Original Research Articles

Ectopic Pregnancy in an Urban Tertiary Centre in Southern Nigeria: Emerging Trends

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ABSTRACT

Introduction: Ectopic pregnancy is an important cause of morbidity and mortality in early pregnancy. Its' incidence is rising and management has shifted to less radical and conservative methods with less complications. In resource limited countries like Nigeria, it is pertinent to review management options available in a tertiary referral centre.

Methodology: All cases of ectopic pregnancies managed at University of Benin Teaching Hospital (UBTH) Nigeria between 1st January 2003 and 31st December 2007 were retrospectively reviewed. Socio-demographic and clinical data were retrieved from case files, operating notes, theater and ward registers for analysis.

Results: There were 242 cases of ectopic pregnancies, and 7848 total deliveries during the period reviewed thus giving an ectopic pregnancy incidence of 3.1% (1 in 32 deliveries). Most of the patients (50.9%) were nulliparous. The major identified predisposing factors were previous abortion (64.5%) and history of pelvic inflammatory disease (37.7%). Majority of the patients (98.7%) had laparotomy while 2.6% had conservative medical management with methotrexate. Ruptured tubal pregnancy (95.6%) was the most common type of ectopic gestation. There was one maternal death, giving a case fatality rate of 0.4%.

Conclusion: The incidence of ectopic pregnancy in the centre is rising compared to previous report from the institution. Although there is an increasing trend towards provision of conservative management in developing countries, the benefits are largely unharnessed because most patient still present late. This should stimulate aggressive promotion of the benefits of early presentation which include less invasive treatment options.

Keywords: *ectopic pregnancy, rupture, conservative management, methotrexate, Nigeria.*

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Introduction

Ectopic pregnancy remains a major cause of maternal morbidity and mortality in early pregnancy. Early diagnosis and treatment is an important factor in reduction of mortality following ectopic pregnancy.[1-3] The incidence of ectopic pregnancy is difficult to determine because of variations in the population studied.1

Globally, the incidence of ectopic pregnancy varies between 1 in 28 and 1 in 106 per live birth (i.e. 0.094% to 3.57%).[2,3] In Nigeria, the overall incidence as reported by various authors is between 3 and 30 ectopic pregnancies per 100 deliveries (i.e. 0.29% - 3%).[4-8]

The development of immunoassays utilizing

monoclonal antibodies to human chorionic gonadotrophin (hCG) and the use high resolution ultrasonography, have led to early diagnosis of ectopic pregnancy (ie before tubal rupture).[3,9] This ability to make early diagnosis coupled with developments in endoscopic surgical procedures has led to the shift in management options towards more conservative surgical and non-surgical approach. The resultant effect is an improvement in the fertility rate after an ectopic pregnancy.[1,3,9] In addition, conservative therapeutic approach has less morbidity in terms of anaemia, infection and need for blood transfusion. Consequently, hospital stay is less with conservative treatment when compared to conventional surgical management.[5,9]

In view of the recent advances in diagnostic and interventional procedures available in this centre; it became necessary to review ectopic pregnancy in order to ascertain the rate of uptake of conservative management options.

Materials and Methods

All cases of ectopic pregnancy managed at the Department of Obstetrics and Gynaecology of the University of Benin Teaching Hospital, Southern Nigeria from 1st January 2003 to 31st December 2007 were retrospectively reviewed. There were 242 cases of ectopic pregnancies during the study period. Of these, 228 (94.2%) case notes were found.

Data were retrieved from the case files and operation notes of the patients and analysed for age, parity, marital status, risk factors, clinical presentation, mode of management and associated morbidity and mortality.

Results were presented as frequency tables with percentage, graphs and cross tabulations. Statistical test of significance was done with INSTAT statistical package as appropriate. P-value <0.05 was considered statistically significant.

Results

In the five year period reviewed, there were 7,848 deliveries and 242 ectopic pregnancies, giving the incidence of the latter as 3.1% (1 in 32 deliveries).

