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ORIGINAL RESEARCH

Spectrum Of Ectopic Pregnancies At Tertiary Care Hospital Of Ayodhya

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ABSTRACT

Background: Ectopic pregnancy remains a significant obstetric challenge and a leading cause of maternal morbidity and mortality, particularly in low-resource settings. **Objective:** The basic aim of the study is to find the spectrum of ectopic pregnancies at tertiary care hospital of Ayodhya.**Methodology:** This retrospective observational study was conducted at Tertiary care hospital of Ayodhya during January 2024 to December 2024. A total of 102 cases were added in the study.Patient data were collected from hospital records, including demographic details such as age, parity, and obstetric history. Patient's age, parity, and obstetric history, presenting symptoms such as abdominal pain, vaginal bleeding, and hemodynamic instability were noted.**Results:** The mean age of the patients was 30.5 ± 4.5 years, with an age range of 20 to 40 years. Among the cases, 30.0% were primigravida, while 72.0% were multigravida. Regarding parity, 28.0% of the patients were nulliparous, whereas 72.0% were multiparous.In terms of risk factors, 15.0% of the patients had a history of previous ectopic pregnancy, while 10.0% had undergone infertility treatment. A history of pelvic inflammatory disease was reported in 12.0% of the cases, and 18.0% had a history of previous pelvic surgery. Additionally, 25.0% of the patients reported using contraceptive methods, while 5.0% had conceived through assisted reproductive technology. Smoking was a risk factor in 8.0% of the cases.Medical management was employed in 24.5% of cases, whilethe majority, 75.5%, required surgical intervention via laparotomy.**Conclusion:** It is concluded that ectopic pregnancy remains a critical concern in obstetric practice, with a high burden of morbidity requiring surgical intervention in most cases.

INTRODUCTION

Ectopic pregnancy remains a significant obstetric challenge and a leading cause of maternal morbidity and mortality, particularly in low-resource settings. Ectopic pregnancy refers to a dangerous pregnancy condition which causes embryos to implant outside the uterus most commonly in fallopian tubes but can also occur in ovaries and Cervix , abdominal spaces or previous C-section wound sites [1]. Medical researchers have observed a steady increase in ectopic pregnancy occurrences because pelvic inflammatory disease (PID), tubal surgeries and previous ectopic pregnancies, intrauterine contraceptive device (IUCD) usage, assisted reproductive technologies (ART) and delayed conception from lifestyle changes now cause this condition more often [2]. Early detection of ectopic pregnancy remains essential to prevent severe complications including tubal rupture and bleeding and hypovolumic shock that may become fatal unless healthcare professionals provide immediate treatment [3]. Ultrasonography has advanced significantly since TVUS was developed together with serial β-hCG testing to significantly boost early ectopic pregnancy detection ability. The improved diagnostic capabilities have failed to reduce the rate of delayed ectopic pregnancy cases which primarily affect remote healthcare areas that lack sufficient medical support [4]. The choice of treatment for ectopic pregnancy depends on tracking down implantation location combined with patient stability and β-hCG hormone measurement values. Treatment begins with methotrexate medications for early unruptured ectopic pregnancies but surgery becomes necessary for rupture cases either through laparoscopic removal of the fallopian tubes or by creating a window into the tube or performing a laparotomy [5]. The treatment of choice becomes surgical intervention for all unstable patients who exhibit dangerous hemodynamic profiles

