OBSTETRIC LONG COMMENTRY

Title: **KNOWLEDGE, ATTITUDE AND PRACTICE OF SAFE MOTHERHOOD AMONG WOMEN ATTENDING ANTE NATAL CLINIC IN A RURAL DISTRICT – NAROK, KENYA**

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1. Abstract

Safe motherhood is the ability of a woman to have a safe and healthy pregnancy and delivery, one that is free of morbidity and mortality for both the mother and baby (1)

Antenatal care requires being affordable, accessible, acceptable, effective and appropriate. Antenatal care is the best way to prevent/reduce maternal mortality. Maternal mortality is the leading cause of death among women of reproductive age group in many developing countries. Half a million maternal deaths occur every year worldwide. 99% occur in developing countries of which most are preventable. Maternal mortality in Kenya is 590/100,000 live births as compared to less than 20/100,000 in the developed countries

Communities with appropriate knowledge and attitude of safe motherhood that translates into safe practice would have a reduced maternal mortality and morbidity, and this makes pregnancy safe.

This was a cross-sectional study carried out between December 2001 and February 2002.

The aim of the study was to determine knowledge and attitude on some aspects of safe motherhood in those women attending antenatal clinic in Narok district and determine if it translates into practices which will make pregnancy safer.

A total of 270 women were interviewed 19.8% at Ereto Dispensary, 54.5% at Ewaso Nyiro Health Center and 25.7% at Siyabei Dispensary all within Narok district

In the study population, 89% had attended antenatal clinic in previous pregnancy. This is lower than the 96.4% reported in Nairobi and much lower than the 97% in the developing countries. Despite the high coverage of antenatal services only 34% delivered in a health

facility as compared to the National figures of 44-79%{2} and 99% reported in the Developing countries (1)

Most of the mothers had home deliveries either because they found the distance to the hospital far or they preferred the services at home.

From this study it is important to clarify the role of TBA,s in reproductive health .There is a need on continued collaboration, where it exists between the Government of Kenya/Ministry of Health and partners in the provision of Reproductive health services to the community.

Antenatal clinic attendance was high but majority started attending the clinic late in the second and third trimesters Majority of the women were uneducated and most if them preferred home delivery. There is need for information and advocacy on the need of antenatal care, education of the girl child and a need assessment study on the role of traditional birth attendants .

2. Introduction

Safe motherhood is described as a woman's ability to have a safe and healthy pregnancy and delivery.

This can only be achieved by providing high quality maternal health services to all women. Women's poor health is linked to their low status in society, their lack of education and poverty. In Kenya, Narok district included, the women are considered inferior in society although they still remain the main providers for the families. (2) Efforts to reduce maternal mortality and mobility must therefore address these issues.

Maternal Mortality

In many developing countries complications of pregnancy and childbirth are the leading causes of death among women of the reproductive age. It was to this end that the safe motherhood initiative was launched in 1987 at a conference in Kenya. This has become a unique partnership of governments, donors, technical agencies and NGO S in more than 100 countries –Kenya included. a decade later, in 1999 ,the member countries found that their target to reduce maternal morbidity by half was far from being achieved(1)

More than one woman dies every minute from a pregnancy related cause. 585,000 women die every year (1) less than 1% of these deaths occurs in developed countries, thus demonstrating that they could be avoided if resources and services were available. (1)

In addition, to maternal deaths, women experience more than 50 million maternal health related problems annually. (3)

As many as 300 million women (more than one quarter of all adult women living in developing countries) currently suffer from short-term or long-term illnesses and injuries related to childbirth. (4)

Although high quality, accessible health services has made maternal death a rare event in developing countries these complications can be fatal in the developing world. (4)

The risks of death and disability are experienced each time a woman becomes pregnant but the risks are higher and more often in developing countries. (1)

Women's risk of dying from pregnancy and childbirth (1)

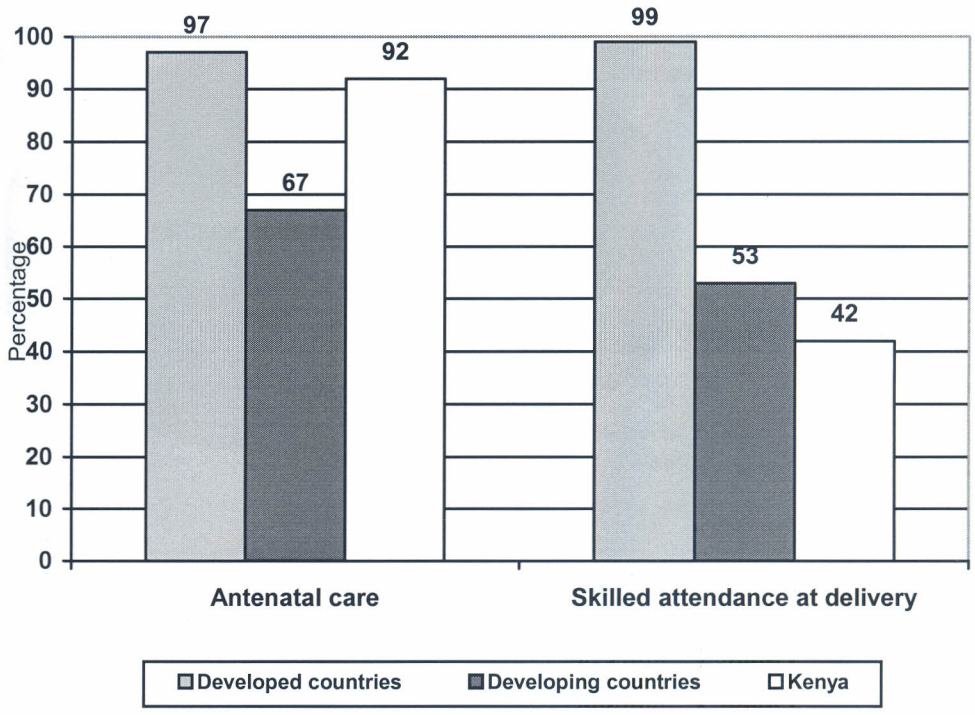
Region	Risk of Dying
All developing countries	**1 in 48**
- Africa	1 in 16
- Asia	1 in 65
- Latin America and Caribbean	1 in 130
All developed countries	**1 in 1,800**
- Europe	1 in 1,400
- North America	1 in 3,700

Due to poor maternal health during pregnancy there are almost 8 million still births and early neonatal deaths. (5) This can be prevented by proper health care during pregnancy.

At least 40% of women experience complications during pregnancy, childbirth and the period after delivery. Approximately, 15% of these women develop life-threatening problems. These include hypertensive diseases, antepartum haemorrhage and anaemia. (6)

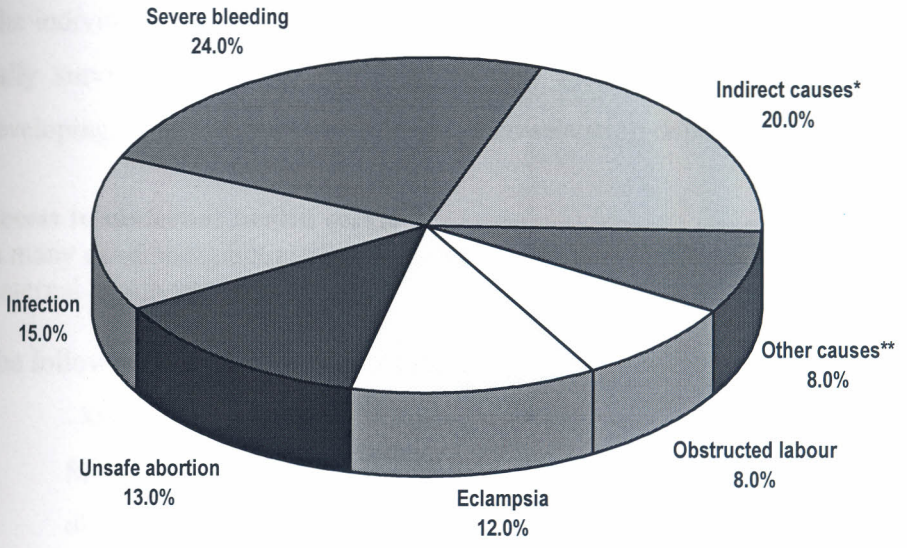
The reason for this high maternal mortality in developing countries is due to the poor services offered and the low coverage of maternal health services. (6) In Kenya, the risk of dying is 1 in 36 with maternal mortality of 590/100,000. (2)

Coverage of Maternal Health Services (2,5)



There are several causes of maternal deaths these are listed below but most can be prevented by good maternal health care.

Causes of maternal deaths worldwide (5)



Note

* Indirect causes include malaria, anaemia, heart diseases and others
** Direct causes include ectopic, embolism, anaesthesia and others

Causes of Unsafe Motherhood
Several factors have been noted, they are interlinked and a change to one may positively affect the others.

i) **Poverty**

In the developing world there is still no significant decline in the poverty rate (7). The individual family is poor with no resources for medical emergencies. When daily survival is at risk mothers use less resources for their health. May developing countries use less on health than servicing debts (7).

ii) **Access to maternal health services**

In many developing countries, women especially in rural areas have no access to maternal health services.

The following areas need to be addressed:

- **More antenatal care**

  Most major obstetric complications occur within hours. Most women who die in developing countries occur, do so remote from a health institution well equipped to cope with the obstetric emergencies.

- **Traditional birth attendants (TBA's)**

  TBA's assists 55% of women who deliver in the developing countries and there is a correlation between high mortality rate and low percentage of trained TBA's. (8)

  However there are areas where TBAs have been trained but the maternal mortality rate has gone up due to self-confidence hence late referrals.

- **Screening**

  Screening to determine high and low risk was first recognised in 1901 when Bellantyne published his plea for a "pro-maternity hospital and hence the beginning of ante-natal care". (9)

Every pregnancy irrespective of risk may develop life threatening complication and may need prompt skilled obstetric interventions.

With the recognition of these low cost strategies the concept of 'essential obstetric care' was developed.

Thus TBA's are well trained and skilled to recognise abnormality and able to deal with situations or transfer appropriately.

- **Cultural barriers**

  These often exist and may negate the use of obstetric services. In some cultures women expect to deliver at home and may refuse to see a male doctor. Husbands may refuse to provide money or allow their wives to be moved to a health facility. Other cultures include ignorance e.g. obstructed labour may be regarded as the consequence of a wife's infidelity. (10)

  In Narok, cultural barriers exist and most women are expected to deliver at home under care of relatives and midwives. They are also denied 'rich' foods like eggs and meat, as they are believed to 'make' the baby big hence increasing the chances of cephalopelvic disproportion.

(iii) Pregnancies too early, too late, too many or too close

Frequent pregnancies with long lactation periods deplete maternal energy, iron and calcium stores. Women in Bangladesh and Pakistan spend more than half their time between the ages of 15 and 45 either pregnant or breast-feeding. (10)

The greater the number of pregnancies, the greater the risk of complication. Teenage pregnancies and pregnancy in the 40's likewise increase maternal risk.

Cultural determinants and inequality of the sexes mean that many women have no reproductive choice. If all women who did not want to have more children and were able to stop, the birth rate would drop by 23% in Africa and 43% in Asia. (11)

Of all maternal deaths 58% could be prevented by a combined approach of general fertility reduction, abortion services and family planning targeted at high risk groups. (12)

Almost 50% of couples in the developing world have little or no access to family planning. (12) This is due to either lack of knowledge or poor availability of services. In Kenya, the use of contraception is still low at 32% in 1998 up from 27% in 1993. (22)

(iv) Poor Nutrition and Health

Most women from developing countries suffer from malnutrition during pregnancy and lactation. Customs and traditions have ensured that women have clearly defined provider role. About 1/3 of women in sub-Saharan Africa have an inadequate daily calorie intake (13) while 60%-70% of pregnant women in developing countries are anaemic (14) and therefore likely to die from post partum haemorrhage. (15)

(v) Low Socio-economic Status of Women

In developing countries on average women earn 50%-70% of the income earned by men for similar work. (16) Women often do tasks which require considerable physical exertion, regularly working for 15 hours a day. (17) Strenuous physical activity contributes to poor pregnancy outcomes but women's health is seen by women and by others as low priority.

This acceptance comes from lack of knowledge and education. Knowledge is poor and they have little knowledge. Illiteracy rates may be almost 50% higher

for women than for men (18) and women without formal education have greater risk for maternal mortality than educated women. (19)

Ante-Natal Care (ANC)

There is a promotive, preventive and curative service which is designed to maintain and improve the health of the woman and her baby for favourable pregnancy outcome. (20)

The rationale of ANC rests on screening a population of pregnant women with an objective of detecting early signs of risk factor for disease and ensuring that every pregnancy culminates in the delivery of a health baby without impairing the health of the mother. (9, 21)

In Africa, provision of antenatal care is generally still poor because of the expense, large populations, shortage of manpower and poor health infrastructure.

It is generally recommended that antenatal care be started early in pregnancy with monthly visits every month after 28 weeks then fortnightly until 36 weeks and then weekly to delivery. Modifications can be made to suit the mother. (9)

A WHO study showed that fewer visits, about 2- 4 visits, would be effective, safe and acceptable to mothers and care providers. It would be less costly. It also showed that in developing countries these changes would allow resources to be directed towards delivery care. (22)

In Kenya, ANC is still poor with the Kenya demographic and health survey of 1993 showing that 1/3 of pregnant women not having received ANC until the 6^{th} or 7^{th} month. (23)

A study in Machakos 1990, 5% of women attending family and child welfare clinics had not had any ANC during the preceding pregnancy and 22.7% had good knowledge of ANC. (24)

In Kisumu, Gwada found that 30.7% of women sought ANC in the third trimester and only 3.5% in the first trimester. (25)

The 1998 Kenya demographic and health survey showed that 1/3 of pregnant women not having received antenatal care before the third trimester. (2)

The antenatal care uses the high risk approach although all pregnancies face risk they are divided into high and low risk according to certain social, demographic and physical characteristics e.g. age, height, number of pregnancies. (26)

The high risk approach tends to allow concentration of limited resources on problem cases. (9)

The Nairobi birth survey showed 10.3% of the mothers gave history of previous ill fate of child i.e. abortion, still birth and neonatal death. 2.4% had previous operative delivery and 4% had hypertensive disease, eclampsia, antepartum haemorrhage or cardiac disease. (27)

In a study in Mbale rural health training centre, Kidula found poor knowledge of risk factors in pregnancy among antenatal women. (28)

Antenatal care provides a period that one can achieve a good pregnancy outcome and it is during this period that many complications can be prevented.

