

Ectopic Pregnancy: An Analysis of 54 Cases in A Tertiary Care Hospital of Mardan

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Abstract

Objective: The present study aims at determining the incidence, demographic profile, risk factors, clinical features and treatment modalities of ectopic pregnancy.

Study Design: Prospective Descriptive Study

Place and Duration of Study: Obstetrics and Gynaecology Department, MTI/Mardan Medical Complex, Mardan Pakistan, From 01st February 2016 to 31st January 2017

Methodology: This was a prospective descriptive study comprising 54 cases admitted to Obstetrics and Gynaecology department of Mardan Medical complex, Mardan from 1st February 2016 to 31st January 2017. All women of any age or parity with diagnosis of ectopic pregnancy were included and treated surgically, medically or expectantly.

Results: The incidence of ectopic pregnancy was 0.74% or 1:134 deliveries. Majority of patients (57.4%) were young and were between 26 to 35 years of age. It was most common in multi parous women (57.4%). Pelvic inflammatory disease was seen in 40% followed by history of tubal ligation (14%) and history of infertility (12%) while no identifiable risk factors were observed in 18% of ectopic pregnancies. Most common presenting symptoms were lower abdominal pain (92.6%), amenorrhea (76%), cervical excitation (72%), adnexal fullness (55.5%), p/v bleeding (48%) and shock (40.7%). Majority of patients (72%) underwent surgical treatment.

Conclusion: Timely diagnosis and referral to health care facility, equipped with blood bank services and aggressive management can reduce the ectopic pregnancy associated maternal morbidity and mortality.

Key Words: Abdominal pain , Amenorrhea, Ectopic pregnancy, Pelvic Inflammatory disease, Risk Factors, Vaginal bleeding.

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Introduction

The word ectopic pregnancy was derived from a Greek word "ectopos" meaning out of place.¹ The condition was first described in the eleventh century and it was considered very fatal until the middle of

the 18th century.² Prior to 1883 no women ever underwent a deliberate and successful operation for a ruptured ectopic pregnancy, when Trait performed it for the first time.³

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It is one of the most dreadful life threatening obstetrical emergency in the first trimester. It is defined as the ectopic implantation of the embryo at a site other than normal uterine cavity, unfavorable for further growth and development of the embryo. Tubal implantation occurs in majority of cases (95%), but it is also found in other places like abdomen, ovaries, cervix, spleen, omentum, cesarean section scar and intramural. The risk factors for ectopic pregnancy include pelvic inflammatory disease, previous tubal surgery, previous ectopic pregnancy, assisted reproduction, ovulation induction, induced abortion, salpingitis, isthmicanodosa, progestin contraception, diethylstilbestrol exposure and smoking.^{4,5}

In Pakistan, incidence of ectopic pregnancies varies from 1:1124 to 1:130 pregnancies.⁶ It has increased fourfold over the couple of decades but reciprocally the mortality rate declined to nearly 80%.⁷ No doubt ectopic pregnancy still accounts for 4-10% pregnancy related deaths along with the complications associated with the increased demand of blood transfusion.⁸ In developing countries, the majority of hospital based studies reported the ectopic pregnancy fatality rates around 1-3% which is ten times higher than those of developed countries.⁹

Patients with ectopic pregnancy commonly present with abdominal pain and vaginal bleeding between 6 and 10 weeks of gestation.¹⁰ Early diagnosis of ectopic pregnancy is a difficult task but can be possible with the help of quantitative beta human chorionic gonadotropin level, transvaginal ultrasound (TVS) and laparoscopy.^{11,12} In spite of the advances in diagnostic methods and management, ectopic pregnancy still remains a very serious threat to maternal safety. Timely diagnosis can make medical management and conservative surgery feasible. This can have huge impact on fertility of the affected women.

This study aims at evaluating the incidence, demographic features, risk factors, clinical presentation and management of ectopic pregnancy in a tertiary care institute in Pakistan.

