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# Ectopic pregnancy: 5- year review in the university of Uyo teaching hospital, Uyo, Nigeria.

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## ABSTRACT

**Background:** Ectopic pregnancy is a clinical condition in which the fertilized ovum implants outside the endometrial lining of the uterus. It is a life-threatening emergency that occurs in the first trimester of gestation with increased maternal mortality and morbidity. It complicates about 0.25% -2.0% of all pregnancies worldwide. Late presentation has been the norm in our environment and is associated with tubal rupture, life- threatening severe hemorrhage and radical surgery that affects the obstetric future of the patient. **Objective:** To determine the incidence, risk factors, clinical presentation and management of ectopic pregnancy. **Materials and methods:** This was a retrospective study over 5 years, from 31st December 2019 to 1st January 2023 at the University of Uyo Teaching Hospital, Uyo. All the case notes of patients with ectopic pregnancy during the period of study were retrieved from the gynaecological ward and records unit. Information obtained from these served as the basis of the study. **Results:** During the study period, there were 5129 deliveries and 1060 gynecological admissions. 98 patients had ectopic pregnancy, accounting for an incidence of 1.9 per 100 deliveries and 9.2% of all gynaecological admissions. The peak age group was 26-35 years, 52.4% were nulliparous and 47.6 % were married. All the patients had symptoms of which the commonest were abdominal pains (97.6%), amenorrhea (97.6%), and vaginal bleeding (95.2 %). The commonest risk factors were a history of abortion (50.0%) and pelvic infection (14.3%). There were no identifiable risk factors in (21.9%) of the patients. All (83.3%) but 2 of the patients had a ruptured tubal ectopic pregnancy and were managed by laparotomy/salpingectomy. **Conclusion:** Ectopic Pregnancy continues to be a major public concern in South-South Nigeria. Awareness must continue to be raised in our women about this life- threatening obstetric emergency through continued community advocacy involving the print and social media as well as radio talks and jingles.

**Key words:** Ectopic pregnancy, Ruptured ectopic pregnancy, Gynaecological emergency.

## INTRODUCTION

Ectopic pregnancy is a life-threatening gynaecological emergency.[1] It occurs when the fertilized ovum implants in a site other than the endometrial lining of the uterus [1]. The commonest site of implantation of an ectopic pregnancy is the fallopian tube.[2] Other implantation sites include the ovary, cervix, abdomen and a caesarean section scar.

It may also be heterotopic, which is the simultaneous extra- and intra-uterine implantation of fertilized ova.[2] Ectopic pregnancy is associated with significant mortality and morbidity.[3]

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This increased mortality is usually due to late presentation of patients for care, with the risk of tubal rupture.[4,5] This late presentation is usually due to ignorance and poverty, among other

reasons. Ectopic pregnancy may occur because the fallopian tube has congenital abnormalities, for example, sacculations. The fallopian tubes may also have been previously scarred by an inflammatory response following a pelvic inflammatory disease or an unsafe abortion. The resultant narrowing of the endosalpinx predisposes to an ectopic pregnancy.[6] Additionally, the endosalpinx of the fallopian tube has no decidua to support the growing embryo. Thus, there is a risk of rupture as the embryo grows, with catastrophic haemorrhage as the outcome.[6]

The incidence of ectopic pregnancy is 0.25-2% of all pregnancies and it is increasing globally.[7] This has been attributed to an increase in diagnosis.[7] Other risk factors which have contributed to the increased incidence include, assisted reproductive technologies, pelvic inflammatory disease, unsafe abortions, infertility, endometriosis and tubal surgeries.[7]

Despite this increase in incidence, the mortality of ectopic pregnancy remains low in the Western world[4]. This is due to early diagnosis and the availability of very effective assessment and treatment methods which include ultrasonography, laparoscopy as well as sensitive BhCG and progesterone assay methods.[4,5]

In our environment, however, late presentation is the norm[8]. This is attributed to poor health seeking behavior of the populace, poverty, ignorance. Also, unavailability of expertise in its management as well as the lack of modern diagnostic and monitoring equipment especially in rural areas, contributes to the delay in managing these cases.[3]

Late presentation has also been attributed to the fact that the typical triad of symptoms of ectopic pregnancy which include abdominal pain amenorrhoea and vaginal bleeding is absent in 50% of cases. Also, 50% of patients may not have any risk factors. A high index of suspicion is therefore necessary in diagnosing this condition.[9,10] The management of ectopic pregnancy includes expectant, medical and surgical methods.[11]

Since the establishment of the University of Uyo Teaching Hospital, to the best of the knowledge of the authors, no study has been conducted on ectopic pregnancy. Hence, this study was conducted to determine the mode of presentation, risk factors and outcome of ectopic pregnancy in our environment.

