 0.35ng/ml. Until the 5 year mark, mean levels remain above 0.25ng/ml.[4] Because of the failure rates increases to unacceptable levels in the 8th year, the capsules should be removed at the end of the 5th year.[1,2]

Body weight affects the circulatory levels of levenorgestrel. The greater the weight of the patient, the lower the levonorgestrel concentration at any time during Norplant use. The greatest decrease over time occurs in women weighing more than 70kg [2]

Morbidly obese women may not be as protected as women of average weight. There are three probable mechanisms by which Norplant exerts its contraceptive effects, these are:-

1. Suppression of production of lutenizing hormone surge that is necessary for ovulation at both pituitary and hypothalamic level. Only a third of all cycles are ovulatory.
2. Thickening of the cervical mucus. The mucus thickens and decreases in amount forming a barrier to sperm penetration.
3. Suppression of the estradiol cyclical maturation of the endometrium and eventually causing atrophy. These changes could prevent implantation should fertilization occur, no evidence of fertilization has been detected in norplant users.[5,6]

The advantage of norplant is that is it is safe, highly effective and is a continous method of contraception. It requires little user's compliance or motivation and is rapidly reversible. Because this is a progestin only method, it may be utilized by women who have contraindications for the use of oestrogen containing contraceptives. The sustained release of low doses of progestin avoids the high initial dose delivered by injectables and the daily hormone surge associated with oral contraceptives. Nor plant is not a coitus related contraceptive method.

The disadvantages associated with norplant include;

- Disruption of the bleeding pattern. This occurs in upto 80% of the users, especially during the first year of use and some women or their partners find these changes unacceptable. Endogenous oestrogen is variably suppressed, and unlike the combined pill, no exogenous estrogen is provided to maintain a stable endometrium. The absence of cyclic administration does not allow for regular withdrawal bleeding. Consequently, the relatively unstable endomentrium sheds at unpredictable intervals.

- The implants must be inserted and removed in a surgical procedure performed by a trained personnel. Women cannot initiate or continue the method without the assistance of a clinician. This also raises the costs of initiation and discontinuation compared to barrier or oral contraceptive methods.

- The implants can be visible under the skin. This sign of use of a contraceptives may be unacceptable for some women and for some partners.

- Norplant does not provide protection against sexually transmitted disease (STDs) such as herpes, human papilloma virus, HIV, gonorrhoea or chlamydia .[1,2]

Norplant is indicated for use by women of reproductive age who are sexually active and desire continous contraception. This include women who;

- Desire spacing for future pregnancies.

- Desire a highly effective, long term method of contraception.

- Have difficulty in remembering to take pills everyday, have contraindications or difficulty in using IUDs or desire a non-coitus related method of contraception.

- Have completed their child bearing but do not desire permant sterilization.

- Have history of anaemia with heavy menstrual bleeding.

- Experience serious or minor estrogen related side effects with oral contraception.

The patient presented wished to have an ongoing effective birth control method and could not remember to take the pills everyday. This was a suitable method for her.

Contraindications to norplant use are; active thrombophlebitis or thromboembolic disease, undiagnosed genital tract bleeding, acute liver disease, benign or malignant liver tumuors, known or suspected breast cancers. Our patient had non of these.

Other related contraindications are; heavy smoking (15 or more daily) in women over 35 years, history of ectopic pregnancy, diabetes mellitus, hypercholesterolemia, severe acne, hypertension, migraine, severe depression chronic disease such as immunocompromised patients.[1,2] Our patient had non of these and therefore suitable for norplant insertion.

Norplant is a more effective method of birth control than any of the other reversible methods. In studies conducted in 11 countries, totaling of 12,133 woman years of use, the pregnancy rate was 0.2% per 100 woman-years of use.[2]

Side effects of norplant insertion include; headache, acne, weight change, mastalgia, hyper pigmentation over the implants, depression, mood changes, anxiety, nervousness, ovarian cysts formation and galactorrhoea.[2,6]

Insertion of the norplant can be performed any time during the menstrual cycle as long as pregnancy can be ruled out. If the patient's last menstrual period was abnormal or if she had unprotected sexual intercourse or there are reasons to suspect pregnancy, a sensitive urine pregnancy test should be performed.

The patient presented came in her periods (as is done in our unit) but she also had negative pregnancy test to erase any doubts. Norplant can be inserted immediately post partum but certainly should not be initiated later than the third week post partum.

Complications of the insertion include; infection, hematoma formation, local irritation or rash over the implants and allergic reaction to adhesives or the dressing. The incidence of these complications are minimized by clinician training and the use of strict aseptic technique.[2] Our patient had none of these complications.

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CASE NO. 11 :PELVIC ABSCESS – LAPARATOMY AND DRAINAGE

Name:	L.W.	Parity:	1+0
Age:	33 years	D.O.A:	29/3/2002
IP:	0819212	D.O.D:	12/4/2002

Presenting Complaints

The patient was admitted from casualty to the acute gynaecological ward complaining of low abdominal pains and vaginal discharge for six weeks, vomiting and abdominal fullness for five days.

