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Ectopic Pregnancy: A 5-year Review at Central Hospital, Benin City

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ABSTRACT

Ectopic Pregnancy is a common life-threatening gynaecologic emergency and a leading cause of maternal morbidity and mortality in Nigeria.

Objective: To determine the prevalence, clinical presentation, risk factors and management outcomes of ectopic pregnancy in a secondary health facility.

Method: A retrospective study of all cases of ectopic pregnancy managed at Central Hospital from January 2014 to December 2018 was conducted. Data Collected with the aid of data entry forms designed for the purpose were analyzed using Statistical Package, SPSS 20.

Results: There were 3406 gynaecologic admissions with 233 cases of ectopic pregnancies managed. However 81 case notes were retrieved and were used in the final analysis. The mean age of patient was 32 .0 (14.5%) years while the mean gestational age at presentation was 8.5 weeks. Previous induced abortion 33(51.6%) was the commonest associated risk factor followed by pelvic infections 20 (31.3%). Majority presented with abdominal pain 61 (95.3%) and most of the cases had surgery 64(79.0%). There was no maternal death.

Conclusion: Ectopic Pregnancy has remained an important gynaecologic condition in our centre. The Common identifiable risk factors were induced abortion and pelvic infection. Early first trimester transvaginal ultrasound scan should be offered to all women with early pregnancy complications for early diagnosis and prompt treatment.

INTRODUCTION

Ectopic pregnancy is a common life-threatening gynecologic emergency in Nigeria. Several studies in Nigeria have revealed that ectopic pregnancies have quadrupled within 10 years between 1977 and 1987 [1]. Ectopic pregnancy is responsible for 8.6% of maternal deaths with case fatality rate of 3.7% [2]. In a total of 25280 deliveries in a health facility, a total of 194 ectopic pregnancies were managed giving an incidence of 1:130 pregnancies [3]. In a particular study, 85.7% of the 196 patients evaluated were found to be in the active reproductive age group (20-34 years).[4]. Ectopic pregnancy is responsible for 30% of emergency gynecologic admissions [5], Ectopic pregnancy is also responsible for 8.6% of maternal deaths and has a case fatality rate of 3.72% [6]. Thus, the incidence rate is relatively high. It has been reported that ectopic pregnancy is estimated to occur in 2% of all pregnancies [7,8]

Ectopic pregnancy is defined as a pregnancy in which the implantation of a fertilized egg (embryo) occurs outside the endometrial cavity [1]. Most often, it occurs in one of the two fallopian tubes or more rarely in the abdominal cavity [10]. It is one of the leading cause of maternal morbidity and mortality during the first trimester of pregnancy when misdiagnosed or left untreated and accounts for as much as 9% of maternal deaths and fetal loss in developed Countries [9,10], and perhaps the second most frequent cause of maternal death after abortion complications in developing countries [11]. Ectopic pregnancy continues to be an important Gynecologic issue due to its increasing incidence and its life- threatening impact if not treated effectively on time. It may also have effect on the future fertility of the woman causing mutilation of an essential reproductive organ which includes the fallopian tube, with or without ovary and sometimes the uterus [12,13].

Pelvic Inflammatory disease, reversal of previous tubal pregnancy, previous ectopic pregnancy, previous abortions, post-abortal sepsis, post-partum sepsis, congenital defects of the fallopian tube, previous Cesarean section, tubal spasm, psychological and emotional factors have been identified as predisposing factors for ectopic pregnancy in previous studies [14]. Comparing the case of ectopic pregnancy reported in other countries with Nigeria, the incidence of ectopic pregnancy is worse with women presenting late with ruptured ectopic in 80% of reported cases compared to what is reported in developed countries [14].

Although women with ectopic pregnancy often do not present with identifiable risk factors, a prospective and case -control study revealed increased knowledge of the associated risk factors and awareness of ectopic pregnancy in identifying women at higher risk in order to facilitate early and more accurate diagnosis [6]. Many pathological conditions present a percentage of variables but only a few have greater disparity of symptoms, signs, opinions and reports as ectopic, which has made ectopic pregnancy both an interesting and challenging problem, which is at times so difficult to diagnose and manage.[3]

Management of the case depends on the clinical presentation, site of the ectopic and need for future reproductive function. Management can be medical as well as surgical. With recent advances in diagnostic imaging especially transvaginal ultrasound, it is expected that cases of ectopic pregnancy will be diagnosed much earlier before they rupture thus allowing the possibility of tubal conserving or non-surgical management. This study was designed to review all cases of ectopic pregnancy managed in a major secondary health facility in Benin city over a 5-year period (retrospective) to determine the prevalence, associated risk factors and morbidity, pattern of clinical presentation and type of treatment provided.

METHODOLOGY

This was a retrospective cross-sectional study of ectopic pregnancies in Central Hospital Benin City in South-South geographical zone of Nigeria between January 2014 to December 2018. This hospital has 20 Gynaecogical, 15 labor ward, 60 Obstetrics beds and undertakes average of 4200 deliveries annually. There are 31 Doctors comprising of Consultants, Senior Registrars, Registrars and House Officers in the Department of Obstetrics and Gynaecology.

