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■ Original Research Article

The Incidence and Management Outcomes of Ectopic Pregnancy at the JFK Liberian-Japanese Friendship Maternity Hospital Monrovia, Liberia: A one-year Review

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Abstract

Background: Ectopic pregnancy at the beginning of the reproductive career of a young couple could cause a major reproductive failure and upset in an average African family. **Objectives:** The study was to determine the incidence and management outcomes of ectopic pregnancy at the JFK Liberian-Japanese Friendship Maternity Hospital Monrovia. **Materials and Method:** The study involved all patients seen with ectopic pregnancy at the JFKMH from June 2017 to June 2018. Information such as socio-demographic characteristics, clinical and operation details of the patients were extracted. Data were coded and analysed with IBM SPSS Statistics 25 Software. The results were summarized in frequency and percentage. Measures of central tendency were employed for quantitative variables. **Results:** There was a total number of 59 cases of ectopic pregnancy while the number of delivery was 2609. The incidence of ectopic pregnancy was 22.6/1000 Live birth. The mean age ± SD was 29.3±6.73 years. Most of the patients were within the age group of 20-24 (23.7%) and 24-29 (23.7%) years and were single 46 (78.0%). Up to 40 patients (67.8 %) had previous history of abortion. Fifty-eight patients (98%) presented with ruptured ectopic pregnancy and in 39 (66%) patients the ectopic pregnancy was on the right tube. More than three quarter of the patients (76.3%) were transfused following surgery. Their mean Shock Index was 1.38 (0.76-1.88). Surgery was the only treatment option of which almost all had salpingectomy. There was no mortality recorded. **Conclusion:** The incidence of ectopic pregnancy was high. Single and multiparous women are more affected. Patients were admitted in hemodynamic shock and salpingectomy was the only mode of treatment.

Key Words: Ectopic Pregnancy, Management, Liberia

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Conflicts of interest: Non

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Introduction

Ectopic pregnancy is defined as pregnancy in which the embryo is implanted in any location other than the endometrial lining of the uterus.[1] It is a potentially life threatening condition. It is associated with high maternal morbidity and mortality in the developing world. It accounts for 10% of maternal deaths.[2] Ectopic pregnancy is a recognised cause of maternal morbidity and mortality and has remained a reproductive health challenge to women of childbearing age and is a threat to efforts in achieving the United Nations Sustainable Development Goal 3 in sub-Saharan Africa.[3] The treatment strategies associated with ectopic pregnancy entail complications, such as recurrence of ectopic pregnancy or infertility.[4] Ectopic pregnancy is a global problem. There has been a reported rise in the trend of the incidence of ectopic pregnancy over the last three decades.[5] This increase is associated with increase in pelvic infections, advances in assisted reproductive technology, tubal surgeries and sterilizations, use of

intrauterine devices and earlier diagnosis with more sensitive methods of cases that otherwise would have resolved without causing any symptom.[1]

These rising trends of ectopic pregnancy vary from country to country and within the same geographical region depending on the risk factors in the population concerned.[6] A reported incidence of 2.2/100 deliveries was reported in Nigeria. [7] Ectopic pregnancy at the beginning of the reproductive career of a young couple could cause a major reproductive failure and upset in an average African family, where child bearing is placed at a high premium. It also contributes to the unacceptably high Maternal Mortality in the Sub-Sahara region. [8] It is a major disaster for the young unmarried girl child, and a factor that could prevent a fruitful union with a potential husband.[9–11]

Majority of the patients with ectopic pregnancy in developing countries present late with ruptured ectopic, as such clinical features include abdominal pain, amenorrhea, vaginal bleeding, dizziness and fainting attacks. This study was to determine the incidence and management outcomes of ectopic pregnancy at the JFK Liberian-Japanese Friendship Maternity Hospital in Monrovia. The study also considered the age group most commonly affected. In addition, the study sought to determine the most common risk factors associated with ectopic pregnancy.

Methodology

This was a retrospective study that involved all cases of ectopic pregnancy seen at the JFKMC from June 2017 to June 2018. All patients admitted through the Emergency Room (ER), and Outpatients Clinics into the wards were included. The Case files and theatre records were examined; Socio-demographic information, clinical and operation details of the patients were extracted using a predesigned (for the study) Data Sheet. Extracted data were coded and analyzed with IBM SPSS Statistics 25 Software (SPSS Inc., SPSS Statistics for Windows, Chicago, IL, USA). The results were summarized in frequency and percentage. Measures of central tendency were employed for quantitative variables.