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[6]. During ectopic pregnancy a fertilized egg establishes an inappropriate growth location outside the endometrial cavity of the uterus which leads to a serious obstetric condition. The majority of ectopic pregnancies occurs in the tubes creating tubal ectopics but there are many other possible implantation areas which include ovarian, cervical, interstitial, cesarean scar and abdominal sites [7]. Another abnormal presentation of ectopic is demonstrated when two pregnancies simultaneously occur within and outside the uterus during heterotopic pregnancy cases. Accurate identification of these different types remains essential to reach proper diagnoses and achieve necessary management because delayed treatment results in heightened maternal death risk [8]. Ectopic pregnancies affect no more than 1–2% of all pregnancies yet doctors have observed a growing rate during recent decades thanks to rising ART incidence together with higher PID prevalence and better diagnostic abilities [9]. A variety of factors increase the risk of ectopic pregnancy occurrence including repeat ectopic pregnancy, pelvic surgical procedures and sexually transmitted infections along with tubal problems and IUD usage and cigarette smoking as well as endometriosis. In vitro fertilization (IVF) methods and other reproductive technologies create additional dangers which specifically affect interstitial and heterotopic pregnancies [10].

Objective

The basic aim of the study is to find the spectrum of ectopic pregnancies at tertiary care hospital of Ayodhya.

Methodology

This retrospective observational study was conducted at Tertiary care hospital of Ayodhya during January 2024 to December 2024. A total of 102 cases were added in the study.

Inclusion criteria

- Women of reproductive age presenting with suspected ectopic pregnancy.
- Positive pregnancy test with β-hCG levels indicative of pregnancy.
- Transvaginal ultrasound (TVUS) confirmation of an extrauterine gestation or absence of intrauterine pregnancy with clinical suspicion.
- Cases managed either medically, surgically, or expectantly.

Exclusion criteria

- Patients with confirmed intrauterine pregnancy.
- Miscarriages or molar pregnancies.
- Patients lost to follow-up before treatment completion.

Data Collection

Patient data were collected from hospital records, including demographic details such as age, parity, and obstetric history. Patient's age, parity, and obstetric history, presenting symptoms such as abdominal pain, vaginal bleeding, and hemodynamic instability were noted. Clinical presentation was analyzed based on symptoms like abdominal pain, amenorrhea, vaginal bleeding, or hemodynamic instability. Diagnostic methods, including transvaginal ultrasonography and β-hCG measurement, were recorded. The site of implantation (tubal, ovarian, cervical, or abdominal) and the type of management (medical vs. surgical) were also documented, along with maternal outcomes and complications.

Statistical Analysis

Data were analyzed using SPSS v23. Descriptive statistical analysis was performed to summarize the findings. Data were analyzed in terms of frequencies and percentages, and associations between risk factors, clinical presentation, and management outcomes were evaluated. A p-value of <0.05 were considered as significant.

RESULTS

Data were collected from 102 cases. The mean age of the patients was 30.5 ± 4.5 years, with an age range of 20 to 40 years. Among the cases, 30.0% were primigravida, while 72.0% were multigravida. Regarding parity, 28.0% of the patients were nulliparous, whereas 72.0% were multiparous.In terms of risk factors, 15.0% of the patients had a history of previous ectopic pregnancy, while 10.0% had undergone infertility treatment. A history of pelvic inflammatory disease was reported in 12.0% of the cases, and 18.0% had a history of previous pelvic surgery. Additionally, 25.0% of the patients reported using contraceptive methods, while 5.0% had conceived through assisted reproductive technology. Smoking was a risk factor in 8.0% of the cases.Assessment of hemodynamic status revealed that 80.0% of the patients were hemodynamically stable, whereas 22.0% were unstable at the time of presentation. Anemia was prevalent, with 35.0% of patients having hemoglobin levels 7 g/dL, and 67.0% classified as having severe anemia with levels below 7 g/dL.

Table 1: Demographic and baseline values of patients

Parameter	Number of Cases (n)	Percentage (%)
Total Number of Cases	102	100%
Mean Age (years) ± SD	30.5 ± 4.5	-
Age Range (years)	25-36	-
Primigravida	31	30.0%
Multigravida	71	72.0%

