



Ectopic Pregnancy at a Tertiary Hospital in Nigeria: A Six-Year Review

Authors

**Dr Bernard. O. Ewuoso, Dr Taofeek. A. Ogunfunmilayo,
Dr Adesoji. S. Adebayo, Dr Olaide. R. Adenaya**

Abstract

Introduction: Ectopic pregnancies, though a disease of vagaries, its diagnosis remains essentially clinical; hence, a review of sociodemographic characteristics, risk factors, and clinical features will help determine the pattern of presentation.

Objective: To highlight the characteristics that best predict ectopic pregnancy.

Methodology: A retrospective descriptive analysis of 128 cases of ectopic pregnancy that were managed in a tertiary hospital from January 2009 to December 2014. Relevant information was extracted from patients' case files, and the data obtained were analyzed.

Results: Ectopic pregnancies constituted 4% of all gynecological admissions and 2.1% of all pregnancies occurring commonly in the age group 25–29 years. The commonest clinical presentations were lower abdominal pain (94.5%), amenorrhea (64%), and vaginal bleeding (53.9%). The majority (44.5%) of the women had a history of previous induced abortions. Sixty-nine patients had their diagnosis made clinically, and there was no maternal mortality.

Conclusion: Lower abdominal pain in the presence of amenorrhea is a good predictor of ectopic pregnancy. Other symptoms that might be helpful in diagnosing ectopic pregnancy are a previous history of induced abortion and vaginal bleeding. This, however, needs further research.

Introduction

Ectopic pregnancy is a disease of vagaries. It continues to be a major surgical emergency in gynecology and remains a major cause of maternal morbidity and mortality in Nigeria and other developing countries^{1,2}. Ectopic pregnancy is defined as a pregnancy in which the implantation of the embryo occurs outside the uterine cavity¹, mostly in one of the two fallopian tubes or, more rarely, in the abdominal cavity.

Hemorrhage, which can occur in a ruptured ectopic pregnancy, is a leading cause of maternal mortality³.

The incidence of ectopic pregnancy has been rising in many countries, while the case fatality rate has been decreasing⁴. Reasons for this include the increased prevalence of pelvic infections and the increased effectiveness of screening methods⁵. Most ectopic pregnancies occur in women aged 25–34 years³. In the United Kingdom, the

incidence is 1 per 150 mature births⁶, while a range of 1 in 32 to 1 in 350 pregnancies has been quoted for Nigeria⁷.

Other associated etiological factors include previous pelvic or tubal surgery, gross pelvic pathology such as endometriosis, congenital abnormalities of the tube such as diverticula, accessory ostia, and hypoplasia, in-utero exposure to diethylstilbestrol, use of progesterone-only pills, current smoking, infertility, previous induced abortion, in vitro fertilization, and embryo transfer⁶.

Pregnancies in the fallopian tubes account for 97 percent of ectopic pregnancies: 55 percent in the ampulla; 25 percent in the isthmus; 17 percent in the fimbria; and 3 percent in the abdominal cavity, ovary, and cervix⁸.

If a woman of reproductive age presents with abdominal pain, vaginal bleeding, syncope, or hypotension, the physician should perform a pregnancy test. If the patient is pregnant, the physician should perform a checkup to detect a possible ectopic pregnancy.

Treatment options for patients with unruptured ectopic pregnancy include expectant management, medical management with methotrexate, and surgery. Expectant management is appropriate only when the beta subunit of the human chorionic gonadotropin level is low and declining. The initial level determines the success of medical treatment. Surgical treatment is appropriate if a ruptured ectopic pregnancy is diagnosed and if the patient is hemodynamically unstable.

Before the advent of laparoscopy, laparotomy with salpingectomy was the standard therapy for managing ectopic pregnancy, especially when it was ruptured or the patient was hemodynamically unstable. However, laparoscopy has become the preferred method of surgical treatment. Laparoscopy has similar tubal patency and future fertility rates as medical treatment⁹.

Methods

Study design, settings, and participants

This was a retrospective descriptive study of all cases of ectopic pregnancies managed in our facility, a tertiary hospital in Abeokuta, Southwest Nigeria, between January 1, 2009, and December 31, 2014. Our facility serves as a referral center for primary and secondary health facilities in Ogun State and its environs. Ethical approval was obtained from the hospital's Health Research Ethics Committee. As there was no direct contact with participants given the study was retrospective, consent from participants was not required. The annual delivery rate during the period covered by the study was approximately 1000.