## MATERIALS AND METHODS

This was a retrospective study conducted from 1st January 2019 to 31st December 2023 at the University of Uyo Teaching Hospital. All case notes of patients with ectopic pregnancy during the period of study were retrieved from the records unit, theatre and gynecological ward. Information retrieved from the folders included their ages, marital status, parity, occupation, clinical presentation, risk factors, site of the ectopic pregnancy and management. There was anonymity of data and no patients were personally interviewed. The data were analyzed using tables and percentages and the results obtained served as the basis of the discussion and conclusion.

## RESULTS

During the period under review, there were 1,060 admissions in the gynecological ward and 5129 deliveries. Out of these, there were 98

cases of ectopic pregnancy. giving an incidence of ectopic pregnancy of l.9% of deliveries and 9.2% of all gynaecological admissions. However, only 42 case notes were found, giving a retrieval rate of 42.05%.

Analysis was based on these.

The Socio-demographic characteristics of the patients is shown in Table1. Ectopic pregnancy was commonest in the 26 - 35year age bracket.

**Table 1 Socio-demographic characteristics of the patients**

| Variable | Number | (%) |
|---|---|---|
| **Age (in years)** | | |
| 15-25 | 12 | 28.6 |
| 26-35 | 22 | 52.4 |
| >35 | 8 | 19.0 |
| Total | 42 | 100 |
| **Marital Status** | | |
| Single | 17 | 40.5 |
| Married | 20 | 47.6 |
| Divorced/widowed | 5 | 11.9 |
| Total | 42 | 100 |
| **Parity** | | |
| 0 | 22 | 52.4 |
| 1-4 | 20 | 47.6 |
| >5 | | |
| **Occupation** | | |
| None | 6 | 14.3 |
| Student | 8 | 19.0 |
| Teacher | 3 | 7.1 |
| Business | 16 | 38.1 |
| Farmer | 2 | 4.8 |
| Civil Servant | 5 | 11.9 |
| Corper | 2 | 4.8 |
| Total | 42 | 100 |

| | | |
|---|---|---|
| **Educational Level** | | |
| Primary | 0 | 0 |
| Secondary | 26 | 61.9 |
| Tertiary | 16 | 38.1 |
| Total | 42 | 100 |

It was least common among women whose ages were greater than or equal to 35. Most (47.6) of the women were married.

Nulliparous patients accounted for 52.4% of the patients while multiparous patients were 47.6%. Ectopic pregnancy occurred most commonly in people who identified as business people (38.1%), and least in farmers (4.8%).

Table 2: A history of abortion (50%) was the most common risk factor followed by a history of pelvic infection (14.3%). There was a repeat ectopic pregnancy in 2 cases (4.2%) and nine patients, (21.4%) did not have any identifiable risk factors.

**Table 2**

| **Risk Factors** | **No of patients** | **Percentage** |
|---|---|---|
| History of Abortion | 21 | 50.0 |
| No risk factors | 9 | 21.4 |
| History of pelvic infection | 6 | 14.3 |
| Previous ectopic pregnancy | 2 | 4.8 |
| History of infertility | 2 | 4.8 |
| Previous surgeries | 2 | 4.8 |
| Total | 42 | 100 |

Table 3 shows the signs and symptoms of the patients. The typical triad of abdominal pain, amenorrhea and vaginal bleeding was present in almost all cases. Tachycardia (92.9%), dizziness (64.3%) and shock (28.6%) were also commonly present.

**Table 3**

| Signs/Symptoms | Number of Patients | Percentage |
|---|---|---|
| Abdominal Pain | 41 | 97.6 |
| Amenorrhea | 41 | 97.6 |
| Vaginal bleeding | 40 | 95.2 |
| Tachycardia | 39 | 92.9 |
| Dizziness | 27 | 64.3 |
| Shock | 12 | 28.6 |
| Nausea/vomiting | 11 | 26.2 |
| Shoulder Pain | 2 | 4.8 |

Table 4 shows the types of ectopic pregnancy. Thirty-five patients (83.3%) had a ruptured tubal ectopic pregnancy. Two pregnancies (4.8) were heterotopic. A majority of the patients (95.2%) had Salpingectomy while (4.8%) were managed medically.