Amongst the 228 cases analysed, majority (56.6%) were married, while 40.3% were single and 3.1% widowed or separated. The mean age of patients was 27.3 $\pm$ 2.3 years with a peak age incidence of 21 – 30 year (61.4%); *figure 2*. Half of the patients (50.9%) were nulliparas (*figure 3*). As

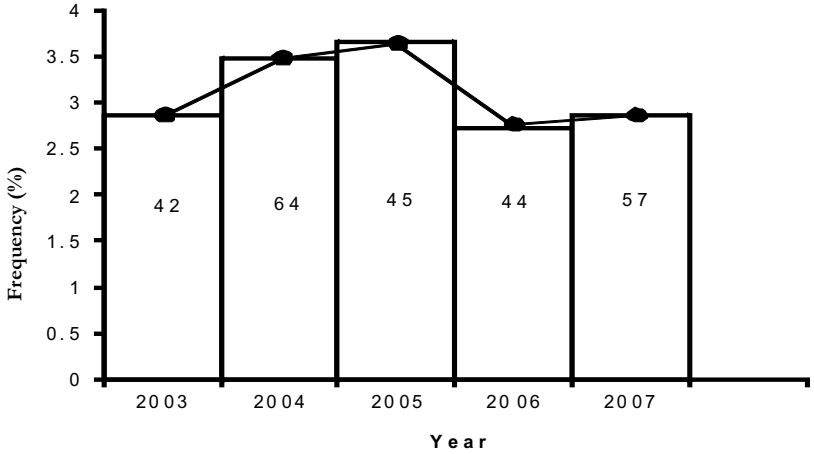

Figure 1:*Frequency polygon showing yearly trend in incidence of ectopic pregnancy*

Table 1: *Presence of risk factors for ectopic pregnancy*

Risk factors	Frequency	Percentage
Previous abortion(s)	147	64.5
History of PID	86	37.7
Previous abdomen/pelvic surgery	41	18.0
History of puerperal sepsis	5	2.2
History of previous ectopic	7	3.1
History of infertility/treatment	6	2.6
Use of IUCD/progesterone*	4	1.8
No identifiable factor	22	9.6

*****162 (71.1%) cases did not use any contraceptive method.*

Table 2: *Analysis of clinical presentation of patients with ectopic gestation*

Clinical presentation	Number	Percentage
2° Amenorrhoea	209	91.7
< 6 wks	13	5.7
6 – 10 wks	157	75.1
> 10 wks	36	15.8
No period of Amenorrhoea	22	9.7
Abdominal pains	213	93.4
Irregular vaginal bleeding	160	70.2
Abdominal distension	134	58.8
Dizziness/weakness	156	68.4
Fainting/collapse	98	42.9
Pallor	168	73.7
Asymptomatic (USS)	5	2.2

depicted in table 1, history of previous abortion (64.5%) was the most common risk factor identified among the patients. In addition, majority of the patients (71.1%) did not use contraception.

The most frequent presenting clinical complaints were abdominal pains (93.4%), amenorrhoea (91.7%) and irregular vaginal bleeding (70.2%).

Table 3: *Management options adopted for patients with ectopic pregnancy.*

Management option	Number	Percentage
Intramuscular Methotrexate (medical)	6	2.6
Laparascopy	1	0.4
Laparotomy	225	98.7
Salpingectomy	201	89 4
Cornual resection	12	5.3
Fimbriectomy	9	4.0
Salpingo oophrectomy	3	1.3