One hundred and twenty-eight women had ectopic pregnancy during the study period, and they were identified from the gynecological emergency, gynaecological ward admission, and theater registers. From these registers, their names and hospital numbers were retrieved. Using these names and hospital numbers, case notes were retrieved from the medical records department and reviewed one after the other. Relevant data were extracted using a standard proforma that was designed based on the study objective. The data collected included demographic characteristics, clinical risk factors, symptoms, signs, previous gynaecological history, and how a diagnosis was made. Data that could identify patients were not entered on the proforma.

Statistical Analysis

Information from the proforma was coded and fed into a Microsoft 2010 Excel spread sheet. Analysis of the data was done using descriptive statistics. Central tendency was reported as mean and mode, while measures of dispersion were range and standard deviation. Results are presented in frequency tables, histograms, and pie chart.

Results

There were a total of 128 cases of ectopic pregnancy between January 1st, 2009, and December 31st, 2014. We were able to retrieve all case notes, and no required information was missing. The total gynaecological admission in the period being studied was 3200, and deliveries were 5986.

For the 128 cases, the ages of the women were between 17 and 42 years, giving a range of 15 years. The mean age was 29.5 (± 12.5) years, and the modal age group was 25-29. These are described in Table 1. Still on Table 1, most women were nulliparous (43%), traders (47%), and married (75%).

Table 2 shows the various gestational ages at which an ectopic pregnancy was diagnosed. Most were diagnosed between 5 and 8 weeks of pregnancy. This was also the earliest gestational age range in which a diagnosis was made. An ectopic pregnancy was rarely (1.56%) diagnosed after the 16th week of pregnancy, and the most advanced gestational age range at which an ectopic was diagnosed was between 17 and 20 weeks.

Figure 1 shows a risk factor could not be identified in 43 (33.6%) patients. 57 (44.5%) of the women diagnosed with an ectopic pregnancy had had a previous induced abortion, and this was the most common risk factor. Of the identified risk factors, the least was history of infertility at 5 (3.9%).

The major clinical symptoms and signs are shown in Figure 2. Abdominal pain (94.5%) was the most common clinical symptom. Pallor, full pouch of Douglas, and cervical excitation tenderness were the most frequently elicited signs on general and pelvic examinations. Thirty (23.4%) patients presented in shock.

Sixty-nine patients were diagnosed clinically, while transabdominal ultrasound was used to diagnose 59 (46.1%) patients. This is depicted in Table 3. Still on table 3, the ampulla was the commonest site of tubal ectopic, accounting for 53.9%. There were 4 (3.1%) cases of abdominal ectopic pregnancy.

All the cases of ectopic pregnancy managed during the period of review required surgical management, as shown in Table 4 and Figure 3. Salpingectomy was the definitive surgical procedure mostly performed, and this was carried out in 92 (71.87%) women. Twenty-three (17.97%) women had adnexectomy, which refers in this study to the removal of an ovary and tube. Other women managed for ectopic pregnancy during the period of study had either a cornual resection or an exploratory laparotomy. Exploratory laparotomy was done in women when the diagnosis was an abdominal ectopic pregnancy. Up to 73.4% of the patients were transfused, and there was no maternal death.

Table 1: Demographic Characteristics

Variables	Class	Frequency (N=128)	Percentage (100%)
Age (years)	15-19	4	3.1
	20-24	12	9.4
	25-29	53	41.4
	30-34	37	28.9
	35-39	20	15.6
	≥ 40	2	1.6
	Total	128	100.0
Parity	Nulliparous	55	43.0
	Para 1	20	15.6
	Para 2	16	12.5
	Para 3	16	12.5
	Para 4	12	9.4
	Para 5 and above	9	7.0
	Total	128	100.0
Occupation	Artisan	18	14.0
	Civil servant	18	14.0
	Housewife	9	7.0
	Others	12	9.4
	Student	11	8.6
	Trader	60	47.0
	Total	128	100.0
	Marital	Married	96
Separated		2	1.6
Single		30	23.4
Total		128	100.0

Table 2: Period of Amenorrhoea

Weeks	Frequency (N=128)	Percentage (100%)
5-8	89	69.53
9-12	32	25.00
13-16	5	3.91
17-20	2	1.56
Total	128	100