During the first visit the medical and obstetric history can be reviewed, physical examinations can be done, investigations can also be done and planning for the care during the remaining period. (29)

It is also at this time that health education should be given. Where possible health talks to the general public should be provided since a more knowledgeable community is more likely to visit ANC clinics earlier.

Ndirangu showed that despite high knowledge of antenatal care this did not translate into practice (30) and further studies were required to determined the actual knowledge *vis a vie* attitude hence practice of safe motherhood.

3. Rationale

Pregnancy and childbirth are causes of significant morbidity and mortality among women especially in developing countries like Kenya.

At least 40% of all pregnant women will develop some type of complications during their pregnancies. For about 15%, these complications will be potential life threatening and will require immediate obstetric care. (31)

Early and effective antenatal care with appropriate referral system is an effective way of controlling maternal mortality and morbidity (8)

A community with the appropriate knowledge and attitude of safe motherhood and antenatal care with associated safe practice will reduce maternal mortality and morbidity (8)

In Narok, the community still practices a normadic lifestyle. The health facilities are few and the utilisation of them is poor (6). The use of contraception is also still low thus increasing the birth rate.

No study on the knowledge and attitudes of women in Narok towards safe motherhood has been carried out before.

The study would help in determining some aspects of safe motherhood that influence the outcome of the pregnancies.From the results of the study it will be possible to determine factors that influence the pregnancy outcomes and possible interventions wil be identified.

Broad Objective

1. To determine the knowledge, attitude and practice of some aspects of safe motherhood among women attending antenatal clinic in 3 selected facilities in Narok.

Specific Objectives

1. To determine the knowledge of the need of antenatal care among the antenatal mothers.

2. To determine the attitude and practice towards antenatal care among the mothers.

3. To determine the knowledge, attitude and practice towards intrapartum care among the mothers

4. To determine the socio-demographic characteristics associated with good knowledge, appropriate attitudes good practices regarding safe motherhood.

5. Study Methodology

a) Study Design

Descriptive cross section study

b) Study Area

The study was carried out in three rural dispensaries in Narok District – Ereto, Ewaso Nyiro and Siyapei dispensaries. These dispensaries mainly serve the rural population.They are located in three different administrative divisions.

Narok is situated in Rift Valley. The main inhabitants of the district are the Maasai. The district is vast and ranges from semi arid to high potential agricultural regions. The main economic activities are pastrolism, farming (large and small scale) and tourism.

The Maasai still practice child marriage and polygamy. The Maasai women have not been empowered economically and/or socially. Female education is still low and all these tend to lead to higher maternal mortality.

Health Facilities:

The district has one district hospital, 20 health centres and 24 dispensaries. In some areas, patients have to move upto 40 kilometres to the nearest health facility. The main referral hospitals are Kijabe Medical Centre and Tenwek Hospital which are 100 km and 80 km from the district hospital respectively.

Ewaso Nyiro dispensary is approximately 25 kms from Narok town and serves the people of Mara division. Siyapei dispensary is in central division of Narok district and is 14 kms from Narok town while Ereto dispensary is in Mau division and is 48 kms from Narok town. The population of the study area is 450,000 inhabitants.

c) **Timing of Study**

This was done concurrently in all the three dispensaries to avoid passing of word and was carried out between December 2001 and February 2002.

d) Data Collection

(i) Sample Size

n = desired sample size

z = 1.96 (i.e 95% confidence level)

p = prevalence of condition
= 22.4% from study of Mbuthi of mothers' who knew that it was good to have ANC (23)

d = precision required for study
= 0.05 for 95% confidence limit

$$n = \frac{z^2 p(1-p)}{d^2}$$

$$= \frac{1.96^2 * (0.224 * (1-0.224))}{0.05^2}$$

$$= 267.1$$

$$= 268$$

(ii) Study design

The clients attending antenatal clinic for the first visit at Siyapei, Ewaso Nyiro and Ereto dispensaries irespective of their gestation were recruited. On arrival at the clinic the antenatal cards were opened by the nurses, blood pressure ,weight and temperature were taken. The nurse then eplained to the mothers about the questionaire and verbal informed consent obtained.A complete history including previous pregnancies was obtained andful examination including an obstetric examination was conducted. Both the questionaire and antenatal card were then filled.

(iii) Sampling Tools

The questionnaires were pretested two weeks prior to date of collection at the district hospital. The research assistants were then trained on the filling of the questionnaires. Those recruited to aid with data collection spoke both Kiswahili and Maasai in addition to English.

Once all the questionnaires were filled and collected they were transported to Nairobi for analysis.

e) Inclusion Criteria

- Those who had been residents of Narok district for a period of at least 5 years.
- Those who consented to the interviews.

f) Exclusion Criteria

- Those who declined to consent to the interview.
- Those who resided outside the study area.
- Those who had obstetric complications

g) Ethical Considerations

- The study was done after approval by the Kenyatta National Hospital Ethical and Research Committee.
- All those mothers found with medical complications were treated or referred following the normal system.
- There was no victimization of those who declined to consent to interviews.

- Clients were expected to benefit from the study as recommendations were given.
- The research assistants were qualified.
- Data and information was treated with confidentiality and name and ethnicity of each patient was excluded.

RESULTS

During the study period, a total of 270 women were interviewed. 53 (19.8%) were attending the clinic at Ereto Dispensary, 146 (54.5%) at Ewaso-Nyiro Health Centre and 69 (25.7%) at Siyabei Health Dispensary.

The socio-demographic characteristics were no different in the three localities.

Table 1: Socio-demographic characteristics of the study population

CHARACTERISTIC	FREQUENCY	PERCENTAGE
Age (years)		
• 10-14	2	0.7
• 15-19	36	13.4
• 20-24	84	31.3
• 25-29	65	24.3
• 30-34	51	19
• 35-39	29	10.8
• 40-44	1	0.4
Marital status		
• Single	23	8.6
• Married	240	89.2
• Separated, divorced, widowed	6	2.2
Education in completed school years		
• 0	158	59
• 1-4	28	10.4
• 5-8	53	19.6
• 9-12	25	9.3
• ≥ 13	4	1.5
Occupation		
• Unemployed	194	72.1
• Self employed	47	17.5
• Semi skilled	15	5.6
• Skilled professional	13	4.8
Religion		
• Catholics	65	24.2
• Protestant	125	46.5
• Muslim	5	1.9
• Other	74	27.5

Eighty four (31.3%) of the mothers were in the 20-24 year age group, 30 (11.2%) were above 35 years and 38 (14.1%) were teenagers.

Twenty three (8.6%) were single and 240 (89.2%) were married.

Hundred and fifty eight (59%) of the mothers did not have formal education and majority of them, 194 (72.15) were unemployed.

Table 2: Antenatal clinic attendance in previous pregnancy

PREGNANCY	FREQUENCY	PERCENTAGE
Attended antenatal clinic	218	89
Did not attend antenatal clinic	27	11
Attitude of staff friendly	218	100
Attitude of staff not friendly	0	0
Level of services good	185	85.6
Level of services fair	31	14.6
2 missing cases		
Reasons for not attending antenatal services		
• Did not know	6	25
• Distance	16	66.7
• Other	2	8.3
3 missing cases		

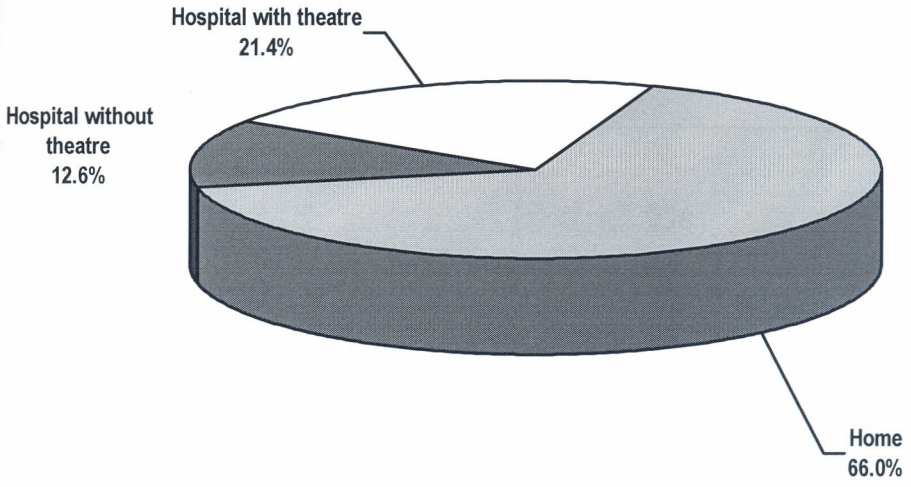
Of the 270 interviewed, 245 had had a previous pregnancy. Of these 245 clients, 218 (89%) attended antenatal clinic in the previous pregnancy and 27 (11%) did not attend. Of those who attended, 218 (100%) found the staff friendly, 185 (85.6%) found the services good and 31 (14.6%) found the services fair.

Those who did not attend antenatal clinic in the previous pregnancy, 6 (25%) did not know of the services and 16 (66.7%) did not attend because of the distance.

Table 3: Place of delivery of the previous pregnancy

	FREQUENCY	PERCENTAGE
Place of delivery		
• Hospital with theatre	51	21.4
• Hospital without theatre	30	12.6
• Home	157	66
Reasons for delivery at home		
• Distance from the hospital	54	34.6
• Did not attend antenatal clinic	5	3.2
• Better services	43	27.6
• Cost	3	1.9
• Routine	10	6.4
• Others – better care	41	26.3

Figure 1: Place of delivery during previous pregnancy



During the previous pregnancy, 157 (66%0 delivered at home, 30 (12.6%) in a hospital without theatre and 51 (21.4%0 in a hospital with theatre.

Those who delivered at home, 54 (34.6%) delivered at home due to distance from health facility, 43 (27.6%) thought the services at home were better, 14 (26.3%) thought the care at home was better, 5 (3.2%) because they had not attended antenatal clinic, 3 (1.9%) because of cost and 10 (6.4%) because others delivered at home.

Table 4: Mode and outcome of previous pregnancy

	NUMBER	PERCENTAGE
Mode of delivery		
• Spontaneous vertex delivery	227	97
• Assisted delivery	3	0.8
• Caeserian section	8	2.1
Outcome		
• Live	238	100

During the previous pregnancies, 227 (97%) had spontaneous vertex delivery, 3 (0.8%) had assisted delivery, 8 (2.1%) had caesearian section. All had live births.

Table 5: Previous pregnancy losses

	NUMBER	PERCENTAGE
Pregnancy losses		
• Yes	40	16
• No	198	84
Gestation at pregnancy losses in months		
• 0-5	26	62.9
• 6-7	7	18.5
• 8-9	7	18.5

Forty (16%) had pregnancy losses of which 26 (62.9%) were before 5 months, 7 (18.5%) between 6 and 7 months and 7 (18.5%) between 8 and 9 months. Majority of the pregnancy losses were in the first and second trimesters.

Table 6: Antenatal care during current pregnancy

	NUMBER	PERCENTAGE
Source of information about antenatal care		
• Medical personnel	53	20.3
• Friends/relatives	174	66.7
• Others	34	13
Reason for attending antenatal care		
• Good care	238	89.8
• Ensure booking for delivery	10	3.8
• Feeling unwell	8	3.0
• Others	9	3.4
Would advice a friend to attend antenatal care?		
• Yes	270	100

Fifty three (20.3%) of the mothers received information about antenatal care from medical personnel, 174 (66.7%) from friends or relatives and 34 (13%) from other sources.

Two hundred and thirty eight (89.8%) attended antenatal care because of the good care, 10 (3.8%) wanted to ensure booking for delivery, 8 (3%) were feeling unwell and 9 (3.4%0 for other reasons. 270 (100%) would advice a friend to attend antenatal care.

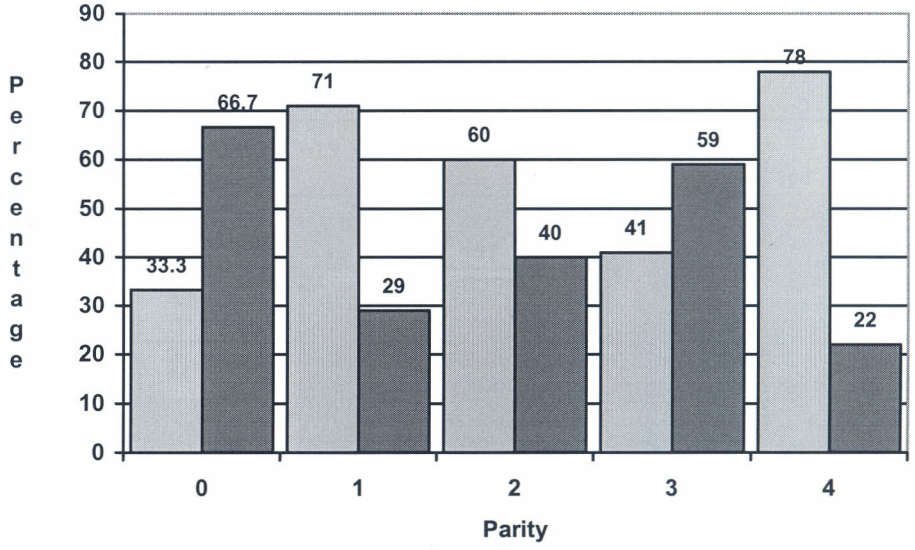
Table 7: **Planned intrapartum care during current pregnancy**

	NUMBER	PERCENTAGE
Planned place of delivery		
• Hospital	160	59.3
• Home	110	40.7
Reason for wanting to deliver in hospital		
• Safe	139	88.5
• Advice from a friend	5	4.1
• Had complications before	6	3.8
• Delivered in hospital before	7	4.5
Reason for wanting to deliver at home		
• Distance	28	26.2
• Cost	5	4.7
• Fear of being operated	1	0.9
• Staff attitude	3	2.8
• Routine	16	15
• Better care	54	50.5

During the current pregnancy, 160 (59.3%) planned to deliver in hospital, 110 (40.7%) planned to deliver at home. Those who planned to deliver in hospital, 139 (88.5%) did so because they thought it was safe, 5 (4.1%) because they were advised by a friend, 6 (3.8%) because they had a complication before and 7 (4.5%) because they had delivered in hospital before.

Those who planned to deliver at home, 54 (50.5%) thought there was better care at home, 28 (26.2%) found distance to hospital inhibiting, 5 (4.7%) feared the cost of hospital, 1 (0.97%) feared being operated on, 3 (2.8%) did not like the staff attitude and 16 (15%) thought it was routine to deliver at home.