The study population included all cases of ectopic pregnancy that were managed at Central Hospital Benin city. Cases that were referred before definitive treatment following diagnosis were excluded. The variables of interest were the socio-demographic and clinical characteristics of the patients, the treatment options offered and the outcome of treatment. Information on bio-data, clinical symptoms, signs, risk factors of the disease, site, treatment option and associated morbidity and mortality where extracted.

Data was obtained from the case notes and medical records of patients with ectopic pregnancies where examined. The searched spanned the casualty department, the theatre, gynaecological and maternity sections of the hospital. Records of all registered pregnancies for the same period where obtained from the maternity sections of the hospital. Permission to conduct the study was sought from and granted by the hospital's Ethical Committee.

Statistical analysis

The statistical package SPSS21 was used for data analysis. The results are represented in simple percentages and tables.

RESULTS

Over the five years review, there were 223 cases of ectopic pregnancies out of 3406 gynaecological cases thereby contributing 6.5% of all gynaecological admissions. However, 81(36%) cases files were retrieved. The age range were 15 to 44 years with a mean average of 32.0(14.5%) years. The peak age was 25 to 29 age group. Majority of the patient were married 53(65.4%).

Ectopic pregnancy was common among the unskilled workers 36(44.4%) and they had secondary level of education. Abdominal pain was the main complain of the patient 61(96.3%). Followed by vaginal bleeding 37(57.8%) and amenorrhea 31(48.4%). In most of the cases, the diagnosis - intervention interval was more than 4 hours. The most common site of ectopic Pregnancy was ampulla region of the fallopian tube 56(69.1%). Majority of the ectopic (61.7%) were on the right. Most of the cases (90.1%) had ruptured ectopic pregnancy and majority of the Cases were on admission for more than 7 days. Patients who were unskilled (43.8%) and multigravida (62.5%) were significantly associated with delay in the confirmation of the diagnosis of ectopic pregnancy and laparotomy while patient who were married (82.4%) presented with abdominal pains (100%) and had ruptured ectopic pregnancy (94.1%) were associated with early laparotomy[2].

TABLE 1: Socio-demographic and Clinical characteristics of the study population

Characteristics	N = 81	%
Age groups		
15 – 19	4	4.9
20 – 24	14	17.3
25 – 29	25	30.9
30 – 34	24	29.6
35 – 39	7	8.6
40 – 44	7	8.6
Mean Age		
-32.0 ± 14.5		
Marital status		
Single	27	33.3
Married	53	65.4
Widow	1	1.2
Occupation		
Unemployed	4	4.9
Student	13	16.0
Skilled	28	34.6
Unskilled	36	44.4
Educational status		
No formal education	1	1.2
Primary	17	21.0
Secondary	44	54.3
Tertiary	19	23.5
Gynaecological profile		
Primigravida	29	35.8
Multigravida	52	64.2
Complaints		
Abdominal pain	78	96.3
Bleeding PV	46	56.8
Amenorrhea	42	51.9
Abdominal distension	3	3.7

TABLE 2: Clinical Presentation and Examination.

GA at presentation		
6-8	54	66.6
9-11	14	12.3
12-14	12	14.1
15-17	1	1.2
Characteristics	**N = 81**	**%**
Clinical presentation		
Shock	3	3.7
No shock	78	96.3
Diagnosis/intervention interval		
30mins-1hr	1	1.2
1 – 2hrs	4	4.9
2 – 3hrs	3	3.7
3 – 4hrs	9	11.1
>4hrs	64	79.0
Site of implantation		
Ampulla	56	69.1
Isthmus	9	11.1
Infundibulum	4	4.9
Ovarian	5	6.2
Abdominal	1	1.2
Rudimentary horn of uterus	6	7.4
Condition of gestation		
Ruptured	73	90.1
Slowly leaking	6	7.4
Unruptured	2	2.5
Location of ectopic		
Right	50	61.7
Left	31	8.3
Hospital Stay (in days)		
5 days	7	8.6
6 days	14	17.3
7 days	22	27.2
>7 days	38	46.9

TABLE 3: Diagnosis Intervention Interval Match with Socio-Demographic Characteristics and Clinical presentation.