Methodology

This descriptive cross sectional study was done at Gynaecology and Obstetrics department of Mardan

Medical Complex from 1st February 2016 to 31st January 2017. All women of any age and parity who presented with ectopic pregnancy were included in this study. Sample size was calculated by using WHO sample size calculator and non-probability consecutive convenience sampling technique was adopted.

Approval was taken from hospital ethical committee and patients were recruited after taken written informed consent and explaining them the purpose of this study. Patients were admitted through outpatient department or emergency. The detailed history was taken. It included age, parity, presenting complaints, past obstetric history, history of previous surgeries or any medical disorders, use of contraception and history of infertility. History of pelvic inflammatory disease was sorted out from past medical records.

Thorough general physical examination was done and vitals were recorded. Detailed abdominal and bimanual examination was carried out. All patients were subjected to urine pregnancy test and transvaginal ultrasound. Paracentesis was also done in few patients. Routine blood and urine investigations were done. Patients were assessed for criteria of expectant, medical or surgical management. Those fulfilling the criteria of surgical management were subjected to laparotomy. Intraoperative finding with surgical procedure, any blood transfusion or postoperative morbidity and outcome was recorded.

Information was collected in a structured proforma. Data was analyzed using SPSS 20.0. Means and standard deviations were calculated for numerical variables like age and parity. Frequency and percentages were calculated for categorical variables like risk factors, symptoms and treatment modalities.

Results

During the study period, there were 15,423 admissions in Gynae department, 7233 deliveries and 54 ectopic pregnancies. Therefore, the incidence of ectopic pregnancy is 1 in 134 or 0.74%. Mean age was 28.53 \pm SD 5.69 years. Three age groups were created. Group I -15 to 25 years, Group II - 26 to 35 years and Group-III \geq 36 years. Majority of cases were seen in age group Group-II (57.4%)

followed by Group-I (24.07) and Group-III (18.5%) respectively.

Ectopic pregnancy was most common in multipara 31(57.4%) while 16 (29.6%) cases occurred in primiparous patients and 7(13%) in grand multipara. (Table-I) Risk factors along with frequencies and percentages are mentioned in Table no. II.

Variables		Frequency	%
Age groups	Group-I (15-25years)	13	24.07%
	Group-II (26-35years)	31	57.4%
	Group-III (≥36 years)	10	18.5%
Parity	Primipara	16	29.6%
	Multipara	31	57.4%
	Grandmultipara	7	13%
Residence	Rural	30	55.5%
	Urban	24	44.4%

Risk factor	Frequency	Percentage
Pelvic Inflammatory Disease	22	40%
H/o Tubal ligation	8	14%
H/o Infertility	6	11%
Previous Surgery	4	8%
H/o IUCD Insertion	2	4%
Infertility Tx	1	2%
Previous Ectopic Pregnancy	1	2%
No Identifiable Risk Factor	10	19%

Regarding symptoms lower abdominal pain was found in 50(92.6%), history of amenorrhea in 41(76%), cervical excitation in 39(72%), adnexal fullness in 30(55.5%), abnormal vaginal bleeding in 26(48%) and shock in 22(40.7%) cases. (Table no. III)

Ampullary region was the most common site of ectopic pregnancy in 42(77.8%) patients followed by isthmus 8(14.8%), fimbrial end 2(3.7%), ovarian and corneal ectopic in one patient each (1.8%) respectively. Right side was the dominant site of ectopic in 34(63%) cases.