Result

There was a total number of 59 cases of ectopic pregnancy while the number of delivery was 2609 during the period under review. The incidence of ectopic pregnancy was 22.6/1000 deliveries. The mean age was 29.3± 6.73 years. The median and modal age were 29.0 and 22 years respectively.

Table 1 Socio-Demographic Characteristics

variables	frequency	percent
Age group		
14-19	2	3.4
20-24	14	23.7
25-29	14	23.7
30-34	13	22.0
35-39	11	18.6
40-44	5	8.5
Total	59	100.0
Parity		
Nullipara	15	25.4
Primipara	17	28.8
Multipara	21	35.6
Grand Multipara	6	10.2
Total	59	100.0
Marital status		
Married	12	20.3
Single	46	78.0
Separated	1	1.7
Total	59	100.0
Educational level		
None	1	1.7
1st level	8	13.6
Primary	2	3.4
Secondary	37	62.7
Tertiary	11	18.6
Total	59	100.0

The median parity was 2. Age groups of 20-24 years and 25-29 years had the highest number of patients [14 each (23.7%)] followed by the age group of 30-34 years 13 (22.0%). Majority of the patients were single 46 (78.0%), the married constituted only 12 (20.3%). See Table 1. A larger proportion of the patients with ectopic pregnancy were Multiparous

21(35.6%); primiparous women constituted 17 (28.8%).

Majority of the patients attended secondary school 37 (62.7%) as their highest educational qualification, the uneducated constituted only 1 (1.7%) patient. Self-employed 24 (40.7%) were the majority followed by students 14 (23.7%)-Figure 1. Up to 40 patients (67.8 %) had previous history of abortion and 30(51.0%) of the patients had history of induced abortion while 10 (17%) had spontaneous abortion and the remaining had history of both induced and spontaneous abortion-Figure 2.

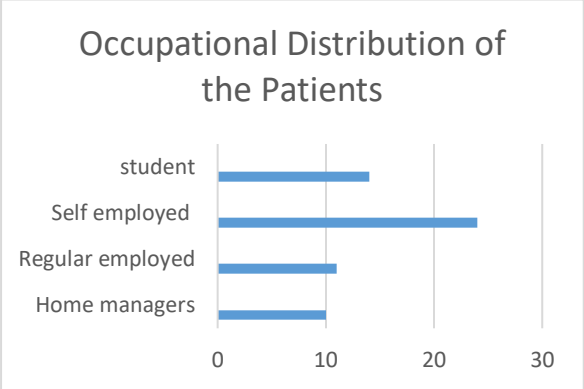

Figure 1. Occupational Distribution of the Patients

About 26 patients (44.1%) presented with history of contraceptive usage. History of use of oral contraceptive pills and injectables (depot) was found in 10 (38.5%) and 8 (30.7%) of the patients respectively-Figure 3. Ninety-eight percent of the patient presented with ruptured ectopic pregnancy (figure 4) and 39 (66%) were on the right tube-Figure 5.

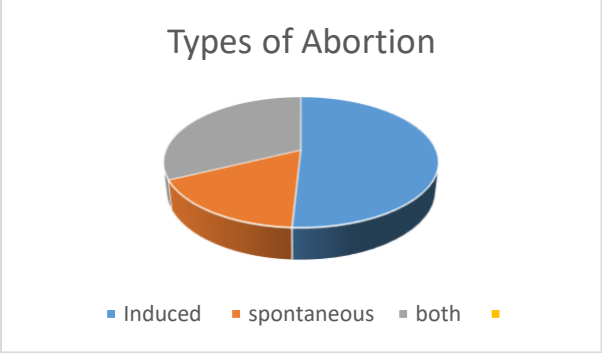

Figure 2. Types of Abortion

Majority of the patients had ruptured ampullary ectopic gestation 35 (59.3%), cornual and fimbrial ectopic were 11 (18.6%) each-Figure 6. Most of the patients presented with severe anaemia 43 (72.9%)-Table 2. The average hospital stay was from 3 [22(37.2%)] to 4 [30(50.8%)] days-Table 2. Table 3 depicts the average blood unit transfused at surgery. Twenty-four patients (40.7%) had two units of blood while 11 (18.6%) patients were transfused one and three units each respectively (see table 3). Nearly all patients were admitted in hemodynamic shock. More than three quarter of the patients (76.3%) were transfused following surgery.