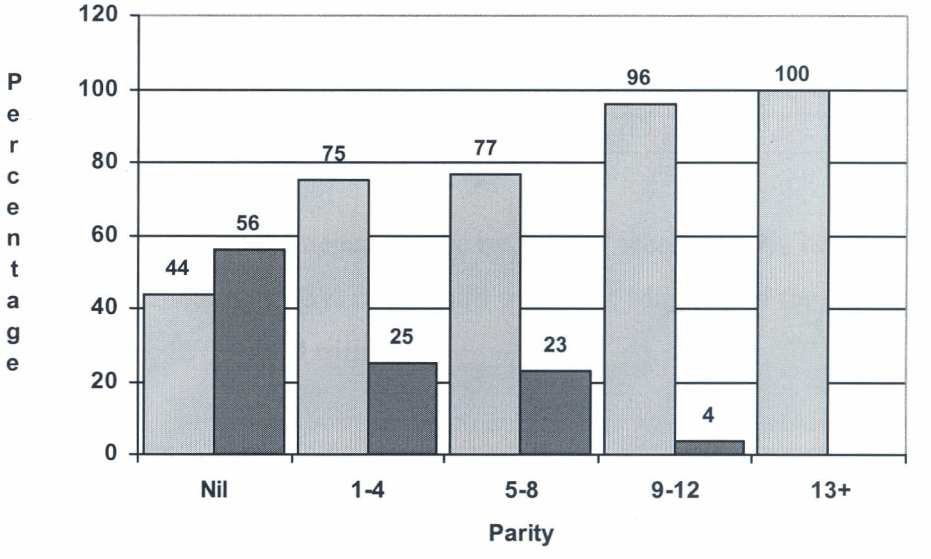
Figure 2: Planned place of delivery versus parity



P=0.004

There was a significant association between place of delivery and parity. Those of low parity preferred hospital delivery as compared to home delivery for those of high parity. This is in keeping with previous studies(2)

Figure 3: Place of delivery versus level of education in school years



P=0.0024

There was significant association (p=0.0024) between education in school years. Those of nil or low education would prefer to deliver at home as compared to hospital delivery for those with high number of education in school years.

Table 8: Gestation in weeks of first visit

Gestation (weeks)	Number	Percentage
0-12	20	7.6
13-28	118	44.9
29-36	96	36.5
37-42	29	11.0

As shown in table 10, 7.6% attended antenatal clinic by the 12th week. 44.9% between 13 and 28 weeks and the remaining 47.5% in the third trimester. Majority of the mothers attended the antenatal clinic in the third trimester.

DISCUSSION

Safe motherhood implies pregnancy, childbirth and pueperium free of mortality or morbidity. Half a million maternal deaths occur every year worldwide, of which 99% occur in developing countries and most of them are preventable. In Kenya the maternal mortality is 590/100,000 live births as compared to less than 20/100,000 live births in the developed countries.

In this study two hundred and seventy women were recruited, 70.7% were Christians and 1.9% Muslims.

The root cause of most maternal deaths is poverty, ignorance and social injustice. Women and girls in many developing communities are discriminated from womb to tomb. Girls are less likely to get education than boys, girls are also more likely to drop out of school because of unwanted pregnancies or arranged marriages

In this study,59% of the mothers had not received any formal education, in this study it was shown that 81.5% of the mothers who intended to deliver at home had no formal education. Education of the mother or husband has been shown to influence the utilization of health services (19).From our study there is positive correlation between education level and planned place of delivery. Those with formal education preferred hospital delivery. Empowering of the women and improving their education may encourage hospital delivery. The findings are similar to the findings by Mati et al in the Nairobi birth survey {27}, but in his study only 12% had no formal education.

Low socio-economic status of the women is associated with unsafe motherhood. Female infanticide, nutritional neglect and discrimination is known to lead to higher infant mortality for females. Poor nutrition, overwork and abuse may lead to stunted growth of girl children, leading to impaired reproductive performance and increased health risk later in life. In this study 72.1% of the mothers were unemployed .As one goes down the economic ladder there are more women who do not receive maternal health care as shown in the study.

Ante-natal care is a promotive, preventive and curative service. High maternal mortality and morbidity in developing countries is due to the low coverage of maternal health services. In our study, previous antenatal clinic attendance was 89% which is high but still lower than the 96.4% reported in Nairobi in 1993 (27). In developed countries the coverage of ante-natal services is 97%.

In our study only women attending antenatal clinic were recruited ,and ante natal mothers not attending clinic were excluded this creats a bias hence could have lead to a higher reporting on previous antenatal clinic attendance andproportion of women who want to deliver in hospital.

Reasons for non-attendance were distance in 66.7% and lack of knowledge about the services in 25%. Many facilities are far from the homesteads and the infrastructure is poor. Increase in advocacy and IEC will improve the attendance level . Of the mothers who attended clinic in the previous pregnancy 100% found the staff friendly and 85.6% found the services good. Antenatal services should be accessible, affordable, effective, appropriate and acceptable. Majority found the services acceptable.

Access to health services is paramount for the provision of maternal health care and this involves health information, financial accessibility, physical accessibility and good quality care.

Despite a high percentage of mothers utilizing antenatal services in the previous pregnancy, place of delivery was different. 66% delivered at home. Of those who delivered at home, 34.6% found the distance to a health facility far and 27.6% thought that the services at home were better.

With the current economic hardships that the developing countries are under, the provision of good infrastructure may not be easily feasible ,but with firm commitment from government ,international and national organizations ,communities and families to re-organise their priorities and re-alocate their resources this may be achieved . It would

therefore be more logical to improve the quality of the existing services in Narok, make them more accessible.55% of women in the developing countries are assisted by TBA's , and there is a correlation between high mortality rate and low percentage of trained TBA's. Further studies are required to assess the role of TBA's in provision of maternal care in Narok District.

Age of the mother is one of the reproductive health behaviour that results in increased maternal mortality and morbidity. Ages bellow20 years and above 35 are at an increased risk of maternal deaths. 14.1% of the women were below 20 years of age (teenagers) and 11.2% were above 35 years of age. The teenage pregnancy is similar but lower than the 16.9% reported in the Kenya demographic health survey (2)

The single mother also presents special problems.8.6% of the mothers in this study were single, This is lower than the 15% reported in Nairobi(27)

During the index pregnancy, 89.8% attended antenatal clinic because they thought the services were good, 3% because they were ill and 3.6% to ensure that they could book for delivery. Thus, from the study, majority of the mother preferred attending ante-natal clinic.

In this study 40.7% of the mothers still planned to have home delivery. In the 1998 Kenya demographic health survey, 44-70% of births had medical assisted deliveries (2).In developing countries 99% of the mothers have skilled attendance at delivery. Lack of medical assistance during delivery is associated with high mortality and morbidity.

More studies and advice on place of delivery is required

Pregnancy order with the first ,fourth and subsequent pregnancies being at higher risk of maternal mortality and morbidity.

In our study, of those who planned to deliver at home, 40.8% had a parity of 5 or more. This compares to the Kenya demographic health survey of 1998 which showed that those

who already had many births were more likely not to have medical assistance during delivery (2).

During the previous pregnancy, 97% had normal deliveries with 100% life births. This is not representative of 20% of mothers who are expected to have complications .(27). This could be due to biased communication or the women having complications that are not readily visible.

In the study 16% had had previous pregnancy losses of which 62.9% were abortions .This is higher than the Nairobi birth survey in which 10.3% of the mothers gave history of previous ill fate of a child. This could be due to the late attendance of antenatal clinic with only 7.6% attending in the 1st trimester .It is generally recommended that ante-natal care be started early in pregnancy (9).

WHO has reported that fewer visits with at least one visit in 1st trimester and at least 2-4 other visits would be safe, effective acceptable and less costly(22) .

In our study, 46.5% of the women had not received antenatal care by the third trimester this is higher than the 11.3% shown in the Kenya demographic health survey of 1998 (7).

During the previous pregnancy, 97% had normal deliveries with 100% life births. This is not representative of 20% of mothers who are expected to have complications (27). This could be due to biased communication or effects that are not ready visible to the women.

CONCLUSIONS AND RECOMMENDATIONS

- As shown in the study, attendance of antenatal clinic was high but majority were in the second and third trimester. More information and advocacy is required to ensure early attendance.

- Majority of the women preferred to deliver at home. A more comprehensive study is required to study the causes and the services provided at home. A need assessment for training of the traditional birth attendants is required.

- The majority of the women in the study had no formal education and were unemployed. Education for the girl child should be encouraged and economic empowerment of the women

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Appendix 1 - Questionnaire

Questionnaire: ***Knowledge, Attitude and Practice of Safe Motherhood Among Women Attending Ante Natal Clinic in a Rural District – Narok, Kenya***

(i) Clinic

a) Ereto Dispensary
b) Ewaso Nyiro Dispensary
c) Siyapei Dispensary [ ]

(ii) Age in years

a) 10 – 14
b) 15 – 19
c) 20 – 24
d) 25 – 29
e) 30 – 34
f) 35 – 39
g) 40 – 44
h) 45 - 49 [ ]

(iii) Marital Status

a) Single
b) Married
c) Separated/Widowed [ ]

(iv) Education in School Years

a) Nil
b) 1 – 4
c) 5 – 8
d) 9 – 12
e) 13+ [ ]

(v) Occupation

a) Unemployed
b) Self employed
c) Employed – unskilled/semi-skilled
d) Employed-professional [ ]

(vi) Religion

a) Catholic
b) Protestant
c) Muslim
d) Other [ ]

(vii) Parity

a) 0
b) 1
c) 2
d) 3
e) 4+ [ ]

(viii) Gestation in weeks

a) 0 - 12
b) 13 – 28
c) 29 – 36
d) 37 - 42 [ ]

(ix) Attended ANC during previous pregnancy

a) Yes
b) No [ ]

If Yes, go to (x)
If No, skip to (xii)

(x) Were the staff at the clinic friendly

a) Yes
b) No [ ]

(xi) How were their services

a) Good
b) Fair
c) Poor [ ]

(xii) Do you think ANC services are important

a) Yes
b) No
c) Other [ ]

(xiii) **In the event of future pregnancy, would you attend the ANC again**

a) Yes
c) No
d) Other [ ]

(xiv) **Why did you not attend ANC**

a) Did not know
b) Expensive
c) Distance
d) Other [ ]

(xv) Place of delivery

a) At home
b) Hospital with theatre
c) Hospital without theatre
d) Other [ ]

If At Home, go to (xiv)
If Hospital go to (xv)

(xvi) Reason for delivery at home

a) Not attended clinic
b) Distance from hospital
c) Cost
d) Better services from TBA [ ]
e) Other

(xvii) Why Hospital?

a) Advised during antenatal clinic
b) Safe
c) Advised by other mothers
d) Other

(xviii) Mode of delivery

a) Normal (S.V.D.)
b) Assisted delivery
c) Caesarian section
d) Other (specify) [ ]

(xix) Outcome of previous pregnancy

a) Live baby
b) Still birth [ ]
c) Neonatal death

(xx) Had any pregnancy loss before

a) Yes
b) No [ ]

If Yes, go to (xviii)
If No, skip to (xvi)

(xxi) Gestation at pregnancy loss (in months)

a) 0 – 5
b) 6 – 7
c) 8 -9 [ ]

(xxii) Source of information about antenatal care

a) Medic
b) Medical personnel
c) Friend/Relative
d) Other [ ]

(xxiii) Reasons for attending ANC

a) Good care
b) To ensure booking for delivery
c) Fear of being reprimanded during delivery
d) Feeling unwell
e) Other (specify) [ ]

(xxiv) Planned place of delivery

a) Hospital
b) Home [ ]

If Hospital, go to (xxiii)
If Home go to (xiii)

(xxv) Reason for wanting to delivery in Hospital

a) Safe
b) Advised by friend/relative
c) Advised by medical staff
d) Had complication in previous pregnancy
e) Had delivered there before [ ]

(xxvi) Reason for wanting to delivery at Home

a) Distance
b) Cost
c) Fear of operation
d) ANC Staff attitude
e) Other [ ]

(xxvii) Would you advice your friends to attend ANC

a) Yes
b) No

If No, Why? .....

(xxviii) Would you advice your friends to deliver in hospital

a) Yes
b) No

If No, Why? .....

GYNAECOLOGIC SHORT CASES:

CASE 1

IMPERFORATE HYMEN – HEAMATOCOLPOS/HAEMATOMETRA: CRUCIATE INCISION

Name: M.A.

Age: 14 years

Ward: 1D

D.O.A.: 15.7.02

D.O.D.: 17.7.02

PRESENTING COMPLAIN

She came with complains of lower abdominal pain for 4 days.

HISTORY OF PRESENTING COMPLAIN

She was well until one month ago when she developed similar abdominal pain was admitted at St. Mary's Hospital and had appendicetomy done uterus was noted to be bulky. She was discharged and was well until four days ago. When she developed abdominal pain, which was increasing in intensity and was associated abdominal swelling.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She was a para 0+0. Has not received her menses.

PAST MEDICAL HISTORY

This is as mentioned above

FAMILY AND SOCIAL HISTORY

She is a standard 8 pupil at St William School who lives with her parents in Maringo. She is the 7th born in family of 8 siblings who are all alive and well. No family history of chronic or familial illness in the family.

OBSTETRIC AND GYNECOLOGICAL HISTORY

She was a young girl in fair general condition. She was not pale or jaundiced. Her blood pressure was 110/70, pulse rate of 74 per minute, with temperature of 36.8°C.

Breasts – tanners stage III, with no discharge from the nipples.

ABDOMINAL EXAMINATION

The abdomen was soft with a subumbilical midline scar. There was a mass – 12 weeks arising from the pelvis and was tender. She had pubic hair stage III.

PELVIC EXAMINATION

There was normal external genitalia. There was an imperforate hymen that was bulging with brownish discoloration.

DIAGNOSIS

A diagnosis of haematocolpos 2° to imperforate hymen.

MANAGEMENT

She was informed of the diagnosis and informed written consent obtained from the parents for cruciate incision under general anesthesia.

Investigations:

Haemoglobin -9 g/dl

Urea and electrolytes

Na^+ -131 mmol/l

K^+ -3.9 mmol/l

Creatinine -66mmol/l

MANAGEMENT

She was premedicated with atropine 0.6mg IM ½ hour before theatre and wheeled to theatre. She was put in supine position and general anaesthesia induced. She was re-

positioned in lithotomy position, cleaned and draped. Catheterization of 200mls clear urine was obtained.