History of Presenting Complaints

The patient had been relatively well until six weeks prior to admission when she developed abdominal pain. This was on and off and was associated with yellowish vaginal discharge. She had been taking paracetamol to relieve the pains. However for the previous five days before admission the abdominal pains had become severe and unbearable, the vaginal discharge had increased and foul smelling. She had noticed a swelling in the lower abdomen and was vomiting feeds. She was constipated for the past three days.

Obstetric and Gynaecological History

She was para 1+0. Her delivery was in 1999 and the baby had died after one month due to febrile illness. Her puerperium had been uneventful. Her last menstrual period was on 19/1/2002. Her menarche was at 15 years. Her periods were regular and not heavy, occurred every 30 days and lasted 3 days. She has been having intermenstrual spotting for the last two cycles. She had never used any contraceptives.

Past Medical History

She had been admitted in hospital in Kisumu for two days due to lower abdominal pains in 1992.

Family and Social History

She was a single lady who was living with her sister in Rongai. She was a primary school dropout. She neither smoked nor drank alcoholic beverages. There was no history of any major illness in the family.

Physical Examination

She was sick looking. She was febrile but not pale. There was no jaundice or lyphadenopathy. Her blood pressure was 110/60 mmHg, pulse 86 per minute, respiration 24 per minute and her temperature was 38.1^{0}C.

The cardiovascular, respiratory and central nervous systems were normal.

Abdominal Examination

The lower abdomen was distended. There was guarding and rebound tenderness. The liver and the spleen were not palpable.

Pelvic Examination

The external genitalia was normal. The cervix was anterior, firm and parous, the os was closed and the cervical excitation sign was positive. The uterus could not be defined due to tenderness. Both adnexa were tender. The pouch of the Douglas was full and tender. There was an odorous yellowish discharge on examination finger.

Diagnosis

An impression of pelvic abscess was made.

Investigations

1. Haemogram
   - Hb = 12.2g/dl
   - WBC = 19.9×10^{9}/1
   - N=98%, L=2%, M=0%, E=0%
   - Platelets = Adequate
2. Urea and Electrolytes
   - Sodium = 136 mmol/1
   - Potassium = 4.7 mmol/1

- BUN = 4.6 mmol/1

3. Urinalysis - Sg = 1.020, Protein = Nil, Sugar = Nil.

Management

She was started on intravenous antibiotics and oral analgesics as follows;

Gentamycin 80mg every 8 hours, flagyl (metronidazole) 500mg every 8 hours, ampicillin 500mg every 6 hours and ipobrufen 400mg every 8 hours. After two days of treatment the fever had subsided but the abdominal tenderness still persisted. The fornices were still tender and the pouch of douglas was full and fluctuant. She was planned for laparotomy.

An informed consent was taken. Blood was taken for grouping and cross-matching and two units of blood were requested for.

Laparotomy and Drainage

She was premedicated with atropine and pethidine intramuscularly 0.6mg and 100 mg respectively ½ hour before theatre.

In theatre she was put under general anaesthesia and intubated. She was then placed in dorsal lithotomy position and valvovaginal toilet done. Aseptic catheterization was done and clear urine was obtained. Examination under anaesthesia revealed a normal sized uterus pushed to the right side. There was a left adnexal cystic mass about 10 x 9 cm in diameter. The pouch of douglas was full and fluctuant.

She was repositioned to supine position; the abdomen was cleaned and dried, then opened in layers using the lower middline incision. The parietal peritoneum was thickened. There was a capsulated cystic mass in the left adnexa. Aspiration yielded pus – This was taken for microbiological studies. The uterus was adherent to the abscess wall and pushed to the right side. The fallopian tube and the ovary on this side could not be identified. The right fallopian tube was thickened and fixed posteriorly in the pouch of Douglas. The ovary on this side was not visible. There were moderate adhesions involving the small and large gut on to the uterus and abscess wall.

The gut was released gently by blunt dissection and pus drained. The volume was about 600mls. All the pockets were broken. The pelvis was irrigated with worm normal saline. A portovac drain was left in the abscess cavity and brought out through the skin at the left iliac fossa. The abscess was closed in layers.

Post –Operative Management:

The antibiotics were continued. Routine post operative anaesthesia was given. The drain was removed after 48 hours. Her recovery was uneventful. She was put on oral medication of tetracycline and flagyl on the fourth day as her vital signs had remained stable. Stitches were removed on the seventh post operative day. The wound was clean and dry. There were no organisms grown from the pus swab reports.

Follow up

She had no complaints. The wound was well healed. She was explained about the findings at laparatomy (frozen pelvis) and about her future fertility (chances of conception, apart from assisted reproduction, almost nil) then discharged from the clinic, an option of adoption.

DISCUSSION

This is a patient who had a tubovarian abscess. Laparotomy and drainage was done with good outcome.