Characteristics	**Delayed Laparotomy**		**No Delayed Laparotomy**	
	N = 64		**N = 17**	
	N	**%**	**N**	**%**
Age				
15 - 19	4	6.3	0	0
20 - 24	12	18.8	2	11.8
25 – 29	21	32.8	4	23.5
30 – 34	16	25	8	47.1
35 – 39	7	10.9	0	0
40 – 44	4	6.2	3	17.6
Marital Status				
Single	24	37.5	3	17.6
Married	39	60.9	14	82.4
Divorced	0	0	0	0
Widow	1	1.6	0	0
Occupation				
Unemployed	4	6.3	0	0
Student	9	14.1	4	23.5
Skilled	23	35.9	5	29.4
Unskilled	28	43.8	8	47.1
Gestational profile				
Primigravida	24	37.5	5	29.4
Multigravida	40	62.5	12	70.6
GA at presentation				
6 – 8	44	68.6	10	58.8
9 -11	9	14.2	5	29.4
12 -14	10	15.6	2	11.8
15 -17	1	1.6	0	0
Gynecologica Profile				
Previous EP	5	100	0	0
Previous abortion	33	51.6	6	35.3
PID	20	31.3	5	29.4
Complaints				
Abdominal pain	62	95.3	17	100
Bleeding per vagina	37	57.8	9	52.9
Amenorrhea	31	48.4	11	64.7
Dizziness	14	21.9	7	41.2

Characteristics	N = 81	%
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1 – 2hrs	4	4.9
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Site of implantation		
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DISCUSSION

The incidence of ectopic pregnancy has increased over the last few years in developing countries like Nigeria and this can be attributed to the increasing occurrence of chronic pelvic inflammatory disease which is due to the prevalence of unsafe abortions as well as sexually transmitted infections in this region. There were a total of 3406 admissions into the gynecological ward in the five year review period. Of these admissions there were 223 cases of ectopic pregnancy thus ectopic pregnancy constituted 6.5% of gynecological admissions. However, only 81 (36%) case files were retrieved and were used for the final analysis. Poor record keeping still remains the bane of healthcare system in most developing countries. The use of electronic record keeping and storage will obviate this problem.

Majority of women (30.9%) in this study belonged to the 25-29 age group and the mean age of women was 32.0 years (14.5). This is similar to studies done in Anambra and Port Harcourt and can be explained by the fact that this age group falls within the peak age of reproduction and sexual activity. Many patients had a low socio-economic status, with 44.4% being unskilled. This concurs with a study done by Doudou K. Nzaumvila, et al. This can be attributed to the poor personal hygiene and poor immunity common among women with low socio-economic status which may make them vulnerable to economic and sexual exploitation. This may predispose them to unsafe sexual practices and pelvic inflammatory disease.

In this study group, majority of women with ectopic pregnancy were married (81.58%) This correlates with the studies done by Abubakar Panti, et al (77.7%) and AO Igwegbe, et al, (62.4%). Multigravidae had more cases of ectopic pregnancy in this study (64.2%). This is similar to a study done by V. S. Sudha, Delphine Rose Thangaraj where multigravidae formed 81.6% of the

study group. The higher incidence in multigravidae is probably due to previous miscarriages and infection resulting in tubal damage. Most of the patients (96.3%) reported abdominal pain as the main complaint at the time of presentation. Bleeding PV was reported in 56.8% of the cases, making it the second most common reason for consultation. Other common complaints were amenorrhea (51.9%) and abdominal distension (3.7%). This is in keeping with a study done in Benin City by Gharoro EP, et al where these were the most common presenting complaints. Patients in hypovolemic shock at presentation accounted for 3.7%, which differs from the study conducted by Gharoro, et al who found that 49.3% of their patients were in hypovolemic shock at the time of presentation. It was found that 79.0% of our patients with EP were operated on after 4 hours of confirmation of the diagnosis. This is not similar to a study done by Doudou K. Nzaumvila where 34.2% were operated on within the first 4 hours. This can be attributed to the unavailability of the needed resources to ensure speedy intervention in poorly financed facilities like ours. Also some patients delay in giving consent for surgeries due to religious, cultural and economic reasons. At surgery, 69.1% of ectopic pregnancies were found in the ampulla of the fallopian tubes, which was in line with other studies. The majority of these ectopic pregnancies were ruptured at presentation (90.1%) which is similar to the findings of the study done by Gharoro, et al where 80.3% had ruptured ectopic pregnancy at presentation. This can be attributed to the poor health seeking attitudes of people in developing countries like Nigeria. Right sided tubal pregnancy was present in 61.7% cases. This is in keeping with a study done in Benin City by Gharoro, et al where 54.6% had a right sided tubal pregnancy. A greater proportion of patients (46.9%) stayed in the hospital for more than 7 days. This can be attributed to financial constraints of patients as they were mostly in the low socio- economic class and they had no or little contributions from health insurance scheme.

CONCLUSION

Ectopic pregnancy has remained an important gynecological condition in our center. The most common identifiable risk factor was induced abortion. Prevention should be aimed at sexual and reproductive health education and efforts geared towards increased awareness use of modern contraceptives. Efforts should also be directed at prevention and adequate treatment of pelvic inflammatory diseases and sexually transmitted infections (STIs). Early trans-vaginal ultrasound should be offered to all women at the early trimester for early diagnosis and possible medical treatment.

Competing interests:

The authors declare no competing interests.

Author's Contribution:

Ohenhen Victor conceptualized and designed the study, data collection, analysis and drafting/finalization of manuscript. Ovenseri Christopher O and, Enobakhare Egbe were involved in analysis and interpretation. All authors have read and agreed to the final version of this manuscript and have equally contributed to its content.

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