Vaginal examination revealed an intact hymen which was opened with a cruciate incision. Approximately 1 litre of dark brown chocolate altered blood was drained. Examination with the small finger felt the hymenal ring. The uterus was well contracted. General anaesthesia was reversed uneventfully. She did well post operatively and was discharged on the first post operative day on amoxil and brufen.

DISCUSSION

M.A. presented with haematocolpos/haematometria secondary to imperforate hymen. Cruciate incision was done with favourable results.

Imperforate hymen is the most frequent of the obstructive anomaly of the genital tract with frequency varying from 0.01 to 0.1%. MaCann et al examined 93 girls aged between 10 months and 10 years and found 1 child (1.2%) with imperforate hymen and 2 children (2.5%) with hymenal septa (1).

During the embryology of the urogenital tract the cloaca is divided by the urogenital septum into the anorectal canal and the urogenital sinus. The anorectal canal is the predecessor of the rectum and anus.

The urogenital canal forms the uterus and the vagina. The upper portion of the urogenital sinus form the upper vagina, uterus and fallopian tubes and the inferior portion form the vestibule. These two are normally separated by a membrane (hymen) which s a proliferation of the sinovaginal bulb. This normally becomes perforate before birth failure of which imperforate hymen occurs (2).

There is a familiar occurrence of imperforate hymen hence the need for screening of siblings. Dorminant transmission or a recessive mode are described (3). Diagnosis of imperforate hymen usually occurs at menarche.

Diagnosis prior to menarche can be made in infancy due to mucocolpos hence a yellow gray mass at the introitus with an abdominal mass and may have urinary symptoms.

Occasionally, diagnosis has been made in utero using obstetrical ultrosonography (1). Diagnosis is usually mode a menarche with the typical findings being haematometra (blood within the uterus), haematocolpos (blood within the vagina). Occasionally there may be haematosalphinges with signs of retrograde menses occasionally to the point of intra abdominal endometriosis and severe adhesions (4).

Symptoms include intermintent abdominal pain which becomes severe over several months. *They may also have urinary or rectal symptoms (4).*

M.A. had cyclic abdominal pain and an abdominal mass. Differential diagnosis of imperforate hymen include, labial adhensions, vaginal septa, vaginal agenesis and androgen insensitivity.

Diagnosis is usually by examination during which the hymen is visible as a thin membrane that bulges with vasalva manoever. If there is haemotocolpos, a brownish colour is seen. Occasionally a pelvic mass may be found. Diagnosis may be confirmed by pelvic ultrasound, which will rule out other abnormalities (4).

Occasionally, MRI may be used if the diagnosis is not clear (5). Treatment of imperforate hymen is surgical. A diagnostic technique of needle aspiration should not be used as it may introduce infection leading to change of sterile haematocolpos or haematometra to mucocolpos or pyometra (4).

Two modes of surgical therapy can be employed. These are cruciate incisions in diagonal diameters to avoid urethral injury with removal of excess hymenal tissue. The second is hymenectomy. Often the haematocolpos is under pressure and the surgeon may have to dodge the stream (4).

M.A. underwent cruciate incision with good results. Post operative treatment includes NSAID's on/or local anaesthetic jelly

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CASE 2:

SYMPTOMATIC UTERINE FIBROIDS – TOTAL ABDOMINAL HYSTERECTOMY

Name:	S.W.	D.O.A.:	4.3.02
Age:	42 year	D.O.D:	8.3.02
IP No.:	0784755	Para:	2+0

PRESENTING COMPLAINS

She came with complains of prolonged heavy menses for the last 2 years associated with lower abdominal pains.

HISTORY OF PRESENTING ILLNESS

Her periods were regular until two years ago when she started having heavy and prolonged menses lasting upto eight days. The bleeding was in clots and came upto two times a month. She also had associated with lower abdominal pains.

OBSTETRICAL AND GYNAECOLOGICAL HISTORY

She is a Para 2+0, both children alive and well. Her last delivery was 20 years ago. She had used an intrauterine contraceptive device for 14 years until 2 years ago when it was removed. Menarche was at 15 years of age.

PAST MEDICAL HISTORY

This was not significant

FAMILY AND SOCIAL HISTORY

She is a married housewife. Her husband is a farmer. They both do not smoke and drink alcohol. There is no family history of chronic illness.

PHYSICAL EXAMINATION

She was in fair general condition, not pale, nor jaundiced. She was clinically afebrile.

ABDOMINAL EXAMINATION

The abdomen was not distended. It was soft and non tender. There was a mass arising from pelvis corresponding14 weeks gestation.

VAGINAL EXAMINATION

The external genitalia was normal, cervical os closed. Uterus was 14 weeks and mobile. The adenexa free.

Investigations

Pap smear – normal smear. Endocervical cells seen.

Pelvic scan – enlarged uterus with multiple fibroids

Largest fibroid was posterior and 6.5cm x 6.3 in size

DIAGNOSIS

A diagnosis of symptomatic uterine fibroids was made.

MANAGEMENT

She was scheduled for a total abdominal hysterectomy. She was counseled and written consent form filled. Blood was taken for haemogram and urea and electrolytes.

Results

Hb-11.1g/dl

White cell count -$8.4x10^9$/l

Platelets -403 x 10^9/l

Urea and electrolytes Na^+ -137mmol/l

K^{+-} 4.8mmol/l

She was then prepared for theatre. She was shaved night before, starved from midnight given she was given rendiol at midnight. Atropine 0.6mg given ½ hour before theatre and wheeled to theatre.

OPERATION

She was put in supine position and general anaesthesia induced. She was put in semi-lithotomy position and vulvovaginal toilet done. Catheterization was done and 100mls clear urine was obtained, the catheter was left in situ. The vagina was painted with genital violet paint. She was put in supine position and abdomen cleaned and draped. The abdomen was opened in 3 layers via a Pfannestein incision.

The findings were:

Uterus was enlarged with multiple fibroids. The largest one -posterior 5x6cm. Left ovary found adherent to the uterus with multiple adhensions.

Total hysterectomy and left salphingoophorectomy were done. The abdomen was cleaned with saline and closed in 3 layers. General anaesthesia was reversed without problems.

POST OPERATIVELY

She was monitored ½ hourly for first 3 hours then 4 hourly (blood pressure, temperature and respiratory rate). IV fluids and normal saline was alternated with 5% dextrose given at 1 litre 8 hourly. She was put on IV antibiotics and analgesics. On the first post operative day, bowel sounds were present and she was started on oral sips and encouraged to sit and move out of bed.

On the second post operative day, she was well and mobile. She was started on oral medication and light diet. On the 4th post operative day, the wound was exposed and found dry and clean.

She was discharged home for review in the gynaecological out patient clinic in three weeks while on medication. She was reviewed after three weeks and found to be well. The wound had healed well and she was discharged from the clinic.

DISCUSSION

S.W. presented with symptomatic uterine fibroids. Total hysterectomy and left salphigoophorectomy was done and she did well post operatively.

Uterine fibroids are benign tumours of the smooth muscle of the uterus. They are also referred to as leiomyomas or myomas (1)

They are the commonest pelvic tumours in women (2). They are estimated to be in about 25% of women in reproductive health (1). This incidence may be higher as most are asymptomatic.

At Kenyatta National Hospital they account for 66.7% of hysterectomies carried out (3). The uterine fibroids develop between the ages of 20-50 years. They are not seen before 20 years. They have a peak at 30-40 years and are 3-9 times more commoner in blacks than whites (1).

They are commoner in nulliparous and relatively infertile females (1). It is not clear if the fibroids cause sub fertility or sub fertility cause fibroids , or both have a common cause (1). However, fibroids may cause infertility by mechanical means by causing ... obstruction or interfering with implantations (2).

At Kenyatta National Hospital, 70% of the patients had less than 2 children (3). The patient presented was a 42 year old. Para 2+0 black woman whose last delivery was 20 years ago.

The cause of uterine fibroids is unknown. Oestrogens have been implicated as evidenced by increased estrogen receptors in fibroids as compared to the surrounding myomerium and the fact that they grow after puberty and regress after menopause.

They also enlarge with estrogen replacement (1,4). Reduction of fibroid size has been seen with administration of leutenizing hormone releasing hormone agonists (LHRH)

which render the women hypoestrogenic (5). Fibroids also have familial tendencies suggesting genetic factors (1).

Fibroids are classified according to the anatomical location into submucous, intramural, intestitial and subserous (1). Majority of the fibroids are in the corpus of the uterus although 1-2% are found in the cervix (1).

Microscopically, they are compared to non striated muscle fibers arranged in a whorl pattern. Individual cells are spindle shaped with an elongated nucleus. They are demarcated by a pseudocapsule from the surrounding tissues (4).

Clinical presentation depends on the number, size, location and presence or absence of complications. 30-50% of the fibroids are symptomatic of which 30% present with abnormal uterine bleeding (4).

Menorrhagia may be due to abnormalities of ovarian function leading to endometrial hyperplasia, large surface area due to submucous fibroids or the presence of abnormally dilated venous plexuses due to fibroid obstruction (4). Others include abnormalities in prostaglandin production and uterine contractions, which control blood flow through the uterine wall (4,5). Other symptoms include pelvic pressure and pain. They may also cause urinary, bowel symptoms, infertility, miscarriages and vaginal discharge (1). In pregnancy, they may cause complications, which include increase in uterine size, high caeserian rate, malpresentation, premature labour and post partum haemorrhage (6).

Systemic manifestations include anaemia due to menorrhgia. Occasionally, polytheamia may be seen due to production of erythropoetin by the tumour or compression of the ureters by the tumour leading to erythropoetin production by the kidney (4,5). Pain is also another systemic manifestation, which occurs following infection, torsion of a penduculated fibroid, uterine contractions to expel a sub-mucous fibroiod or fenestration of the fibroid (5).

The fibroid can undergo several types of degeneration which include hyaline, cystic, calcific, septic, red and fatty degeneration: 0.1-0.5% develop malignant transformation to leiyomyosarcoma (5). Diagnosis of uterine fibroids is mainly clinical but many tests are valuable.

Ultrasonography may be able to tell the size, location of the fibroid and may differentiate between adenomyosis and ovarian masses. This may be enhanced by feeling the uterus with saline (sonohysterogram). Other tests are plain abdominal x-ray hysterosalpingography, hysterescopy, laparascopy and magnetic resonance imaging (MRI).

Haemogram may show anaemia or polycytheamia it may show leucocystosis and elevated erythrocyte sedimentation if there is septic degeneration (5). MRI may provide an excellent picture but usually the cost is not justified as all the information needed to plan management can be obtained by other methods (7).

Management of women with uterine fibroids depends on the patient's age, parity, pregnancy status, desire for future pregnancies, general health and symptoms as well as the size and location of the fibroids (4).

Emergency treatment includes correction of anaemia in those who have lost blood which includes blood transfusion and haematinics. Surgery may be indicated in those who have infected fibroids, acute torsion or intestinal obstruction (4). No treatment is required for asymptomatic uterine fibroids but judicious patient observation and follow up is required.

Asymptomatic women who want to have children and are not infertile are best left alone as adhension formation can lead to tubal occlusion (8).

Perimenoupasal women are sometimes not treated if symptoms are minor or are given gonodotrophin releasing hormone (GNRH) agonists to reduce the symptomatology (8,9). This is because they tend to shrink after menopause with the loss of estrogen (8). This

should however, be reconsidered with the current recommendation of hormone replacement (8).

Surgical treatment is recommended for symptomatic uterine fibroid and some of the indications are; abnormal uterine bleeding with resultant anemia, unresponsive to hormonal treatment, chronic pain with dysmenorrhea, dysparunia, lower abdominal pain, acute pain secondary to a degenerative change or torsion, urinary symptoms, rapidly growing fibroid or infertility (9).

Hysterectomy is the definitive surgical option. For small fibroids (less than 12 weeks), vaginal hysterectomy can be done. Laparascopic hysterectomy is also possible for small fibroids. This can be totally by morcelation or by laparascopic assistance, vaginal hysterectomy. The normal total abdominal hysterectomy by laparatomy is the preferred mode as the cervix is removed reducing the risk of cervical cancer. However, sub-total hysterectomy is getting new emphasis as it demonstrated better bladder function after the procedure (8).

When future fertility is deserved or there is a small submucous or suberous fibroid or the woman wishes to retain her uterus myomectomy is the method of choice (9). The patient has to consent for hysterectomy. The main risk of myomectomy is haemorrhage, which may necessitate hysterectomy.

Bonney's clamp and rubin touniquet have been used to reduce bleeding but now diluted vasopressin (1ml/20iv vasopressin with 19ml normal saline) either intramuraly or penvascular has been shown to be better than the touniquent (10).

Other complications include adhension formation, which can cause infertility and uterine perforation in hysterecopic myomectomy.

Sub mucus fibroid can be removed by hysterecopic myomectomy and sub serous by laparascopic hyomectomy (8). Medical treatment is used if the fibroids are large and

required to be reduced in size, to correct anaemia prior to surgery. If there is medical contra-indication to surgery or if the patient is pen menopausal (3). Medical treatments include progesterones like depo-provera, which reduce the bleeding. GNRH agonists cause temporary menopause leading to reduction in fibroid size. They are not used beyond 3 months due to osteoporosis and hot flushes (11). They are normally used prior to surgery or in pen-menopausal women. Other drugs are danazol, progesterone and RU-486 (mitepristone) result in a significant reduction of uterine size (7).

Recently, uterine artery embolization involving arterial catheterization and embolization is being studied (7).

Other methods used for conservative management include radiotherapy in patients who are poor risk for surgery (2).

The patient presented had a large uterine fibroid and she underwent total abdominal hysterectomy thus rendering her unable to conceive.

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CASE 3:

ENDOMETRIAL HYPERPLASIA-TOTAL ABDOMINAL HYSTERECTOMY AND BILATERAL SALPHIGO-OPHORECTOMY

Name: M.W Age: 50 years

Sex: Female IP no.: 0800373

D.O.A.: 27.5.02 D.O.D.: 4.6.02

PRESENTING COMPLAINS

M.W. came with complains of prolonged, heavy menses for the last one year

HISTROY OF PRESENTING COMPLAINS

She was well until 1 year ago when she started having prolonged menses that would last for up to two weeks. The menses were heavy and in clots, they were also irregular in interval, staying upto two months before next menses. She did not have associated abdominal pains.

OBSTETRIC AND GYNAECOLOGICAL HISTORY

A para 8+0 last delivery was in 1993. All deliveries were by spontaneous vertex delivery and the children are alive and well. Her menses were regular coming every 21 to 28 days and lasting 3 to 4 days. Menarche was at 14 years. Her last normal monthly period was on 18.3.02.