Pelvic abscess most commonly occurs in women in association with pelvic inflammatory disease (PID). These abscesses usually involve both the fallopian tube and the ovary and thus are termed tubovarian abscesses (TOAs).[1]

Pelvic abscesses may also occur following pelvic or abdominal surgery, although this is a far less common occurrence. Predisposing factors in the development of acute salpingitis leading to PID and hence pelvic abscesses include previous episodes of PID and multiple sexual partners. Tubovarian abscess are commonly encountered in women in their 20's and 30's, 20% to 59% of whom are nulliparous. Above the parity of four the condition is rare.[1,2,3]

The patient presented is a single lady aged 33 years who had a previous episode of PID. Her predisposing factors to the development of PID and hence to pelvic abscess could have been multiple sexually transmitted diseases.

Pelvic infection accounts for 40% of emergency admissions at Kenyatta National Hospital (KNH) and Aga Khan in Nairobi [4]. The incidence of pyosalpinx at KNH was found to be 12.7%.[5] The incidence is much lower in the developed countries at 1-2% .[2]

Although the development of a tubovarian abscess has been associated with advanced stage of PID, it has been shown that in over 50% of the patients there was no prior history of PID.[1] This suggests that asymptomatic or sub clinical infection may progress silently to tubovarian abscess stage or that development of a tubovarian abscess may occur more rapidly than once suggested.[1]

It seems likely the patient presented progressed to abscess formation in the more traditional way. She had been having abdominal pains for six weeks.

It is hypothesized in using exotoxins, enzymes, all surface virulence factors, and antigenic stimulation all of which cause deciliation and production of pus. Pus is a viscous exudate composed of necrotic debris, white blood cells, proteolytic enzymes and a high concentration of intracellular ions.[1]

Initially the pus either occludes the fallopian tube or exudes from its fimbriated ends, possibly gaining access to the ovary at the site of ovulation. Contiguous tissues, including omentum, bladder and other pelvic structures, may serve to contain the pus, and in the process become adherent to the tubovarian complex. The complex is finally encapsulated by an abscess wall.

Depending on the immunity of the host and the virulence of the organisms the abscess may rupture at any time resulting in acute abdomen or septicaemia or reconfinement with a new wall.[1,2]

The abscess in the patient presented was encapsulated. We did not check her HIV status, however her prompt recovery suggests her immunity was still intact.

The majority of the tubovarian abscess patients complain of abdominal or pelvic pain, fever (>38.5°C) and vaginal discharge although in a small proportion of patients they may be asymptomatic. Vaginal examination will reveal a positive cervical excitation, tenderness in the adnexa and cul-de-sac. Fluctuation or masses in the fornices may be felt.[1,2,3]

Laboratory findings will include leucocytosis, raised erthrocyte sedimentation (ESR), raised C-reactive protein (CRP) which is more sensitive than the earlier ESR and white blood cell count.[1]

Diagnosis in the patient presented was mainly from clinical findings. Diagnostic imaging to aid in diagnosis of pelvic abscess include the following:

Ultrasonography, radionucleotide scans using gallium – 67 and indium – 111 – labeled white blood cells, computerized tonography (CT) and magnetic resonance imaging.

Laparoscopy is invaluable and most accurate in diagnosis. It may also be used for drainage of abscess as well.

A wide variety of facultative and anaerobic organisms may be involved in the pathogenesis of taboovarian abscess. At KNH Neisseria gonorrhoea has been isolated in 75% of patients with pelvic inflammatory disease.[6,7] N.gonorrhoea or chlamydia trachomatis are thought to initiate the process by gaining access to the upper genital tract, producing tissue damage and changing the normal enivornment, allowing for superinfection with anaerobes and aerobes from the vagina and cervix.[1,2] These two organisms are rarely recovered from culture. Usually the cultures yield anaerobes and facultative bacteria which include: E-coli, B.fragilis and other bacteroides, aerobic steptococci and peptostreptococcus. If, however the culture is taken after several days of microbial therapy no organisms may be isolated as happened in the patient present.

Long ago the accepted treatment for adnexal abscess was total abdominal hysterectomy with bilateral salpingo-oophrectomy (TAH-BSO). This wisdom was based on risk of rupture and desire for a definitive cure. However the proliferation of broad spectrum antibiotics has revolutionized the approach to management. The treatment should include cover for N.gonorrhoea, C.trachomatis and mycoplasma as well as facultative and anaerobic organisms including both gram positive and gram-negative forms. At this institution gentamycin, flagyl and ampicillin are used.

Surgery is indicated in cases of antibiotic failure, which is where there is no clinical response after 48 hrs of treatment as was done in this patient. Other indicators include: presence of persistent mass once the acute inflammation has abated or incase of a ruptured tubovarian abscess.[1]

Other approachs to drain pelvic abscess which are not used in this department include; laparascopic drainage and lysis of adhesions, percutaneous drainage using ultrasound or CT guidance and colpotomy.[1]

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