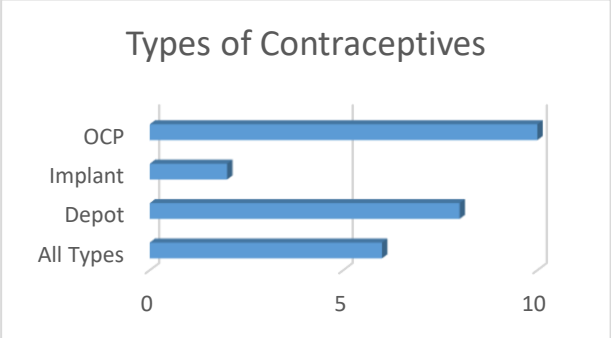

Figure 3: Types of Contraceptives ever used

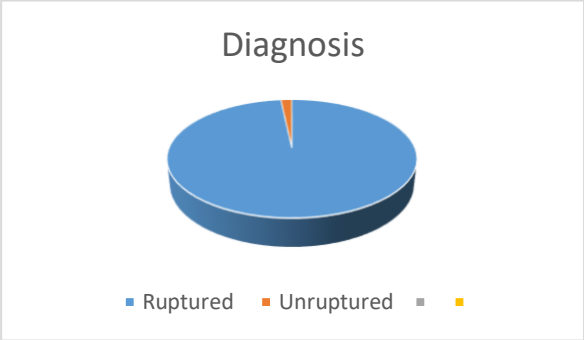

Figure 4. Diagnosis

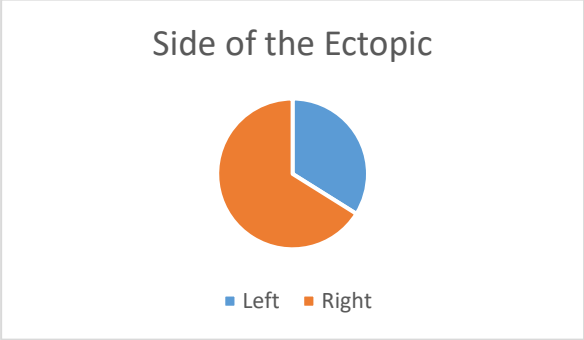

Figure 5. Side of the Ectopic

The mean admission Hemoglobin was 6.73 ± 1.97g/dl (range 3-11). The mean estimated blood loss at operation was 1681.40 ± 664.13 and the

average calculated Shock Index was 1.38 (0.76-1.88)-Table 4. Surgery was the only treatment option of which all had salpingectomy with the exception of the ovarian pregnancy (see figure 6).

There was no mortality among all patients with the ectopic pregnancy. The management option was mainly salpingectomy following exploratory laparotomy.

Table 2. Grade of Anaemia and Duration of Hospital Stay

Variable	Frequency	Percent
Blood unit transfused		
None	11	18.6
1	11	18.6
2	24	40.7
3	11	18.6
4	2	3.4
Total	59	100.0
Blood Loss at Surgery (mls)		
<500	2	3.4
500-999	7	11.8
1000-1499	9	15.3
>1500	41	69.5
Total	59	100.0