PAST MEDICAL HISTORY

There was nothing significant

FAMILY AND SOCIAL HISTORY

She is married housewife, her husband is a retired civil servant. They both do not smoke and drink alcohol. There is no family history of diabetes or hypertension.

EXAMINATION

She is a middle aged lady in fair general condition, overweight.Her blood pressure was130/90 mmhg, pulse was 84/minute

There was no pallor, jaundice. Oedema or lymphadenopathy.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended with mo masses felt and no organomegaly

VAGINAL EXAMINATION:

There was normal external genetalia.

The cervix was posterior, long and the os was closed.

The uterus was bulky, mobile and adenexia was free.

Investigations done

Pap smear	-	normal squamous and endocervical cells seen – normal pap smear
Endometrial biopsy	-	showed atypical adenomatous endometrial hyperplasia
Pelvic ulstrasound	-	showed endometrial thickening with left adnexal cyst 4.6cm x 29cm
Haemoglobin	-	11.2g/dl
Urea and electrolytes	-	Na+-138 mmol/l K+-4.6 mmol/l CL-104.8mmol/l Urea-5.43mmol/l

She was counseled and prepared for total abdominal hysterectomy and bilateral salphingo-oophorectomy. She signed a written consent after counseling, and was pre-medicated with atropine 0.6mg ½ hour before theatre, IM pethedine 50mg ½ hour before theatre and was shaved. She was also starved from midnight and dulcolax 10mg given the night before.

OPERATION

In the morning, she was wheeled to theatre. She was put in semi-lithotomy position and VVT done. Catheterization of 200mls clear urine obtained. The vaginal was painted with GV paint.

She was put in supine position and general anesthesia induced. She was then cleaned and draped. The abdomen was opened in 3 layers via a Pfannestein incision.

Findings: - uterus bulky and uniformly enlarged

- both ovaries identified, the left ovary with a cyst measuring 3x4cm

At operation, total abdominal hysterectomy and bilateral salphingo-oophorectomy was done. The uterus and ovaries were taken for histology. The abdomen was then closed in three layers. Blood loss was estimated at 500mls. Anesthesia was reversed uneventfully.

POST OPERATIVELY

She did well post operatively and was put on IV fluids, normal saline alternating with 5% dextrose, IV x-pen , gentamycin and IM pethidine.

On the 1st post-operative day was started on oral sips. On the 2nd post operative day she was started on light diet and oral antibiotics amoxil and brufen. On the 4th post operative day, the wound was exposed and she was discharged home for review after three weeks at the out patient clinic.

Review after 3 weeks, she was found in good general condition. The wound had healed well.

Histology report: both uterus and cervical and ovarian tissues seen.
Right ovary normal, left ovary had simple follicular cyst
Uterus showed atypical adenomatous endometia hyperplasia

She was discharged from clinic for follow up after six months.

DISCUSSION

Presented is M.W. at 50 years old, a para 8+0 with a histological diagnosis of atypical adenomatous endometrial hyperplasia after presenting with menometrorrhagia. Total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed from which she recovered uneventfully.

Endometrial hyperplasia is the abnormal proliferation of endometrial gland and stroma (1). Incidence of endometrial hyperplasia varies; being commoner in whites 2.4% as compared to 1.3% in black women. It's peak incidence is the 6^{th} and 7^{th} decades. The cause of endometrial hyperplasia is unknown but elevated exogenous on endogenous oestrogen stimulation of the endometrium (2).

Patients with constitutional status like diabetes, hypertension, polycystic ovarian syndrome and obesity are associated with increased oestrogen and have higher incidence of endometrial hyperplasia.

Patients receiving estrogens like Turner's syndrome, gonadal agenesis or hormone replacement have higher incidences of endometrial hyperplasia (3).

M.W. was obese which is a predisposing factor.

Pathologically, endometrial hyperplasia varies from slight exaggeration of the proliferative phase to marked overgrowth resembling endometrial carcinoma. There has been controversy over the classification of the endometrial hyperplasia (3).

Previous classification has been into cystic, adenomatous and atypical hyperplasia (3).

Cystic hyperplasia is microscopically an overcrowding of the glands giving the characteristic 'Swiss cheese' histology appearance. Progression of the condition to cancer is 1% over a 15 year period. This condition normally results from excess estrogen secretion (2).

In adenomatous hyperplasia there is complex crowding of the glands, little stroma; there is epitheial stratification and mitotic activity. Risk of progression to cancer is 15-30% and it is normally found in the 40-50 year age group. Atypical endometrial hyperplasia is the severer form of the hyperplasias and characterized by large irregular glands, and pronounced reduction of the intervening stroma cells have increased nuclear. It occurs in the women of the 50 year age group. Progression to invasive carcinoma is 50% if left untreated (2).

This classification is complex and not standardized. To do this, the International Society of Gynaecologic Pathologists under the world health organization has devised a uniform classification into: (4)

- Simple hyperplasia – here there is not cellular atypia but there is endometrial hyperplasia with uncrowded glands
- Complex hyperplasia without atypia – the glands here are complex and crowded
- Atypical hyperplasia – in these cases there is cellular atypia regardless of the type of hyperplasia. The patient presented had this type of hyperpasia. Incidence of this hyperpasia is 0.9-1.3% of endometrial hyperplasias (4).

Abnormal uterine bleeding is seen in 80% of patients. This may be menorrhagia, intermenstrual or post menopausal bleeding. M.W. presented with menorrhagia.

Simple hyperplasia may be asymptomatic, diagnosed after hysterectomy for other reasons. 10% of patients may present with dysmenorrhea. Other risk factors may be seen during examination. This may include obesity, advanced age, polycystic ovarian disease, estrogen secreting tumour , hormone replacement or infertility.

Diagnosis of endometrial hyperplasia is usually via histology. Curettage is the gold standard of histology namely fractional curettage, other methods like suction curettage, endometrial lavage, hysteroscopy and endocervical aspiration may be used (2).

Treatment of endometrial hyperplasia depends on age, type of hyperplasia and reproductive desires of the patient.

Using the WHO classification treatment is classified into hormonal or surgical. Hormonal therapy consisting of progestins is used in women below 40 years with simple and complex hyperplasia, those who cannot withstand surgery or still desire to conceive. Those with hyperplasia secondary to excess estrogen can benefit by simply removing the source of estrogen. Those with unovulation may benefit from progestins or ovulation induction (5). Women above 50 years should have total abdominal hysterectomy and bilateral salpingo-oophorectomy unless they are medical reasons for not withstanding surgery then progesterone treatment with intracavity radium may be used (2). Those with atypical endometrial hyperplasia irrespective of age, hysterectomy is the preferred method of treatment. Unless there is desire for conception or she is unfit for surgery, then progestin therapy with regular follow up (5). Other methods of treatment include danazol 200mg daily or tamoxifen 200mg daily.

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CASE 4:

BARTHOLIN'S CYST – MARSUPULIZATION

Name: D.W. Age: 35 years

IP No.:0819189 D.O.A.: 2.7.02

D.O.D.: 2.7.02

PRESENTING COMPLAIN

She came with swelling on the genitalia for a period of 3 months

HISTORY OF PRESENTING COMPLAIN

She was well until three months ago when she started having a swelling on the right side of the genitalia. It was progressive and increasing in size and was itchy.

There was no vaginal bleeding, or discharge, there was no dysuria or frequency

OBSTETRIC AND GYNAECOLOGICAL HISTORY

She is a para 3+0. Her previous delivery were as follows: 1989 caesarian section done at Pumwani Hospital due to transverse lie to a live male infant who is alive and well. In 1992, she had a spontaneous vertex delivery to a live female infant who is alive and well. In 1998, she had a spontaneous vertex delivery to a live female infant who is alive and well.

Her last menstrual period was on 15.6.02. She has used copper T since 1999. Menarche was at 14 years. Menses are regular coming every 28 days lasting 5 days.

FAMILY AND SOCIAL HISTORY

She is married and attained form four level of education. She is a housewife and does not smoke or drink alcohol. Her husband is a driver. There is no family history of chronic illness.

PAST MEDICAL HISTORY

This was not significant

PHYSICAL EXAMINATION

She was in good general condition, not pale, no jaundice. Blood pressure was 140/80mmHg, pulse rate 82/minute, temperature was 36.8°C.

ABDOMINAL EXAMINATION

The abdomen was uniformly distended with a sub-umbilical healed midline scar. There were no organomegally, no masses felt.

VAGINAL EXAMINATION

There was swelling of the right vulva which was rounded, firm and non tender. The cervix was posterior, firm and the uterus normal in size and mobile, adnexae was normal. There was no vaginal discharge or bleeding.

DIAGNOSIS

A diagnosis of right-sided Bartholin's cyst was made

MANAGEMENT

She was for marsupulization. The following investigations were done:

Haemoglobin	-	11g/dl
Urea and electrolytes	-	Na^+ 137/mmol/l
		K^+ 49mmol/l
		BUN 28mmol/l

She was told about the treatment and written consent was obtained. She was on nil by mouth from midnight and to come in the morning to the hospital as a day case.

She came to hospital in the morning at 8.00a.m and was wheeled to theatre after premedication with atropine 0.6mg and pethidine 50mg.

In theatre she was put in supine position and general anaesthesia induced. She was then repositioned in lithotomy position, cleaned and draped. Examination revealed right Bartholin's cyst. A linear incision was made at the junction of the mucus epithelium and the keratinized epithelium.

Approximately 40mls of gelatinized clear fluid was drained. The edges of the incision were marsupulized using 2/0 chronic catgut. No active bleeding was seen. General anaesthesia was reversed uneventfully and she was wheeled to theatre. She was discharged home on amoxil and brufen for review in the clinic in two weeks time.

FOLLOW UP

She was seen in the clinic on 16/7/02 where she was found to have no major complain. The cyst had not recurred and the site of incision had healed. She was discharged from the clinic.

DISCUSSION

D.W. presented with Bartholin's gland cyst for which marsupilization was done with good results.

Bartholin's glands are a pair of small compound structures that are situated beneath the vestibule on each side of the vaginal opening. Each gland is about 0.5cm-1cm in diameter with a duct 1.5cm-2cm long that open near the opening of the vagina.

The glands are important for sexual function. During sexual arousal they produce a mucoid material which acts as a lubricant (10.

Obstruction of the main duct results in cystic dilation and retention of secretion. This is mainly caused by infection but can be caused by insipissated mucous, congenital narrowing or trauma (2). Infection of the gland leads to abscess formation.

Most abscesses have mixed aerobic and anaerobic pathogens, some have one pathogen and in a number no pathogen is isolated (3). Those with single infection normally have Neiserria gonorrhea or chlamydia trachomatis (4).

Trauma may result from a median episiotomy or anterior colporraphy (1). Our patient had no history of trauma. Previous history of Bartholin's abcess is not always elicited.

Two types of cysts are identifiable by microscopy – ductal cysts and gland cysts as seen by the lining epithelium. Batholin's cysts are usually small and asymptomatic. Diagnosis is usually made during routine pelvic examination (5). Symptoms may occur if the gland gets secondary infection or if the gland grows rapidly. D.W. did not have pain but had a rapidly growing cyst (5).

Several techniques have been proposed for the management of Bartholin's gland cyst. During acute infection, incision and drainage may be done. However, recurrence is

common (1,5). Another method is insertion of a ward catheter. These two methods are not practiced in our unit.

Marsupilization is done whether the gland is infected or not and it preserves the secretory function of the gland. During the procedure, a wedge shaped vertical incision is made on the vaginal wall at the centre of the cyst. Opening of the cyst wall and draining of its contents follow this. The walls of the cyst are then evented and sutured to the vaginal wall using number 2/0 delayed absorbable sutures. Sitz baths from the 3rd post-operative day are recommended. This procedure was procedure was performed on our patient with good results. Recurrence following marsupilization is 10-15% (5).

Definative treatment is excision of the cyst but would no be done if there is infection due to high chances of developing haemorrhage or wound breakage.

A study of Mumia showed that Bartholin's abcess accounts for 1.7% of emergency gynaecological admissions in Kenyatta National Hospital (6).

Occasionally, Bartholin's gland may be the site of adenocarcinoma, 10% of those with carcinoma had history of previous inflammation.

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CASE 5:

VESICO-VAGINAL - FISTULA SUCCESFUL REPAIR

NAME	N.M	AGE	16years
IP	0797173	WD	1B
D.O.A	14.3.02	D.O.D	27.03.02
Parity	1+0		

PRESENTING COMPLIANT

She was referred from Kitui district hospital with Vesico-Viginal Fistula following a difficult delivery at the hospital.

She had been in labour for about two days before going to hospital where she labored for one more day. This was followed by forceps delivery to a fresh stillbirth Female

She started having leakage of urine from the 3rd postnatal day

No catheter was inserted after the delivery. She did not develop stool incontinence or weakness of the limbs.

She was referred to Kenyatta Hospital after two months for repair.

She was admitted on 14.3.2002 for repair.

OBSTETRIC AND GYNECOLOGICAL HISTORY

She is Para 1+0 last delivery was on 11/01/02 as recounted before. Menarche 13 yrs Menses were regular every 28 days Lasting 3 days. Did not attend antenatal clinic during the previous pregnancy .She has not used any contraception before.

PAST-MEDICAL HISTORY

This was not significant

FAMILY SOCIAL HISTORY

She was a second born in a family of 5 siblings who are alive and well. She was single, unemployed, dropped out of school at standard five. She did not drink alcohol or smoke cigarettes. No family history of any chronic illness.

PHYSICAL EXAMINATION

She was in fair condition, not pale, afebrile and in good nutritional status
Blood pressure 120/70mmhg, pulse 84/m, temperature 36.8°C, height 153 cm.

ABDOMINAL EXAMINATION

The abdomen was scaphoid, soft and non-tender. There was no organomegally

PELVIC EXAMINATION

There was a poorly held medio –lateral episiotomy. Using a Sims speculum the vagina was examined, there was a circumferential defect , 0.5 cm in diameter, 2 cm from external urethral orifice- type 11 A.

OTHER SYSTEMS

These were essentially normal

DIAGNOSIS

A diagnosis of vesical – vaginal Fitula type 11 A was made

TREATMENT

She was informed about the repair of the vesico-vaginal fistula. Blood was taken for haemoglobin levels, urea and electrolytes .

On the pre-operative day she was starved from midnight, pubic hair shaved and enema given in the evening together with dulcolax and flagyl. The informed consent from was signed by the parents as she was under age.