Figure 1

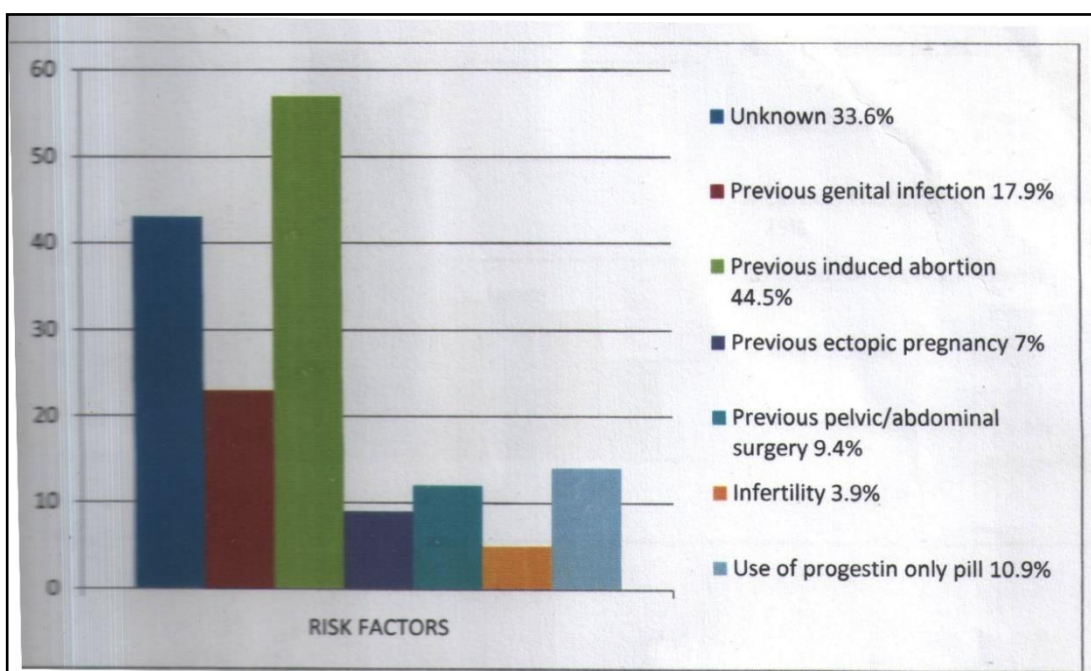


Figure 2

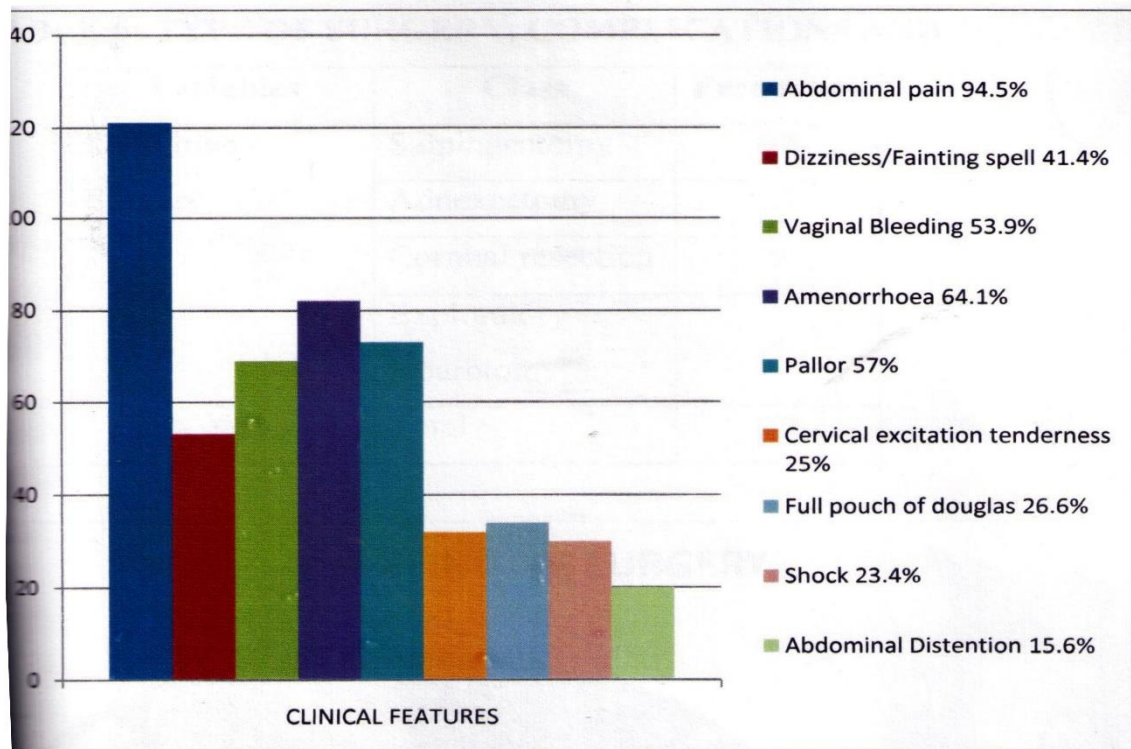


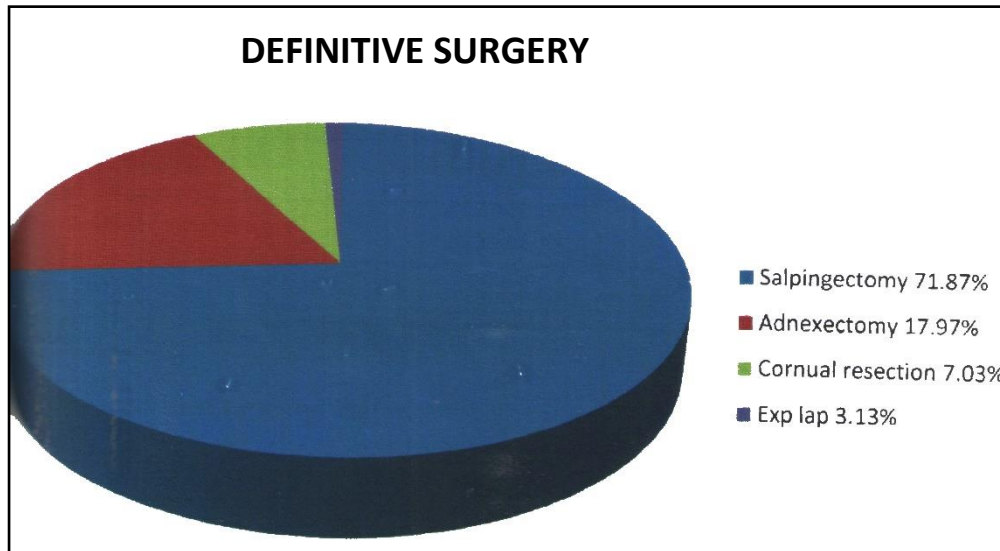
Table 3: Method of Diagnosis and Management

Variables	Class	Frequency (N=128)	Percentage (100%)
Method of diagnosis	Clinical	69	53.9
	USS	59	46.1
	Total	128	100.0
Clinical type of ectopic at diagnosis	Acute Rupture	91	71.1
	Slow Leaking	37	28.9
	Total	128	100.0
Surgical approach	Laparoscopy	0	0
	Laparotomy	128	100.0
	Total	128	100.0

Table 4: Type of Surgery, Complications and Outcome

Variables	Class	Frequency (100%)
Definitive Surgery	Salpingectomy	92
	Adnexectomy	23
	Cornual resection	9
	Exploratory laparotomy (for abdominal ectopic)	4
	Total	128

Figure 3



Discussion

Ectopic pregnancies constituted 4% (128 of 3200) of all gynecological admissions, and its incidence was 2.1% (128 of 5986), which was similar to a study done at the Federal Teaching Hospital in Abakaliki, Nigeria¹⁰. The age and parity of our patients were similar to reports from Aminu Kano Teaching Hospital¹¹ but differed from findings of another study where cases of ectopic pregnancy were found in younger women and of higher parity¹². As found in Sokoto, Northern Nigeria, the majority of our patients were married¹³.

In this study, previous-induced abortion was noted to be the commonest risk factor associated with ectopic pregnancy, which was similar to the result obtained in the Federal Teaching Hospital in Abakaliki, Nigeria. An explanation for this would be that the laws on abortion in Nigeria are restrictive, hence, induced abortion is carried out illegally without necessarily observing aseptic practice. As such, it is commonly associated with pelvic infection, which is known to damage the tubes. The higher percentage of patients with low socio-economic conditions found in this study had been reported by other authors^{14,15}. Women of low socio-economic status are likely to engage in induced abortion, which is usually performed by a non-physician, and only seek medical attention if

there are obvious complications. Other risk factors identified in this study have also been shown to be associated with ectopic pregnancy in other studies^{11,12,13,14}.