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Parity (Nulliparous)	29	28.0%
Parity (Multiparous)	73	72.0%
History of Previous Ectopic Pregnancy	15	15.0%
History of Infertility Treatment	10	10.0%
History of Pelvic Inflammatory Disease	12	12.0%
History of Previous Pelvic Surgery	18	18.0%
Contraceptive Use	26	25.0%
Use of Assisted Reproductive Technology	5	5.0%
Smoking History	8	8.0%
Hemodynamic Status - Stable	82	80.0%
Hemodynamic Status - Unstable	22	22.0%
Hb level >7g/dL	36	35.0%
Hb level<7g/dL	68	67.0%

Ruptured ectopic pregnancy was the most common presentation, accounting for 58.8% of cases. Unruptured ectopic pregnancy was observed in 29.4% of patients, while chronic ectopic pregnancy was seen in 9.8% of cases. Caesarean scar ectopic pregnancy was the least common, representing only 2.0% of cases. Overall, a total of 102 cases were included in the analysis.

Table 2:Diagnosis Details

Diagnosis	Number of Cases (n)	Percentage (%)
Ruptured Ectopic	60	58.8%
Chronic Ectopic	10	9.8%
Unruptured Ectopic	30	29.4%
Caesarean Scar Ectopic	2	2.0%
Total	**102**	**100%**

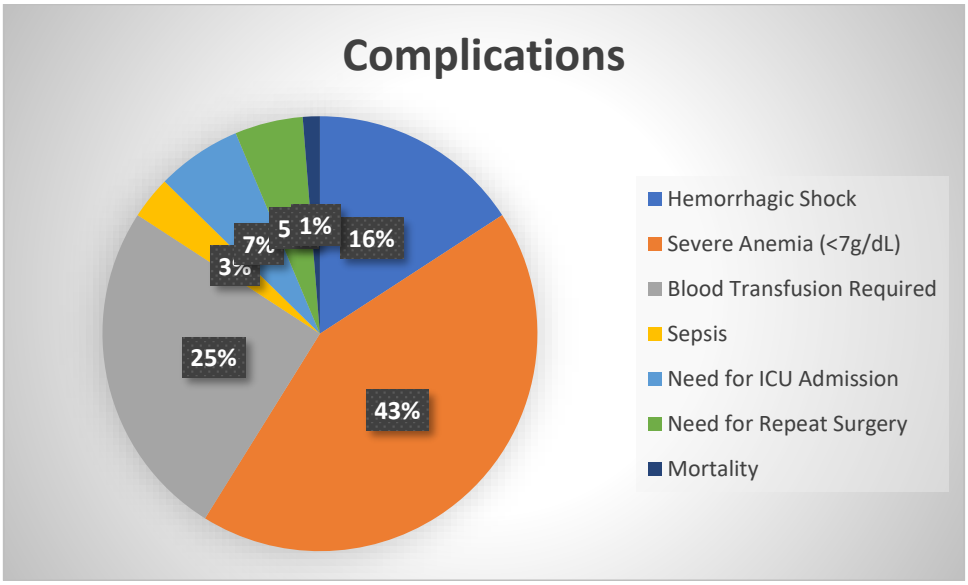

Figure 1: Complications of ectopic pregnancy

Medical management was employed in 24.5% of cases, while the majority, 75.5%, required surgical intervention via laparotomy.Among the surgical cases, ruptured ectopic pregnancy accounted for the highest proportion at 58.8%, followed by chronic ectopic pregnancy at 9.8%. Unruptured ectopic pregnancy and caesarean scar ectopic pregnancy were managed surgically in 4.9% and 2.0% of cases, respectively.Various surgical procedures were performed based on the severity and location of the ectopic pregnancy. Laparotomy with salpingectomy was performed in 2.9% of cases for both left and right fallopian tubes. Salpingo-oophorectomy was conducted in 3.9% of cases on the left side and 5.9% on the right. Hysterectomy was necessary in 1.0% of cases, while caesarean scar excision was performed in another 1.0%. Additionally, laparotomy with washing was done in 4.9% of cases.