Second enema was given at 6.00 am. half an hour before theatre, she was premedicated with 0.6 mg atropine sulfate intra-muscularly and pethidine 50mg

Blood Results

Haemoglobin -13.2g/dl

Urea and electrolytes Na^+-138mmol/L

K^+- 4.6mmol/L

Urea-2.2mmol/L

VESICAL VAGINAL REPAIR

In theater spinal anesthesia as 3mls of 5 bupicaine solution was given intra-thecaly .she was placed in lithotomy position. Vulvo-vaginal toilet was done and she was draped with towels. Sterile gauze was placed over the anus. The Labia majora were everted and stitched to the thighs with a stray suture. An Auvard speculum was inserted in the vagina. 10 mls of jungle juice was intiiltrated around the fistula. Circumcision was done with transverse incision. Wide dissection was done. Bladder wall repaired using 2/0 catgut and vaginal wall repaired using 4/0 nylon. Urethral catheter size 16 was inserted and infiltrated with 5cc normal saline. Dye test was done which was negative. This was done by instilling 50mls of methylene blue. Vaseline gauze was inserted into the vagina and left in place.

POST OPERATION CARE

Vital signs were observed ½ hourly for 2 hours then four hourly. Intravenous fluids ½ a liter every 4 hours normal saline alternating with 5% dextrose were commenced for 24 hours. Then more than 5 liters per day orally from the first postoperative day.

The catheter was checked regularly for draining and if blocked it was to be flushed will 5 mls of normal saline if still blocked then the catheter was to be changed. On the first post operative day she was started on a light diet, she asked to clean herself between her legs. The vagina pack was removed and was advised to move out of bed.

On the 3rd postoperative day she was commenced on perineal exercises .She was discharged home on the 4th post operative day.

She was reviewed on the 14th postoperative day - the catheter was draining clear urine. Using a Sims speculum the site was inspected there was no leakage, dye test was negative and catheter was removed.

She was discharged home for review in 6 weeks and advised to avoid intercourse for 4 months and to attend ANC if she should conceive and delivery by caesarean section in all future pregnancies

DISCUSSION

Vesico vaginal fistula (VVF) is as old as mankind and is a major public health problem in many developing countries (1).

Incidence of fistula is 95 per 100,000 women of which 85-90% are due to obstetric causes (7).

Mati reported that 87.8% were labour related (3) while Orwenyo reported a rate of 90.7% (4).

Other causes of fistula include surgery, radiation, trauma, infection, malignancy and congenital malformation. In developing countries, the situation is different with most being non obstetric in nature.

N.M. developed VVF secondary to obstructed labour. If the labour is not relieved in time, pressure necrosis due to compression of he anterior vaginal wall and bladder by the fetal head and maternal symphysis. Ischaemia of the tissue leads to devitalization and sloughing off after the tissue between the 2^{nd} and 14^{th} post partum days.

The principle cause is undetected or poorly managed cephalopelvic disproportions, this results in either death of the mother, still birth or obstetric fistulae (1). The fistulae may be urethro-vaginal, uretero-vaginal, vesico-vaginal or recto-vaginal.

Classification of vesico-vaginal fistula is based on anatomic/physiologic locations and related to the recommended surgical technique and prognosis

Classification

a)Anatomic

i. Fistulas not involving the closing mechanism
ii. Fistulas involving the closing mechanism
    a. Without (sub) total involvement of the urethra
        i. without a circumferential detect

ii. with a circumferential detect

b. With (sub) total involvement of the urethra

i. Without a circumferential detect

ii. With a circumferential detect

iii. Miscellaneous e.g. ureterovaginal or it can be classified according to fistula

b)Size

Small	-	< 2cm
Medium	-	2-3cm
Large	-	4-5cm
Extensive	-	≥ 6cm

Surgical repair for type I and II is vaginal while type III is abdominal

VVF is associated with other complications including recto-vaginal fistulae, bladder prolapse, stone formation, vaginal stricture and stenosis and loss of pelvic muscle. It is also associated with extra-vaginal lesion like loss of labia minora, dermatitis induced by urine, peroneal nerve paralysis, pressure ulcer and poor general health including cachexia.

Majority of women suffer the injury when giving birth to the first baby and birth rate is between 64%-79% of which those who are born alive, 50% die in the neonatal period (3). Management of VVF should be aimed at prevention. This can be provided if caeserian section is performed within three hours from when the labour becomes obstructed.

Once the fistulae is formed, the continuous drainage with a catheter and antibiotics may reduce the size of the fistula and even lead to closure of the fistulae (5).

Once the patient is seen, a Foley's catheter size 18 should be inserted. This allows spontaneous healing of small fistulas: 40-60% of fistulas less than 4cm heal by resting the bladder for 4 to 6 weeks (5). Once the slough has cleared, then repair can be done; prior it

was done after 3 months. If anaemia is present, it should be corrected. Spinal anesthesia is used, as it is cheap and easily administered. Our patient was repaired under spinal anesthesia. Hemorrhage is rarely much during repair. Repair is aimed at restoring continence and sexual function.

Postoperative care is important and high volume urine flow prevents infection, stone formation and catheter blockage. At least 4 litres in 24 hours should be given.

Successful vaginal repairs should be aimed at during the 1st attempt as it becomes more difficult in subsequent attempts due to scar formation. Success rate of 78% on 1st attempt have been achieved with an experienced surgeon and competent nursing staff (5).

Prevention should be aimed at by improving maternity services. This should be aimed at identifying the high risk and appropriate referral systems invoked.

Traditional birth attendants should be well trained and necessary referral system put in place (6).

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CASE 6:

INCOMPLETE ABORTION – MANUAL VACUUM ASPIRATION

Name:	C.K.	Age:	25 years
IP No.:	0806490	Ward:	1D
D.O.A.:	6.5.02	D.O.D.:	7.5.02

PRESENTING COMPLAIN

She presented with complain of vaginal bleeding for one day. She also had associated backache.

HISTORY OF PRESENTING COMPLAINT

She was well prior to the onset of vaginal bleeding which was spontaneous, dark in colour and in clots. There was associated backache and lower abdominal pains. She also had dizziness, but no dysuria.

OBSTETRICS AND GYNAECOLOGICAL HISTORY

She was a para 0+0 gravida 1. Her last normal monthly period was on 18.1.02 and EDD was on 25.10.02. She had an amenorrhoea of 14 weeks. She had started attending antenatal clinic. Her menarche was at 15 years. Menses were regular every 28 days lasting 4-5 days. She has not used any contraception.

PAST MEDICAL HISTORY

This was unremarkable

FAMILY AND SOCIAL HISTORY

She was married and was a housewife. Her husband is a butcher. They both neither smoke cigarettes nor drink alcohol. Her mother is on treatment for pulmonary tuberculosis.

PHYSICAL EXAMINATION

She was a young woman in fair general condition, clinically afebrile. She had mild pallor, no jaundice or lymphadenopathy. Respiratory rate was 20/minute, pulse rate 100 beats per minute, blood pressure 110/70mmHg.

ABDOMINAL EXAMINATION

The abdomen was soft, not distended. There was suprapubic tenderness and the uterus was about 12 weeks gestation.

VAGINAL EXAMINATION

Normal external genitalia, cervix was posterior 2cm dilated and products of conception were felt. Examining finger was blood stained.

DIAGNOSIS

An impression of incomplete abortion was made.

MANAGEMENT

She was for fluid replacement and manual vacuum aspiration.

She was started on IV fluids (normal saline and 5% dextrose). Blood was taken for grouping and cross-matching. She was started on IV gentamycin and crystalline penicillin.

The patient was then taken to the procedure room and put in lithotomy position, cleaned and draped. Vaginal examination confirmed earlier findings. Speculum was inserted and cervix cleaned. There were no cervical tears or lacerations. The anterior lip o the cervix was held at 12 o'clock position. The canula size 10 was inserted into the cavity, vacuum was created. On the syringe, the pinch valves released transferring the vacuum to the uterus.

Contents of the uterus were evacuated by rotating the syringe through 360ºC and pushing it back and forth. 6mls of products of conception were aspirated and the cavity was confirmed empty. When no more products were evacuated and there was resistance to movement of canula and a gritty feeling was felt.

There was minimal bleeding after the procedure. She was taken to the ward to recover and was discharged home later in the day on i. antibiotics (doxycycline and flagyl), ii. Analgesics (brufen).

She was also to pass through the family planning clinic for preconception care and early antenatal care in future pregnancies.

DISCUSSION

C.K. presented with incomplete abortion and manual vacuum aspiration was done.

Abortion is the termination of a pregnancy less than 20 weeks or fetal weight less than 500grams.

Abortion can either be spontaneous or induced. Abortion is one of the greatest public health problems because of its repercussion in maternal morbidity and mortality and also because of its ethical, political, social, religious moral and legal implications (2).

Abortion has been and is still used as a method of fertility control or back up to contraceptive failure: It is also related to inadequate family planning knowledge and services (3).

The incidence of abortion worldwide varies from 32 abortions per 1000 women to 46 per 1000 women in women aged 15-44 years (4).

It is estimated that 50 million abortions are performed each year of which 20 million are unsafe and take place in the developing countries where risk of death is estimated at 1 out of every 280 procedures (3).

Up to 60% of total gynecological emergency admissions to Kenyatta National Hospital are due to abortions (6) and 62% of those admissions are likely to be induced or induced (7).

There are several aetiological factors of spontaneous abortions, which are broadly classified, as fetal or maternal(1)

-Fetal causes are mainly genetic and include chromosomal abnormalities, trisomy, polyploidy and other abnormalities

-Maternal causes are classified into infections, hormonal, immunological, anatomical or systemic diseases.

Abortions are clinicaly divided into treatened,inevitable,incomplete,complete,septic and missed.

-Threatened abortion-in this case there is bleeding but the cervix remains closed.Management is bed rest and mild sedation

-Inevitable abortion-in this case there is bleeding,pain and cervical dilatation.Management is asincomplete abortion.

-Incomplete abortion-in this case some products of conception have passed through the cervix.Management is dilatation and curettage using either sharp or sunction curettage under syntocinon infusion.

-Complete abortion -in this case the conceptus is expelled completely and management is observation.

-Missed abortion –in this case there is fetal death but the pregnancy is retained.management is dilatation and curettage after DIC is ruled out especialy if the pregnancy has been retained for more than 4-5 weeks after the fetal death.

-Septic abortion-in this case there is sepsis and management involves broad spectrum antibiotics follwed by a D&C

Complications of abortion include haemorrhage ,sepsis and its sequelae,perforation,choriocarcinoma and injury to the bowel and/or bladder(1)

In Kenya, abortion is legally restricted leading to unsafe procedures, untrained providers and hence, high mortality and morbidity. Legalization reduces maternal mortality due to reduction of unsafe abortions (Abortion should be treated as an issue of health and welfare as opposed to one of crime and punishment). Because abortion is illegal, women suffering complications delay in seeking medical help. Unsafe abortions have broad and long term health and social implications. It is associated with long term effects such as infertility, social and psychological effects and even loss of the mother (8).

Treating abortion complications consumes plenty of scarce resources in terms of time, hospital beds, medical personnel and medical supplies. It is estimated that direct costs range from US$ 15 to US$ 67 in Kenya (9).

C.K. presented with incomplete abortion and luckily came before life-threatening complication set it and vacuum aspiration was done. Manual vacuum aspiration is safe simple and effective in treating incomplete abortion (10). It was introduced in Kenya in 1987 to treat incomplete abortions.

Maternal mortality arising from unsafe abortions can be tackled by preventing unwanted pregnancies through sex education and contraception, legalizing abortion and improving treatment and post abortal care.

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CASE 7:

BURST ABDOMEN AFTER CAESERIAN SECTION – SECONDARY REPAIR

Name: R.W. Age: 29 years

IP No.: 0741176 parity: 1+0

D.O.A.: 2.6.02 D.O.D.: 16.6.02

PRESENTING COMPLAIN

R.W. complained of abdominal pain on the 4th postoperative day. She was done emergency caeserian section due to cephalopelvic disproportion.

HISTORY OF PRESENTING COMPLAIN

She is now para 1+0 who was done caeserian section due to cephalopelvic proportion. She was referred from a clinic in Dandora where she was in labour for 12 hours. She was found to be fully dilated but the head was still high. She had a ceaserian section done and outcome was live male infant Apgar score 7/1, 8/5. Birth weight 3800gram with 2nd degree moulding and caput succedaneum. The liquor was meconium stained. She was put on IV augmentin and flagyl but still developed wound sepsis.

OBSTETRIC AND GYNAECOLOGY HISTORY

She is para 1+0 her last delivery on 2/6/02. Menarche was at 16 years. Her menses were regular lasting 3 days and coming after 28 days. No history of contraception use.

PAST MEDICAL HISTORY

This was not significant

FAMILY AND SOCIAL HISTORY

She was a housewife who lived in Dandora with her husband who was a driver. She did not smoke or drink alcohol. No family history of chronic illness.

EXAMINATION

She was in fair general condition, not pale and was clinically afebrile. Blood pressure was 120/80mmHg, pulse rate 100/minute, temperature 37.2°C.

Breasts were soft and active.

ABDOMINAL EXAMINATION

The abdomen was not distended and moving with respiration. There was wound dehiscence on the proximal half of the wound. Intestines and omentum were seen herniating from the area.

PELVIC EXAMINATION

This was not indicated and hence not done.

DIAGNOSIS

A diagnosis of burst abdomen was made.

INVESTIGATION

Haemoglobin -11.6g/dl

Urea and electrolytes Na^+-130mmol/l

K^+-3.5mmol/l

BUN-2.8mmol/l

Creatinine-74 µmmol/l

MANAGEMENT

She was planned for secondary repair IV antibiotics, IV fluids were commenced. Written consent was obtained and she was pre-medicated with 0.6mg atropine intramuscularly.

SECONDARY REPAIR

She was put in semi lithotomy position after general anaesthesia was induced. Vulvovaginal toilet was done and 150mls of urine was catheterized. Minimal lochia rubric was found. She was repositioned in supine position and the abdomen cleaned and draped. The wound was noted to have dehisced through and through. The uterine incision was found to be intact and uterus was healthy. The abdomen cavity was clean. Pentoneal lavage was done and abdomen edges were freshened and mass closure with nylon number 0 done.

The skin was closed with number 0 nylon. She was reversed from anesthesia and taken to recovery ward and later to the postnatal ward when fully awake.

POST-SECONDARY REPAIR

She was observed ½ hourly till she was fully awake then 4 hourly. Intravenous fluids were until bowel sounds were heard. She was put on cefuroxime1.5g and metronidazole 500mg 8 hourly. She did well and the stitches were removed on the 10th post-operative day, after which she was discharged home to be seen at the postnatal clinic in 6 weeks.