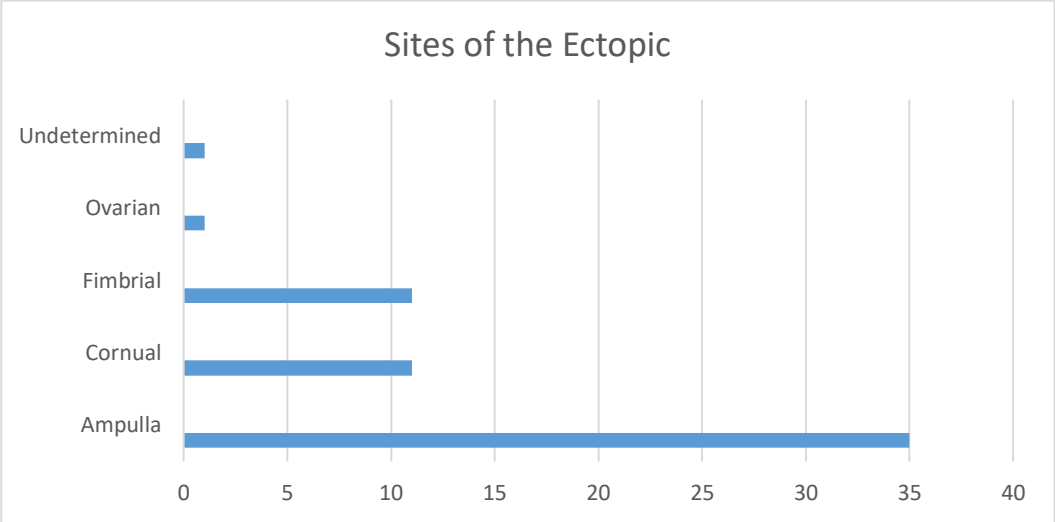

Figure 6. Sites of the Ectopic

Table 3. Blood Loss and Number of Blood Unit Transfused

Variable	**frequency**	**Percent**
Haemoglobin (g/dl)		
Normal (HB>11)	3	5.1
Mild (HB 10-10.9)	3	5.1
Moderate (HB 8-9.9)	10	16.9
Severe (HB<7.9)	**43**	**72.9**
Total	59	100.0
Hospital stay (days)		
3	22	37.3
4	30	50.8
5	6	10.2
7	1	1.7
Total	59	100.0

Table 4. Descriptive Statistics on Selected admission and treatment variables

	N	Minimum	Maximum	Mean	Std. Deviation
Admission Hb	43	3	11	6.73	1.97
Systolic Blood Pressure	43	65	128	89.81	15.29
Diastolic Blood Pressure	43	40	90	56.60	12.60
Admission Pulse Rate	43	84	139	114.58	9.56
Admission Temp.	43	35	37.1	36.15	0.49
Admission Resp. Rate	43	17	28	21.23	2.16
Total Blood Loss (VEBL)	43	350	3000	1681.40	664.13
Blood Unit Transfused	39	0	4	2.05	0.76
Shock Index	43	0.76	1.88	1.38	0.28

Discussion

In this study, the incidence of ectopic pregnancy was 22.6/1000 deliveries. This was higher than the figure of 1.5% reported in Sokoto, North Western Nigeria[12] and 0.79% in Yaoundé, the capital of Cameroon.[13] Majority of affected women were at the core of their reproductive age (29 years). This is similar to findings from Gharoro and Rabiu in Nigeria.[9,11]

We also found high cases of ectopic pregnancy among those that were single when compared to married women. For obvious reason, the sexually active and unmarried are more prone to acquiring sexually transmitted infections like chlamydia and gonorrhea, which could predispose them to ectopic pregnancy. Besides, they are more at risk of unwanted and unplanned pregnancy leading to unsafe abortion and its sequelae. We also found multiparous women the most affected with ectopic pregnancy. This was contrary to the findings of Rabiu and Gharoro.[9,11] Smaller sample size in this study could have contributed to our finding. In this review, up to 50% of the patients had at least one induced abortion. Induced abortion is inversely proportional to the number of women actively on contraception in a society with restrictive abortion laws in place. This fact strengthens the role of induced abortion in the development of ectopic pregnancy. Multiple induced abortions as a risk factor for ectopic pregnancy is well established as documented by Gharoro,[11] Rabiu[9] and Anorlu[14] as was found in this review.

In this study, almost all the patients presented with ruptured ectopic pregnancy, as such there was no room for conservative or medical management. This is not surprised, considering the level of education of the patients and the poor resource setting in developing countries. Despite this poor resource setting, we recorded no mortality among all patients with ruptured ectopic gestation who had surgery in JFK Maternity Hospital during the period under review. Few numbers of recorded cases of ruptured ectopic gestation coupled with available resources for exploratory laparotomy and blood transfusion in the centre and being a training centre of resident doctors could have attributed to that. Furthermore, the emergency response unit in the maternity. Hospital Monrovia. Single and multiparous women are at risk. In addition, the study determined complex which was well revamped since the Ebola outbreak in the country could also be responsible for the good outcomes.

It can be concluded that the incidence of ectopic pregnancy was high in JFK Maternity the most common risk factors associated with ectopic pregnancy which were previous history of abortion (67.8 %) and history of contraceptive usage (44.1%). Emphasis must be placed on raising the level of awareness of ectopic pregnancy, prevention of unsafe abortion and use of contraception.

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