Table 4: *Morbidities/mortality amongst patient with ectopic pregnancy*

Complication	Number (N=228)#	Percentage
Whole blood transfusion	151	66.5
Auto transfusion	112	49.3
Anaemia	55	24.2
Wound sepsis	4	1.8
Hospital stay > 7 days	6	2.6
Maternal death	1	0.4

some patients had more than one complication

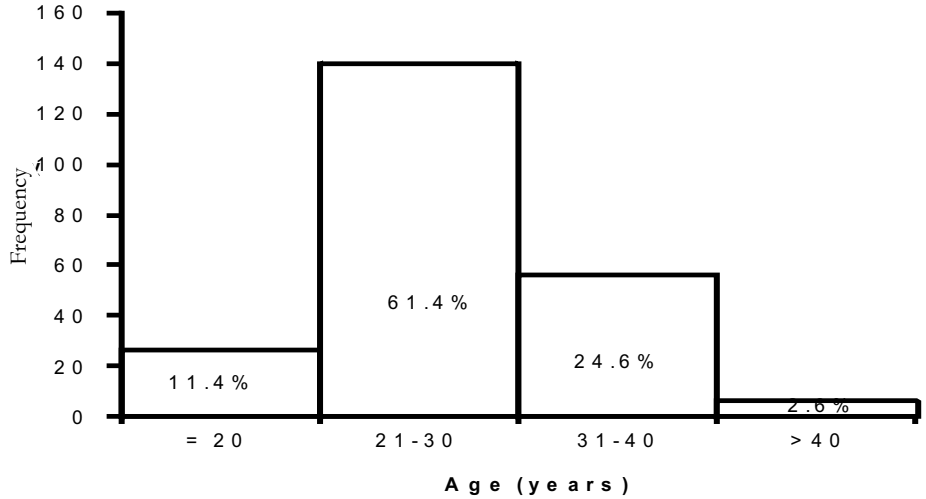

Figure 2: *Histogram showing age distribution of patients with ectopic pregnancy*

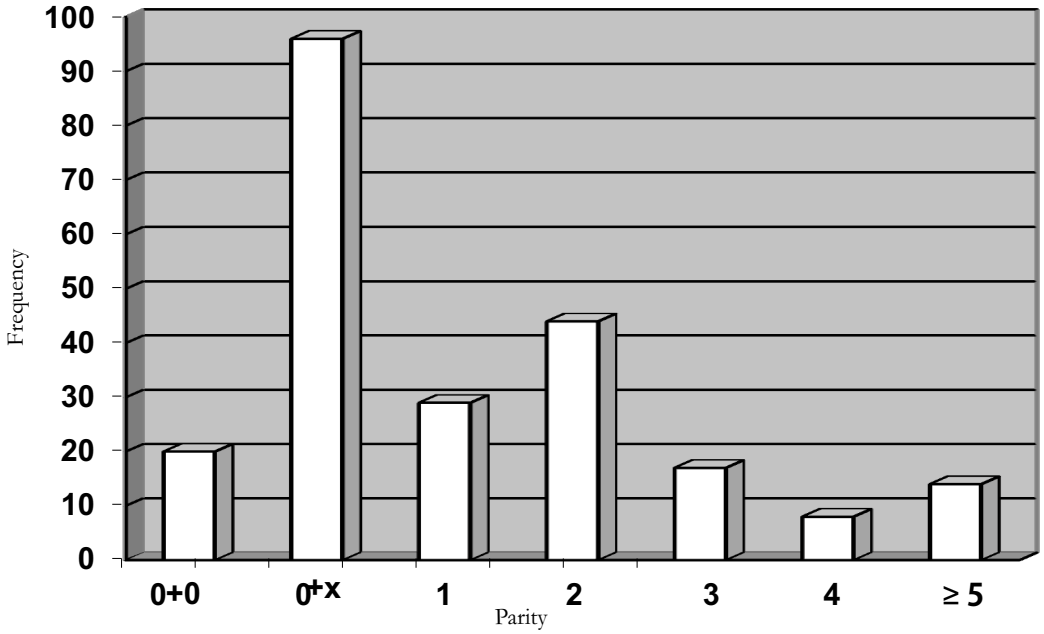

Figure 3: Bar chart showing parity distribution of patients with ectopic pregnancy
X = ⩾ 1

Five patients (2.2%) were asymptomatic; the diagnosis was made based on positive pregnancy test and ultrasound result (Table 2).