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Table 3:Management Approach

Management Type	Number of Cases (n)	Percentage (%)
Medical Management	25	24.5
Surgical Management - Laparotomy	77	75.5
Surgical Procedure		
Chronic Ectopic	10	9.8
Ruptured Ectopic	60	58.8
Caesarean Scar Ectopic	2	2.0
Unruptured Ectopic	5	4.9
Surgical Intervention		
Laparotomy with Left Salpingectomy	3	2.9
Laparotomy with Right Salpingectomy	3	2.9
Laparotomy with Left Salpingo-Oophorectomy	4	3.9
Laparotomy with Right Salpingo-Oophorectomy	6	5.9
Hysterectomy	1	1.0
Caesarean Scar Excision	1	1.0
Laparotomy with abdominal Washing	5	4.9

DISCUSSION

The findings of this study highlight the significant burden of ectopic pregnancies and their associated complications. The high rate of ruptured ectopic pregnancies demonstrates the critical requirement to detect conditions early since they make up more than 50% of patient cases. The requirement for blood transfusions adds to the priority of addressing delayed diagnosis and late presentation because of severe anemia prevalence. Surgical treatment served as the main therapeutic approach through which healthcare providers performed laparotomy most frequently [12]. The substantial clinical severity seen at diagnosis requires doctors to perform aggressive surgical procedures. Medical treatment of ectopic pregnancy remains restricted due to patients' late-stage diagnoses combined with their unstable blood flow patterns [13]. The existence of risk attributes including history of ectopic pregnancy together with pelvic inflammatory disease or previous pelvic surgery shows why patients with these circumstances need strict medical observation and prompt evaluation services. Healthcare providers and population members need to understand both risk factors and early warning signs of ectopic pregnancy to decrease its adverse outcomes. Ectopic pregnancies stand as a principal reason behind abnormal vaginal bleeding that occurs during first trimester [14]. Medical professionals can prevent both morbidity and mortality when they diagnose and treat ectopic pregnancy at an appropriate time. The surgical approach to treatment produces higher morbidity rates than medical treatment methods.The high number of surgical procedures which mainly involve laparotomy shows that patients often need immediate surgical care because their conditions have progressed into complications. Data from this study shows limited medical care applications because many patients present at a late stage of the condition [15]. Early detection made possible by screening high-risk groups alongside increased education about signs will increase the chances for treating ectopic pregnancy with non-surgical methods. Identified risk elements preceding ectopic pregnancy and pelvic inflammatory disease with pelvic surgeries appeared commonly in the analyzed cases. Medical staff need to focus on scanning and providing counselling to women who possess these risk characteristics so they can avoid diagnostic delays [16]. Additionally, the role of assisted reproductive technology (ART) in ectopic pregnancy cases, although relatively low in this cohort, highlights the need for careful monitoring of ART-conceived pregnancies. The research results demonstrate why maintaining stable blood flow patterns needs strong emphasis when patients first arrive for treatment. The majority of patients needed immediate surgical treatment because they showed signs of unstable blood pressure. Emergency preparedness plays a vital role in healthcare facilities because it allows efficient management of ectopic pregnancies [17]. According to the research by Zuber et al., 2018 [18] ectopic pregnancy stands as a fundamental reason leading to significant maternal death and illness. Early diagnosis combined with referral in stable hemodynamic condition together with minimal access surgical procedures and medical treatments has potential to transform ectopic pregnancy management throughout the developing nations. Next steps in research need to develop new diagnosis methods which will serve low-resource environments where advanced diagnostic instruments are unavailable. Further assessments which compare various combination of medical and surgical interventions under different clinical conditions will help improve patient outcomes. Healthcare professionals should work to educate their patients about ectopic pregnancy warning signs and establish quick medical responses when any risk variables appear.

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CONCLUSION

It is concluded that ectopic pregnancy remains a critical concern in obstetric practice, with a high burden of morbidity requiring surgical intervention in most cases. Early diagnosis and management can significantly reduce complications, particularly in high-risk populations. The study emphasizes the need for increased awareness among healthcare providers and patients regarding the risk factors and symptoms of ectopic pregnancy.

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