**Table 4**

| Types | Number of Patients | Percentage |
|---|---|---|
| Ruptured | 35 | 83.3 |
| Slow leaking | 5 | 11.9 |
| Heterotopic | 2 | 4.8 |
| Total | 42 | 100 |

## DISCUSSION

The incidence of 1.9% of deliveries found in this study is higher than that reported from Lafia, Nigeria.[12] but comparable to that found by Gharoro et al in Benin, Nigeria. [5] This increased incidence may be due to several factors: the high rate of abortion, the increasing prevalence of pelvic inflammatory disease and sexually transmitted diseases, as well as the fact that our institution is the only tertiary center in our locality.

The peak age group of ectopic pregnancy in this study was 25-35 years. This agrees with the findings of Onanuju and Anyanwu.[12,13.] This age group is in the reproductive age and represents the peak period of sexual activity in our environment.

In our study, nulliparous patients accounted for 52.4% of the patients while multiparous patients (P1-4) accounted for 47.6%. This is much higher than earlier figures from the South-South geopolitical zone of the country where our center is located, which reported percentages in the nulliparous patient ranging from 23.7% to 31.3% This higher prevalence specially among nulliparous patients, could be due to the high number of women who have multiple sexual partners before marriage, especially with the down turn currently being experienced in the economy of the country. The low contraceptive prevalence among women in our geopolitical zone, indeed in our country (17%) may also be contributory. [14, 15, 16, 19]

In our study, the majority of our patients were business people, mostly petty traders (38.1%). In an earlier study, it was shown that this profession exposes these patients to a large number of sexual partners, with increased risk of pelvic inflammatory disease and ectopic pregnancy. This may also be due to the fact that this aspect of the informal sector employs the highest number of people.

Most of the patients had secondary level of education. Another study has reported secondary education as the highest level of education among their study population, as more people with this level of education had ectopic pregnancy .[14]

A history of previous induced abortion was the commonest risk factor identifiable in our study (50%). This agrees with the findings of other studies conducted in Benin and Ibadan as well as Cameroun [5,17,20] Induced abortion may predispose to sepsis and pelvic infection. There was a history of pelvic infection in 14.3% of the patients. Pelvic inflammatory disease leads to scarring of the fallopian tubes which predisposes to ectopic pregnancy. This risk is incremental with the number of episodes of pelvic inflammatory disease.[18]

There were no identifiable risk factors in nine (21.4%) of our patients. This agrees with other studies. [9,10] Thus, a high index of suspicion is required to diagnose some of these cases.

Also, tubal damage may not necessarily be present for ectopic pregnancy to occur. This may be explained by the presence of an embryonic abnormality, tubal smooth muscle dysfunction or anatomical abnormalities.

Abdominal pain, amenorrhea and vaginal bleeding were symptoms most associated with ectopic pregnancy in this study. This is in agreement with other studies.[9,10] Additional symptoms indicative of shock as seen in this study- tachycardia, dizziness- are probably due to late presentation of the cases with tubal rupture.

An overwhelming majority of these patients had a ruptured ectopic pregnancy at presentation for which radical surgery, salpingectomy, was the management. This agrees with other studies from our environment.[4,5] Unlike the Western world where early presentation is the norm, and despite the presence in our facility of laparoscopy, modern ultrasound facilities and availability of highlight sensitive tests for BhCG and progesterone, the majority of our patients continue to present late with ruptured ectopic pregnancy. This has been attributed to poverty and ignorance. [4,5]

Earlier presentation to the hospital by patients presents the opportunity for less radical methods of treatment including medical treatment and conservative tubal surgical procedures. This will prevent maternal mortality and provide a chance at preservation of tubal anatomy, thus increasing the chances of a better reproductive outcome in the future. In two of our cases the ectopic pregnancies were heterotopic. These were the outcomes of assisted conception. Management in both cases was ultrasound guided injection of potassium chloride into the ectopic sac with preservation of the intrauterine pregnancies.

## LIMITATIONS

The retrieval rate of case files was very low in this study as only 42 case notes were found and used for data analysis. This underscores the need for the digitalization of all hospital records including patients information for easy access to complete data and information. Additionally, this study was conducted in a tertiary center and the findings may not be generalizable, as cases may have been managed in secondary health care centers, as well as private facilities. Hence, there is need for the conduct of community-based studies to determine the burden of ectopic pregnancy in our women.

## CONCLUSION

In this study, we found out that the incidence of ectopic pregnancy is relatively high in our environment. Also, induced abortion was the commonest risk factor and the patients presented late for management which resulted in tubal rupture and necessitated radical surgery.

It is necessary to educate our women on the dangers of induced abortion, ectopic pregnancy and on the need for them to present early for confirmation of viability and site of pregnancy. This should be done in social media, radio and television by trained health care workers. Early presentation and management will certainly prevent obstetric catastrophes and preserve obstetric futures.

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