Table 3 shows the different mode of management and majority of the patients (98.7%) had laparotomy. Of the six patients (2.6%) that had medical treatment with methotrexate, only 3 (1.6%) were successfully managed. Laparoscopy was used in confirming diagnosis in one case.

Most patients (66.5%) had blood transfusion (a range of 1 – 4 and an average of 2 units of blood transfused) and the most common postoperative complication was anaemia (24.2%). There was one case of maternal death, giving a case fatality rate of 0.4% in this study (Table 4). This patient presented at UBTH in a state of shock and she died few hours after surgery, despite blood transfusion.

Discussion

The ectopic pregnancy incidence of 3.1% in this study is higher than 2.3% and 1.7% reported from previous studies in the same centre.[5,8] The rising incidence is also consistent with other reports both locally and internationally.[2,10,11]This rising trend in the incidence of condition has been observed by other authors both within and outside Nigeria.[2,10,11]

Various risk factors have been implicated in the rising incidence worldwide.[1,3,9] In this study, the predominant risk factors identified were previous induced abortion(s) and a past history of pelvic inflammatory disease. This was consistent with an earlier prospective case control study at this centre in which a history of previous induced abortion was a statistically significant risk factor of ectopic pregnancy.[12] Other authors within and outside Nigeria have also reported similar findings.[13–17] This may be due to a higher incidence

of unprotected sexual activity and poor contraceptive uptake amongst the younger age group.18 Although we did not analyze the association between age and contraceptive practice in this study, we however noted that overall most patients did not use any contraceptive method. Consequently, there may be an increased incidence of unwanted pregnancies, multiple illegal induced abortions, post abortal sepsis and pelvic inflammatory disease, thus increasing the risk for ectopic pregnancy.

Diagnosis was made clinically in majority of the cases (over 90%) in this study, with only a few patients (2.2%) having diagnosis made based on transvaginal ultrasound scan and serum -HCG findings alone. These were comparable to findings from other studies.[5,14-17] Most of the patients with ectopic gestation in our setting tend to present late and are usually in compromised haemodynamic state. In such a condition, there is little or no opportunity for early diagnosis and conservative intervention despite the improvement in diagnostic and management tools now available to us. Sadly, the late presentation observed may be a reflection of our sociocultural behaviour and the low socio-economic state of most women which make them want to initially conceal pregnancy or seek abortion illegally from unskilled attendants. In addition, misdiagnosis by various health workers may also contribute to the late presentation of most patients.[19]

The resulting effect was that most of the patients in this series, like in other studies in developing countries,[4-5,15-16] had salpingectomy. In this study, only three patients (1.3%) had successful conservative medical management. This is low compared to figures from the developed countries.[3,9] It is however a remarkable improvement when compared to previous studies in this centre.[5,8]

There was a single case of maternal death in this study. This death was due to an initial misdiagnosis by a care-giver and subsequent late presentation at UBTH in a state of shock. She died few hours after surgery, despite blood transfusion. This low case fatality rate is similar to the pattern observed in other studies both locally and internationally.[5,19.20] This largely reflects improvement in diagnosis, blood transfusion services and management skills such that despite a rising incidence the associated mortality have substantially decreased.[20] It is however important to note that majority of maternal deaths that occur in developing countries like in this case, results from failure to seek professional medical care early or due to an initial misdiagnosis by a care giver.[19] Obviously while more maternal deaths from ectopic pregnancy may follow an initial misdiagnosis, many more may be completely missed.

Conclusion

This study has shown that the incidence of ectopic pregnancy is rising and still contributes significantly to morbidity and mortality in early pregnancy. Most patients still present late, thus limiting attempts at provision of conservative medical treatment.

We recommend as a means of curbing the rising incidence of ectopic pregnancy an improved contraceptive awareness/uptake. This may result in a reduction in incidence of associated risk factors (unwanted pregnancies, illegal induced abortion and pelvic inflammatory disease) and thus ectopic pregnancy. In addition, public enlightenment on the need/benefit of early presentation is advocated.

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