Clinical features were similar to those reported by the other studies, with the presence of abdominal pain being noteworthy^{10,14,15}. 69.53% of our patients had a history of amenorrhea lasting 5 to 8 weeks. Close to half of these patients had dizziness or fainting attacks. It would thus seem reasonable to suggest that the co-existence of abdominal pain and a previous history of induced abortion with amenorrhea in any woman in the childbearing age group should raise a suspicion of ectopic gestation. 75% of ectopic pregnancies in this series were tubal, with the commonest in the ampullary region. This was also reported by other authors^{13, 14, 15}.

All the patients had laparotomy with unilateral salpingectomy being the most common surgical procedure performed. This is because all the patients presented with hemoperitoneum and none of them met the criteria for conservative or medical management. The few with slow-leaking ectopic pregnancies that could have benefitted from laparoscopy could not because the instruments were not available in the facility during the period being reviewed. The outcome of

patients with ectopic pregnancies in this study was excellent, as there was no maternal mortality.

Conclusion

The diagnosis of ectopic pregnancies in our facility was relatively common. All patients whose case notes were reviewed presented because of symptoms, and the most common symptom was abdominal pain. Additionally, all of the cases presented with either acute ruptured ectopic pregnancies or slow leaking ectopic pregnancies, thereby limiting the management options to surgery. All the women with an ectopic pregnancy had an open surgery, and there was no maternal mortality reported due to the ectopic pregnancies.

References

1. Anorlu RI, Oluwole A, Abudu OO, Adebajo S. Risk factors for ectopic pregnancy in Lagos, Nigeria. *Acta Obstet Gynecol Scand.* 2005; 84(2): pp.184-8.
2. Okunola AA, Adesina OA, Adekunle AO. Repeat ipsilateral ectopic gestation a series of 3 cases. *Afric J Med Sci.* 2006; 35: Pgs 173-175
3. Vereman T Valley. Ectopic pregnancy. *eMedicine Specialities* 2005.
4. Patrick T, Yolanda H, Nathelia G et al. ectopic pregnancy in Conakry Guinea. *WHO Geneva.* 2002 Vol 80 Number 5.
5. Coste J, Bouyer J, Ughetto S et al. Ectopic pregnancy is again on the increase. Recent trends in the incidence of ectopic pregnancies in France (1992-2002). *Hum Reprod.* 2004;19(9): 2014-8.
6. Grudzinskas JG. Miscarriage, ectopic pregnancy and trophoblastic disease. In: Edmonds DK (Ed). *Dewhurst's textbook of Obstetrics and Gynaecology for Postgraduates.* 6th edition, Blackwell Scientific Publications, Oxford. 1999: Pgs 61-75.
7. Oloyede OA, Lamina MA et al. Ectopic Pregnancy in Sagamu, a 12 year review. *Trop J Obstet Gynaecol.* 2002; 19(2): 34.
8. Della-Giustina D, Denny M. Ectopic pregnancy. *Emerg Med. Clin North Am.* 2003; 21:565-84.
9. Hajenius PJ, Mol BWJ, Bossuyi PMM, Ankum WM, Van der Veen F. Interventions for tubal ectopic pregnancy (Cochrane Review). In: The Cochrane Library, Issue 2 2003. Oxford: Update software
10. Lawani OL, Anozie OB, Ezeonu PO. Ectopic pregnancy, a life threatening gynaecological emergency. *Int J women's health.* 2013; 5: 515-521.
11. Omole-Ohonsi A, Olayinka HT, Attah RA. Ectopic pregnancy at Aminu Kano Teaching Hospital, Kano Nigeria. *AJOL.* 2011. Vol 28 no 1.
12. Shafqat T, Wahab S, Bawas S, Rahim R. Relation of age parity and duration of subfertility as risk factors for ectopic pregnancy. *Gomal Journal of medical sciences.* 2013 vol 11 no 2.
13. Andu LR, Ekele BA. A ten year review of maternal mortality in Sokoto, Northern Nigeria. *WAJM.* 2002; 21 (1): 74-76
14. Ijaiya MA, Aboyeji AP. Trend in ectopic pregnancy in Ilorin Nigeria. *Nigerian Medical Practitioner.* 2000; Vol. 38: No. 4-6.
15. Awojobi O. A, Ogunsina S. Ectopic pregnancy in a rural practice. *Nigeria Journal of Medicine.* 2001; 10(3): 139-140.