FOLLOW UP

She was seen at the postnatal clinic on 28/7/02. She was well with no complains. Her breasts were soft and alive. The wound was well healed and uterus was involuted.

DISCUSSION

Presented was a 29 years old para 1+0 who developed complete wound dehiscence following an emergency caeserian section. Secondary wound suturing was done with good results.

Wound dehiscence is described as separation of the entire layer of the abdominal wall. The incidence of wound dehiscence following caeserian section is between 0.14-4.37% (1). Incidence locally has not been studied. The cause of wound dehiscence are usually multiple.

The main aetiological factors locally are (2): -

1. Type and location of incision
2. Type of suture and suturing technique
3. Inherent strength of the tissues
4. Mechanical factors

Incomplete or partial wound dehiscence involves separation of all layers of the abdominal wall excluding the rectus sheath. If this is involved, then the dehiscence is considered complete (3). If the intestines protrude through the wound, then evisceration or burst abdomen has occurred (3).

Evisceration is the most feared and dangerous complications with mortality of 10-35% and is usually associated with other complications like sepsis. Midline incisions are more prone to disruption than transverse ones. Mechanical factors include obesity, abdominal distension, cough, retching and infection.

Suturing should make sure there is haemostasis to avoid haematoma formation leading to separation of edges. Suturing should be loose with secure knots as compared to light strangulating knots that cause ischaemia to the wound margins (4).

Inherent strength of the tissues is controlled by metabolic factors which include malnutrition, anaemia, poorly controlled diabetes, corticosteroid use and old age.

Wound dehiscence normally occurs on the 5^{th} to 14^{th} postoperative day normally on the 8^{th} day. The first sign is the seepage of serosanguinous pink discharged from an apparently intact wound. This can stay for several days before the evisceration occurs.

Evisceration is a gynecologic emergency and should be closed as soon as it is recognized. If there is a delay then, the bowel can be replaced in the abdomen and packed with lap packs soaked in povidane – iodine, broad spectrum antibiotics started and base line blood counts and urea and electrolytes taken (3).

Once in theatre, the wound should be inspected. Necrotic tissue, clots and suture material should be removed. Cultures should be obtained.

If the margin can be located and not rugged then mass closure is done. If the patient's condition is poor or edges are rugged then a through and through no 2nylon suture is used. They are placed 2.5-3cm from skin edges. The skin is approximated by interrupted 3.0 nylon suture. The through and through should be left for 3 weeks.

R.W. underwent mass closure with good results.

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CASE 8:

LONG-TERM REVERSIBLE CONTRACEPTION – NORPLANT INSERTION

Name: M.M.	L.M.P.: 8.3.02
Age: 32 years	FP Client: 1205/02
Last delivery: 24.12.01	Parity: 2+0
Norplant lot no.: 803051	Date of insertion: 10.3.02

PRESENTING PROBLEM

She had come to the family welfare clinic as a new client in search of a family planning method. She had used the intrauterine contraception device in the year 2000 but removed due to heavy menses. After counseling on various methods, she opted for Norplant.

OBSTETRIC AND GYNAECOLOGY HISTORY

She is a para 2+0 with both deliveries being spontaneous vertex deliveries at Nairobi West Hospital. The first was in 1998 to a male infant and second in 2001 to a female infant both of whom are alive and well. Menarche was at 15 years. Menses are regular coming every 30 days and lasting 3-4 days.

PAST MEDICAL HISTORY

This was not significant

FAMILY AND SOCIAL HISTORY

She is married and stays with the husband in Nairobi West. She is a secretary by profession and does not drink alcohol or smoke cigarettes. Her husband us an accountant. There is no family history of chronic illness.

PHYSICAL EXAMINATION

She was in good general condition. She did not have jaundice nor edema. Her blood pressure was 120/70mmHg, her pulse 82 beats per minute, regular and of good volume. Her temperature was 36.4°C and weight was 75kg.

ABDOMINAL EXAMINATION

The abdomen was not distended and moved with respiration. There was no palpable masses or organomegaly.

PELVIC EXAMINATION

There was normal external genitalia. The cervix was firm, posterior with a parous os. The uterus was anteverted, normal size. Adenexa and pouch of Douglas were free and non-tender.

Investigation

Pap smear - satisfactory smear no abnormal cells seen.
Endocervical cells present

MANAGEMENT

She was counseled about insertion, advantages and side effects of Norplant.

Insertion.

The procedure was explained to her. She was place in supine position with her left arm outstretched on a table by the side.

The upper arm was cleaned and draped with sterile towels. The insertion site was identified approximately 8cm above the elbow. 5mls of 1% lignocaine hydrochloride was infiltrated in the insertion area in a fan like fashion. The 'fan' consisted of 6 injection positions 1 to 2mm apart facing the axilla.

Using the scapel, a 2mm long incision at the apex of the fan was made. The trocar was inserted in the incision and pushed sub-dermaly upwards towards the axilla upto the second mark at the position of first injection site.

The first implant was inserted into the trocar with the thumb and index finder and pushed up with the plunger until there was resistance.

The plunger was steadied and the plunger was removed gently upto the first mark leaving the capsule in situ. Without removing the trocar, the procedure was repeated in a fan like manner until the six capsules were inserted.

The trocar was then removed and the edges of the incision were approximated using an elastoplast bandage. The situ was covered with gauze and wrapped with a bandage to ensure haemostasis.

She was advised to keep the site dry and remove the bandage after three days and leave the elastoplast until her appointment after seven days. She was advised to avoid unprotected sex until after 24 hours.

FOLLOW UP

She was seen on the 17th of March at the clinic when the elastoplast was removed. The incision site had healed and the implants could be felt. She was then seen after 1 month and then after 2 months. She had no complains and was advised on sic monthly visits.

DISCUSSION.

Norplant is a long term progestin only reversible contraceptive that received its approval in 1983. It consists of six silastic containers that is 34mm long and 2.4mm in diameter. Each contains 36mg of levonorgestrel. This is released at a steady rate of 85mcg per day decreasing to 50mcg at 9 months, 35mcg at 18 months and 30mcg thereafter.

The capsules are inserted subdermally and within 24 hours the levonorgestrel released is enough to prevent pregnancy (1). Removal is usually after 5 years, Mechanism of actions of norplant is similar to other progestin only contraceptives. It acts via inhibiting ovulation by preventing the normal midcycle LH surge, it creates a thin atrophic endometrium, it thickens and decreases the amount of cervical mucous making it difficult for the sperms to penetrate and lastly they cause pre-mature luteolysis.

Norplant failures are rare with pregnancy rates in first year of use 0.2% and for second to fifth years the pregnancy rates are 0.5%, 1.2%, 1.6% and 0.4%. The pregnancy cumulative rate after 5 years is 3.7% (2).

Continuation rates of Norplant users after 1 year are 85%-95% and 33%-78% completed 5 years (3).

Norplant is contraindicated in pregnancy and unexplained vaginal bleeding, it is relatively contraindicated in patients with history of stroke or ischaemic heart disease and when on drugs that affect liver enzymes like phenobarbitone, rifampicin and anticoagulants. Insertion is usually done within seven days of menses, after abortion or 6 weeks post partum (4).

Side effects of Norplant are similar to other progestin contraceptives. This may range from ammenorrhea to heavy prolonged bleeding (2). Other side effects include weight gain, breast tenderness, headache, ovarian cysts and skin changes may occur.

Insertion site complications include infection, bleeding, expulsion of capsules and pain (5). Disadvantages of Norplant are; its initial cost of insertion and difficulty in removing Norplant especially if inserted deep (6).

Discontinuation of Norplant before 5 years is usually due to menstrual disturbances, headache, weight gain or loss, hair loss and mastalgia (7).

Norplant is effective, safe with good return to fertility after removal.

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CASE 9:

POLYCYSTIC OVARIAN SYNDOROME

NAME F.N

AGE 38

IP 0794220

DOA 3/4/02

DOD 7/4/02

PRESENTING COMPLAINS

She came with inability to conceive for 10 years was admitted through a gynecology clinic for ovarian drilling.

HISTORY OF PRESENTING COMPLAINS

Para 0+0 married for last 10 years. Has had sexual intercourse regulary. Menses are irregular has, amenorrheic periods of up to 4 months. Menarche at 13 years. Has been attending several clinics for 6 years and ovulation induction done for last 3 years with clomid.

PAST MEDICAL HISTORY

This was not significant

FAMILY AND SOCIAL HISTORY

She is a married housewife. She does not smoke or drink alcohol. Her husband is a businessman. No family history of chronic illness

PHYSICAL EXAMINATION

She was in fair general condition, not pale or jaundiced. Her blood pressure was120/80mmhg,pulse rate 84/min, temperature37° C. Her body weight was 96 kg.

BREAST EXAMINATION

Breast were soft, there was no galactorhea

NECK EXAMINATION

Thyroid gland was not enlarged.

ABDOMINAL EXAMINATION

It was soft uniformly distended. No masses were palpable

PELVIC EXAMINATION

There was normal external genitalia. The cervix was posterior, and the uterus normal and ante-verted. There were bilateral adenexal masses.

INVESTIGATIONS

Pelvic ultrasound - This showed a normal uterus with bilateral enlarged cystic ovaries consistent with polycystic ovaries

Laboratory tests

LH –30.7miu/l (n-1.2-12.5)

FSH-279miu/l (n-3.2 –10)

PRL 204miu/l (n-268-490)

MANAGEMENT

She was put on liquid diet from the day before the operation, given senekots the night before the operation and enema in the morning before. Pre- medication with 0.6mg atropine. General anesthesia was induced and she was cleaned and draped .A stab incision was made with a knife and carbondioxide introduced to make a pneumoperitoneum. Two more stab wounds were made and the arteries introduced Both ovaries were identified and found polycystic- with about 20 cysts in each ovary. Using unipolar diathermy drilling of each ovary was done. The abdomen was irrigated using normal saline and heparin. The stab wounds were closed using chromic catgut sutures.

POST –OPERATIVE CARE

She was observed ½ hourly till fully awake then 4 hourly. She was started on analgesics. On the second post operative day she was put on light diet and discharged home on brufen and amoxil for review after two weeks

FOLLOW-UP

She was seen in the clinic after two weeks, she had no complaints. The wounds had healed well. She was advised to loose weight and was put on metformin 500mg.
She was seen after three months when she was confirmed to be pregnant and she was booked for antenatal clinic.

DISCUSSION

FN presented with 1° infertility secondary to Polycystic ovarian syndrome and ovarian drilling was done.

Polycystic ovarian syndrome was originally described in 1905 by Stein and Leventhal as a syndrome consisting of amenohrea, hirsutism and obesity in association with enlarged polycystic ovaries. It is now realized that this syndrome is in fact a hormonal disorder and most clinical prefer referring to as a 'syndrome of hyperandrogenic chronic anovulation.

The incidence of polycystic ovarian syndrome (PCOS) is about 3 % in both adolocent and adults, it is the most common cause of hyperandrogenism of pre–pubertal onset (2). In PCOS the main hormonal disturbance is elevated LH (Leutenizing hormone) which results in increased androgen secretion from the ovary this results in wasting of the ovarian follicles by interfering with production of the dorminant folicle. This results in absence of mid LH surge, which results in unovulation (3).

It is also known that these patients have insulin resistance, which results in excess androgen production thus follicular washing.

Symptoms and signs of PCOs include irregular or absent periods, unovulation, weight gain, hirsutism, acne, multiple ovarian cysts and ancthosis nigrans
In addition there is unopposed estrogen stimulate of the endometrium leading to endometrial hyperplasia and rarely adenocarcinoma (4).

Diagnosis is based on the signs and symptoms mention above though not all may be present. In addition, infertility is major symptom. Ultrasound may show ovaries with multiple cysts.

Labaratory tests may show elevated LH, with normal or low FSH. Progesterone levels in luteal phase may show unovulation levels. Androgens are usually elevated both

testrosterone and andrestenedione, 20 % of patients with PCO have elevated prolactin (3).

Treatment of PCOs is aimed at menstrual irregularity, unovulation or infertility and hirtusm. Weight loss causes decreased insulin levels and causes ovulation and improves hirtisum. Insulin sensitizing drug like metformin may lower sugar levels hence leading to reduced insulin requirement and in returns improving insulin resistance.

Treatment of hirtuism and hyperandrogenism can be done using oral contraceptives in those who do not want pregnancy in addition antiandrogens can be used. Progestrines may be used to control irregular cycle by mimicking the action of progesterone. Irregular menses may also be controlled by GNRH (Gonadotrophin releasing hormones analogues) against this lead to suppression of LH and FSH

Ovulation induction may be achieved by use of clomiphine citrate with ovulation achieved in 80% of women and 6 months successful pregnancy rate of 45 – 50% The patient presented had been given clomiphine without success. If this fails ovarian stimulation using GNRH agonist with IVF may increase success rate to 54 5 after 6 months and 62 % after 12 cycles. This is not practiced in our center (4)

Laparascopic ovarian diathermy or drilling is an alternative to ovarian stimulation. Exact mechanism of its action is unknown but it results in pregnancy rate of 60 – 80 % after 12 month's (5)

The patient seen under went successful ovarian drilling

REFFERENCES

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CASE 10

CANCER OF THE CERVIX – CARCINOMA IN SITU

Name: M.C. Age: 38 years

IP no. 0818721 Ward: 1B

D.O.A.: 19.7.02 D.O.D.: 28.8.02

PRESENTING COMPLAIN

M.C. presented with generalized lower abdominal pain associated with vaginal discharge, which was yellow in colour, not foul smelling

HISTORY OF PRESENTING COMPLAIN

She was well until 2 days prior to admission when she developed the above symptoms. She did not have vaginal bleeding or dysuria.

GYNAECOLOGIC HISTORY

She was seen in 1999 and pap smear then showed high grade squamous intraepithelial lesion. She then had colposcopy done but she then got lost to follow up and results could not be found.

She had a repeat pap smear in June 2002 which showed high grade squamous intraepithelial lesion. Menarche was at 14 years. Menses were regular and lasting 4 days and coming after 30 days.

She had no history of contraceptive use.

OBSTETRIC HISTORY

She is a para 7+0. Her last delivery was in 2001. All are alive and well.

PAST MEDICAL HISTORY

Apart from the above, she had no significant past medical history.

FAMILY AND SOCIAL HISTORY

She is a married housewife to a monogamous marriage. The husband is a small-scale farmer. She does not smoke cigarettes or drink alcohol. There is no family history of chronic illness or cancer.