Symptom/sign	Frequency	Percentage
Lower Abdominal pain	50	92.6%
Amenorrhea	41	76%
Cervical excitation	39	72%
Adnexal fullness	30	55.5%
Abnormal p/v bleeding	26	48%
Shock	22	40.7%

A patient can have more than one symptom & sign

Treatment modality	Frequency	Percentage
Surgical	41	76%
Medical	10	18.5%
Expectant	3	5.5%

Discussion

Prevalence of ectopic pregnancy in women who attend emergency department for the complaints of first trimester vaginal bleeding, abdominal pain or both is 6 to 16 percent.¹³

In our study, the incidence of ectopic pregnancy is 0.74%. Close results to our figures were observed by Hassan N et al, 0.8% or 1:129 cases.¹⁴ Bangash N et al reported 1.04% whereas Waseem T et al reported 1% in their studies carried out at Lahore.¹⁵ ¹⁶ Lozeau AM et al observed the incidence of 1.9% in their study at USA.¹⁷

Mishra S et al noticed that peak age of incidence of ectopic pregnancy was 26-30 years.¹⁸ Mufti S et al and Majhi AK et al reported the same findings in their study whereas Shafquat T et al in their analysis at Lady Reading hospital observed 42.6% patients were in 26-35 years age range.¹⁹⁻²¹ These all studies correlate well with our study where we saw 57.4% cases falling into age group of 26-35 years. This is probably because sexual activity and fertility is highest in this period. In our study, 57.4% of women were multiparous which is comparable to studies by Bhuria V et al, Rakhi et al, Yadav ST et al and Prasanna B et al.²²⁻²⁵

Pelvic inflammatory disease is a major risk factor for ectopic pregnancy. This risk factor was seen in 40% of cases in our study. This association was also noticed by Yadav A et al, Jophy et al and Shivakumar et al in their studies.²⁶⁻²⁸

Tubal ligation was responsible for 14% of cases in our study. Other studies have reported that this risk ranging from 5.4 to 16.21%.²⁴⁻²⁸

We found that 12% cases of ectopic pregnancy were associated with history of infertility. A number of studies have reported this incidence to be 10 to 23.7%.²⁷⁻²⁹ Tubal pathology, endometriosis, ovulation induction and ART are few reasons for association of infertility with occurrence of ectopic pregnancy. Parashi et al found that usage of IUCD increased the risk of ectopic pregnancy whereas oral contraceptive pills reduced it.³⁰ Previous pelvic surgery was a risk factor for ectopic pregnancy in 8% of subjects. Yadav A et al, Simsek Y et al, and Wakankar R et al have shown the association between ectopic pregnancy and cesarean section.^{26, 31,32} Parashi et al have associated abdomino-pelvic surgery with ectopic pregnancy.³⁰ The possible explanation is formation of peritubal adhesions. No risk factor was found in 19 % of cases in our study. This has been supported by many studies.²⁷⁻²⁹

Regarding symptoms, abdominal pain and tenderness was present in 93.5% cases.¹⁸ We also observed the same findings. Amenorrhea was present in 76% cases whereas it was a common symptom in 54.9 to 84.3% cases in a variety of studies.²⁷⁻³⁰ In our study cervical excitation was found in 72% and adnexal fullness in 55.5%. Many studies reported cervical excitation 50 to 87% and adnexal fullness in 68% supporting our findings.²⁷⁻²⁹ Shock was seen in 13 to 31% of cases in various studies while in our study it was 40.7%.²²⁻²⁴

Treatment modality for ectopic pregnancy depends on site of gestation, ruptured/un-ruptured ectopic, surgical expertise, need to retain fertility, hemodynamic status, size of mass and choice of patient. Surgery was the mainstay of treatment in our study. Bhuria et al and Shetty WH et al did surgical management in 96% and 95.2% cases respectively.^{22,33}

There were several limitations in our study. First was the small sample size, second was assessment and decision making of patient by different clinicians and third is the limitation of study area restricted to Mardan Medical Complex. Inclusion of other hospitals from same locality could have given us better idea about prevalence of disease in the area.

Conclusion

A high index of suspicion is vital for the diagnosis of ectopic pregnancy. Access to expertise with high quality TVS not only enables clinicians to set out a clear management plan but also contributes to the improvement in maternal morbidity and mortality outcomes.

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