EXAMINATION

She was in fair general condition, not pale or jaundice. Temperature was 38.5°C. Her blood pressure was 120/70mmHg.

RESPIRATORY SYSTEM

Air entry was equal bilaterally with no added sounds

ABDOMINAL EXAMINATION

The abdomen was flat and moving with respiration. There was supra pubic and right/left iliac fossa tenderness. There was no organomegally or masses felt.

VAGINAL EXAMINATION.

Normal external genitalia, cervix was posterior and closed with cervical exitation positive. Uterus and adenexa were normal. Pouch of Douglas was normal. There was a yellowish discharge.

DIAGNOSIS

An impression of acute pelvic inflammatory disease with high grade squamous. Intraepithelial lesion was made.

She was then started on intravenous clindamycin, flagyl and intramascular diclofenac.

She was scheduled for colposcopy, which was done on 12/8/02. Colposcopy showed punctation with areas of aceto-white epithelium. Biopsy taken showed squamous cell cervical cancer in situ.

She was then informed of the diagnosis and was to undergo extended total abdominal hysterectomy.

POST-OPERATIVELY

She was informed of the diagnosis and management. Informed written consent was obtained.

INVESTIGATIONS

Hemoglobin -13.4g/dl

Urea and electrolytes Na^{+-} 137 mmol/l

K^{+} -4.5mmol/l

She was grouped and cross-matched two units and auto donated 1 unit.

She was starved from midnight and premedicated with atropine and pethidine ½ hour before theatre.

OPERATION

She was wheeled into theatre during the morning of the operation. General anaesthesia was induced and after cleaning and draping the abdomen was opened in 3 layers. The uterus was found normal and both ovaries also found normal. There were flimsy adhension with fibrosed tubes.

Total abdominal hysterectomy with removal of upper 1/3 of the vagina was done. Haemostasis was achieved and the abdomen cleaned and closed in 3 layers. Anaesthesia was reversed uneventfully.

POST OPERATIVELY

She did well and was started on oral sips on 1st post-operative day and full diet on 2nd postoperative day.

She was discharged on the 4th post-operative day for review after 3 weeks.

She was seen in the clinic after 3 weeks .The incision site was well healed.

Histology report – squamous cell carcinoma of the cervix with no audience of invasion. No tumour seen in the uterus and vagina. It was moderately differentiated squamous cell carcinoma.

She was for review after 6 months

DISCUSSION.

M.C. was a 38 years old para 7+0 who presented with cervical carcinoma in situ and extended hysterectomy was done.

Incidence of cancer of the cervix is unknown but it is the commonest gynecological tumour which accounts for 37% of all histological proven cancers (1).

In Kenya cancer of the cervix occurs 10 years earlier than in the developed countries with two peaks occurring at 25 and 35 years (2).

Commonly implicated aetiological factors include early age of 1st coitus, multiple sexual partners, high parity, low socio-economic status, smegma in male partner and sexually transmitted infections.

Sexually transmitted infections include herpes simplex, human papilloma virus and human immunodeficiency virus.

Of the sexually transmitted infections HPV(Human papiloma virus) is believed to be the oncogenic infection of the cervix.HPV that infect the cervix faal into two broad categories.The low risk types include type 6 and 11,which are found in Low grade squamous intra epithelial lesions but never found in invasive cancer.The high risk types are HPV 16 and 18 found in 50-80% of squamous intra epithelial lesions and upto 90% of invasive cancers.

Cervical cancer is considered preventable as screening by cytology may detect the preinvasive stages (3).

M.C. was diagnosed early due to routine cytology and colposcopy. In Kenya, cancer of the cervix is usually found late, contrary to the case presented above (1). Most common presentation of cervical cancer is post coital bleeding but may also have inter-menstrual bleeding or post menopausal bleeding (3). With advanced disease, the patient may present with maladrous vaginal discharge, weight loss or obstructive uropathy. In early stages, diagnosis may be by routine cytology as it may be asymptomatic.

Our patient presented with carcinoma. in situ. Cervical cancer is staged into 5 stages. Staging is done during examination under anaesthesia, which involves vaginal, pelvic and rectal examination or using colposcopy.

It is also further classified into squamous cell carcinoma, which accounts for 85-09% of all cancers or adenocarcinoma which accounts for 10-15% (4).

Staging of cervical cancer

Stage 0: Carcinoma in situ: Pre-invasive carcinoma

Stage I: Carcinoma confined to the cervix

- 1a: preclinical cancer. Microscopically diagnosed
  - 1a1 less than 3mm invasion
  - 1a2 3-5mm in depth
- 1b: lesion > 5mm
  - 1b1 less than 4cm
  - 1b2 greater than 4cm

Stage II Carcinoma extended beyond the cervix but not to the pelvic wall and involves the vagina but not the lower third.

- IIa: No obvious parametrial involvement
- IIb: obvious parametrial involvement

Stage III: Extension to pelvic wall, involves lower ⅓ of vagina, all cases of renal involvement with hydronephrosis or non functioning kidney

- IIIa: no extension to pelvic wall
- IIIb: pelvic wall extension and/or hydronephrosis

Stage IV: Extension beyond the true pelvis or has involvement of bladder or rectum

- IVa: spread to adjacent organ
- IVb: Distal spread

Prognosis of cervical cancer depends on the type, stage, size and general condition of the patient (2).

Treatment of cervical cancer can be surgical or radiotherapy. Whilst radiotherapy can be used in all stages surgery is limited to stage 0, I and IIa stage 0 and I can be treated by cone biopsy or simple extended hysterectomy.
Stage Ib and IIa involves radical hysterectomies, pelvic lymphodenectomy and para-aortic lymph node evaluation.

Wartheim's hysterectomy initially done did not involve pelvic lymph node removal but involved removal of the medial half or the cardinal and utero sacral ligaments (4). Complications of surgery include blood loss, fistula formation and gut injury (4). Stage IIb and above radiotherapy is used for treatment as the primary choice but can be used to treat all stages with cure rates of 70% for stage I and 18% for stage IV (5).

Other methods of treatment include chemotherapy and symptomatic treatment. Chemotherapy may be given before surgery (neo-adjuvent chemotherapy) to reduce tumour size or in addition to radiotherapy (6).

Cytology screening is paramount in preventing invasive cancer.

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CASE 11.

OVARIAN TUMOUR – MUCINOUS CYSTADENOMA

Name: R.N.

Age: 60 years

IP No: 0792930

D.O.A: 27.5.02

D.O.D.: 11.6.02

PRESENTING COMPLAINS

Patient came with complains of abdominal swelling 5 months.

HISTORY OF PRESENTING ILLNESS

She was well until 5 months prior to admission when she started having progressive abdominal swelling which was associated with discomfort. She also had progressive weight loss. There was no history of vomiting or pervaginal bleeding. She also had cough, which is not productive.

OBSTERIC AND GYNAECOLOGICAL HISTORY

She is a para 7+0 and her last delivery was 18 years ago. All deliveries were spontaneous vertex deliveries. There was no history of contraceptive use. Post menopausal 10 years.

PAST MEDICAL HISTORY

Nil significant

FAMILY AND SOCIAL HISTORY

She is a married housewife. Her husband is a farmer. They both don't drink alcohol or smoke cigarettes. There is no history of chronic illness.

EXAMINATION

She is an elderly lady who was wasted, with mild pallor. There was no jaundice, cyanosis or oedema. Her blood pressure was 110/70, pulse 76/minute.

RESPIRATORY SYSTEM

Good entry with no added sounds

ABDOMINAL EXAMINATUON

Uniformly grossly distended, umbilicus everted, stony dull on percussion, fluid thrill positive. No masses felt.

VAGINAL EXAMINATION

She had normal external genitalia. The cervix was smooth, the uterus was normal size. There was a mass arising from the left adnexa.

DIAGNOSIS

An impression of ovarian tumour was made and the following investigations were done.

Pap smear	-	showed normal smear both endocervical and squamous cells seen
ELISA for HIV	-	negative
Hb;	-	12.4g/dl
U/E:	-	K^+ 4.8mmol/l
		Na^+ 141mmol/l
		BUN 2.1mmol/l
		Creatinine 6.1mmol/l
CXR	-	interstitial pneumonia
Abdominal ultrasound	-	multisepted cystic mass arising from the pelvis and filling the whole abdomen. Liver, kidneys and spleen appear normal.

She was the counseled and prepared for laparotomy. TAH and BSO. Written consent forms were filled. She was starved from midnight, dulcolax 10mg was given the night before and enema in the morning. In the morning, she was given stropine 0.6mg IM and pethidine 50mg before being wheeled to theatre.

In theatre, she was put in supine position and general anaesthesia was induced. OUT was done and catheterization of 300mls of clear urine done.

She was then cleaned and draped and the abdomen was opened in 3 layers via a sub-umbilical midline incision which was extended up to the xiphisternum.

Findings in theatre – large left ovarian cystic mass extending up to the xiphisterm with well form capsule. It weighed 10kg and was removed whole. On cut section, it was multi located with mucous secretions. The right ovary and uterus were found normal.

TAH and BSO was done and the abdomen cleaned and closed in 3 layers. Blood loss was estimated at 500mls.

POST OPERATIVELY

She was put on null by mouth. IV fluids, normal saline alternating with 5% dextrose were given. She also received IV antibiotics and analgesics. On the 2nd postoperative day, she was started in oral sips and on the 3rd postoperative day she was started on oral medication.

She was discharged home on the 4th postoperative day.

Review after 3 weeks, she was in good general condition. The abdomen scar had healed well.

Histology results: uterus and right ovary were normal.
Left ovary – mucinous cystadenoma.

She was for review after 6 months.

DISCUSSION

Of all gynaecological neoplasm, ovarian malignancies represent the greatest clinical challenges. Ovarian cancers represent major surgical challenge and require intensive and often complex therapies. It has the highest fatality to case ratio of all gynaecological tumours (1).

Of all ovarian neoplasms, 50% are malignant. It is generally a disease of the past menopausal and pre-pubertal girls although it has been reported in all ages (20.

In the postmenopausal, 30% of ovarian neoplasms are malignant and nearly 80% of epithelial cancers are found in the post menopausal (2).

Aetiology of ovarian cancer is unknown but several factors are implicated. Repeated ovulation, infertility, increased fatty diet, exposure to talc and asbestos have been implicated.

Genetic factors also play an important role as seen in site specific familial ovarian cancer, breast/ovarian familial cancer syndrome and lynch II syndrome. Also, parents with Turners syndrome and Klinefelters syndrome at an increased risk (1,2). Other factors associated with ovarian neoplasms include chronic anovulation, multiparity and breast feeding which are protective (2).

Pregnancy reduces the risk by 30-60% and oral contraceptives reduce the risk by 30-60%. Ovarian neoplasm's are divided into 3 major categories depending on cell or origin in addition the ovary may be the site of metastases (7).

1. Epithelial tumours: This accounts for 90% of ovarian tumours and can be divided into serous, mucinous, endometroid, clear cell, transitional cell and undifferentiated.

2. Germ cell tumour: Dysgerminoma, endodermal sinus tumour, immature teratoma embrgonal carcinoma, gonado blastoma, choriocarcinoma and mixed germ cell.
3. Sex cord and stromal: Granulosa cell tumour, fibroma, thecoma and sertoli-leydig.
4. Metastatic tumours to the ovary; From the colon, stomach, breast and endometrium.

They can further be divided into benign, borderline or malignant.

The patient presented had benign mucinous cystadenoma. Mucinous cystadenoma develop into malignant in 5-10% of the cases (1).

Ovarian cancer normally develops quietly with few warning signs. Symptoms normally develop when the tumour has already spread.

Major complains are related to pressure of the mass on adjacent organs, which include dysuria, frequency, dyspepsia, and constipation. In advanced disease, there may be anorexia, wasting and ascities (2).

Menstrual abnormalities may be seen in 15% of women. Androgen producing tumour may cause virilization (sertoli leydig) and granulosa cell tumours produce estrogens and may cause abnormal bleeding or precious puberty (3).

Prognosis of ovarian cancer is improved significantly if the tumour is still confined to the ovary. Once ovarian neoplasm is suspect6ed, a full work-up is required. This should include a physical examination, radiological x-rays for metastasis, ultrasound, CT scan and MRI. Laboratory investigations include complete blood count, urea and electrolytes. Tumour markers are available for various cancer and can be used for screening or follow up

Epithelial ovarian cancer - ca-125, LASAD

Dysgerminomas	-	LDH
Choriocarcinoma	-	B-HCG
Sertoli Leydig	-	Testosterone
Granulosa cell	-	Es+radial

Treatment of ovarian tumour involves surgery, chemotherapy and/or radiotherapy. During surgery, staging of the tumour is done. Staging is done using the FIGO classification, which is universally used.

Stage 1: Growth limited to the ovaries

1a one ovary involved, capsule intact

1b both ovaries involved, capsule intact

1c one or both ovaries involved with malignant cells on the surface, or ruptured capsule or ascities with malignant cells or positive peritoneal washings

Stage II: Growth involving one or both ovaries with pelvic extension

IIa: Extension or metastasis to the uterus or tubes

IIb: Extension to other pelvic tissues

IIc: Stage IIa or IIb with tumour on surgace of the ovary or ruptured capsule or ascities with malignant cell or positive peritoneal washings.

Stage III: Tumour extension to the abdomen

IIIa: Abdominal peritoneal surfaces with microscopic metastasis

IIIb: Tumour metastasis < 2cm in size

IIIc: Tumour metastasis > 2cm in size or metastatic disease in the pelvic para-araotic or inguinal nodes.

Stage IV: Distant metastasis

Pleural effusion, lung metastasis, liver or spleenic parencymal metastasis and metastasis to the supraclavicular or skin

During surgical treatment, the aim is to remove as much tumour as possible, if not all of it. 70% of the tumour are optimally debulked (4).

Younger women with early stage diseases especially with borderline or germ cell tumour are able to conserve their fertility (4).

Chemotherapy following surgery is used in epithelial neoplasm. The regimens are normally asplatin based. One regimen is cisplatin, cylophosphamide and doxorubicin every three weeks for 12 cycles (1). Other newer drugs are carboplatin and paclitoxel (taxal) (1).

Radiotherapy is used mainly in dysgerminomas with whole abdomen radiotherapy.

2nd look surgery is usually performed to be able to

1. discontinue chemotherapy if there is no evidence of tumour
2. determine the actual response of the tumour after treatment
3. if possible to remove residual tumour.

Prognosis depends on type of tumour, stage and general condition of the patient.

RN presented with signs and symptoms of a malignant ovarian tumour but was found to have a benign ovarian tumour

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