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## Original Research Article

# Study of ectopic pregnancy in a tertiary care centre

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### ABSTRACT

**Background:** Ectopic pregnancy is an obstetric emergency with high morbidity and mortality. Incidence of ectopic pregnancies has been increasing in last two to three decades with reduction in mortality. The presenting symptoms include irregular vaginal bleeding. The present study was undertaken to study the clinical features of ectopic pregnancies in a tertiary care hospital.

**Methods:** The present study on ectopic pregnancies was carried out in department of obstetrics and gynaecology, jhalawar medical college, Jhalawar, Rajasthan, India from January 2019 to October 2019. All patients admitted with diagnosis of ectopic pregnancy, either ruptured or unruptured were included in the study.

**Results:** Total 52 patient of ectopic pregnancy were studied. Majority (63.46%) of patients belong to the age group 21-30 years. Ectopic pregnancy was most commonly noted in nulliparous woman (44.23%) Majority of the case (31%) had no risk factors among remaining (34.61%), previous MTP (17%), (17-30%) previous ectopic (9%) and PID (15-38%) were identified risk factors. Ampulla (75%) was the most common site for ectopic pregnancy. 57% of the cases were on the right side. The common presenting complaints were pain in abdomen (81%) bleeding/ spotting per vaginal (42%). There was no mortality.

**Conclusions:** Surgical treatment was done more often because of patients reporting late to the hospital screening of high-risk case, early diagnosis and early intervention reduce the morbidity and mortality in ectopic pregnancies.

**Keywords:** Ampulla, Ectopic, Emergency, Laparotomy, Pain in abdomen, Pregnancy

### INTRODUCTION

An ectopic pregnancy is one in which the fertilized ovum become implanted in a site other than the normal uterine cavity.<sup>1</sup> It is one of the common causes of maternal morbidity and mortality in first trimester of pregnancy.<sup>2</sup> Worldwide ectopic pregnancy complicated 1 to 2.0% of all pregnancies.<sup>3</sup> There is an overall increase in incidence of ectopic tubal pregnancy (ETP) and this is probably due to increase awareness, advanced diagnostic tools like trans-vaginal ultrasonography (TVUSG) and estimation of beta subunit of human chorionic gonadotrophin (beta - HCG) in serum.<sup>4</sup> Several risk factors have been identified

for ectopic pregnancies viz. Pelvic inflammatory disease, previous pelvic surgery, previous ectopic pregnancy, intrauterine device usage, induction of ovulation, smoking etc. The classic symptom triad of ectopic pregnancy is pain abdomen, amenorrhea, and vaginal bleeding.<sup>5</sup>

Evidence of an empty uterus, detection of adnexal masses and free peritoneal fluid and adnexal ring are ultrasonographic signs of ectopic pregnancy.<sup>6</sup>

Between 93-97% of ectopic pregnancies are located in a fallopian tube.<sup>7</sup> Of these, 13% are located in the isthmus,

75% are located in the ampulla, and 12% in the fimbriae.<sup>8</sup> Nearly 2% of all the ectopic pregnancies become established in other areas including the ovary, the cervix or the intra-abdominal region.<sup>9</sup> Early treatment of an ectopic pregnancy with methotrexate is a viable alternative to surgical treatment.<sup>10,11</sup> Surgical treatment becomes necessary if rupture has already occurred. Laparoscopy or laparotomy is performed in such cases and the affected fallopian tube is incised with removal of only the pregnancy (salpingostomy) or the affected tube is removed with the pregnancy (salpingectomy). The present study was undertaken to study the clinical features of ectopic pregnancies in a tertiary care hospital.

## METHODS

The present study on ectopic pregnancies was carried out in department of obstetrics and gynaecology, Jhalawar medical college, Jhalawar, Rajasthan, India from January 2019 to October 2019. The case sheets of patients with ectopic pregnancies were traced through the labour room registers and operation theatre registers. Data collection tool was used to collect the different information. Face to face interviews were conducted using data collection tool by the investigator including detailed history taking and relevant physical examination. A detailed history was taken from the patient (if the patient was in shock the history was taken retrospectively). After taking history physical examination was done especially for vital signs, abdominal examination, per vaginal examination, cervical excitation test and culdocentesis when needed. The basic investigations including haemoglobin, renal function test, blood grouping and Rh typing, urine pregnancy test and ultrasound examination were done in all patients. Additional investigations like serum beta hCG, doppler study, CT, MRI were ordered in case of doubtful diagnosis. Culdocentesis and urine pregnancy test were carried out in hemodynamically unstable patients and those who were stable USG was done. Subsequently emergency laparotomy was done in hemodynamically unstable patients with provisional diagnosis of ruptured ectopic pregnancy. All the surgeries were done by laparotomy under spinal/general anesthesia. Post operatively HPE reports were collected from the pathology department and final diagnosis was made. Information regarding patient profile, risk factors, sterilisation status, use of other contraceptive methods, presenting symptoms and signs, physical examination, ultrasound findings, types of treatment, per operative findings, no of transfusions, post-operative morbidity and length of hospital stay were analysed. Detailed analysis was done using simple descriptive statistics and presented as percentages in tables. Clinical details were noted in a predefined proforma.

## Inclusion criteria

All the patients admitted with a diagnosis of ectopic pregnancy, either ruptured or unruptured were included in the study.

## Exclusion criteria

Patients diagnosed as having intrauterine pregnancy and all the cases of ectopic pregnancy with medical management were excluded from the study. The study was initiated after approval from the institutional ethics committee.

## RESULTS

Total 52 patients with diagnosis of ectopic pregnancy were admitted in our hospital in the study period. Table 1 shows that the incidence of ectopic pregnancy is higher in 21-30 years of age (63.46%). Youngest age was 18 years. Highest age limit was 45 years. Highest incidence in the age group of 21 to 30 years. Denotes the peak of the fertile period after marriageable age.

**Table 1: Case of ectopic pregnancy in relation to age (N = 52).**

Age group (years)	No. of cases	Percentage
15-20	2	3.84%
21-25	20	71.15%
26-30	13	25.0%
31-35	9	17.30%
36-40	7	13.43%
41-45	1	1.92%
<b>Total</b>	<b>52</b>	<b>100%</b>

**Table 2: Distribution of cases based on parity.**

Parity	Number of cases	Percentage
Nulliparous	23	44.23%
1	15	28.84%
2	10	19.23%
3	4	7.69%
<b>Total</b>	<b>52</b>	<b>100%</b>

Table 2 shows that ectopic pregnancy was most commonly noted in nulliparous women (44.23%).

**Table 3: Risk factors of ectopic pregnancy.**

Risk factors	Number of cases (N = 52)	Percentage
Unknown	18	34.61%
History of MTP	9	17.30%
History of PID	8	15.38%
Previous history of ectopic pregnancy	5	9.61%
History of caesarean section	6	11.53%
Infertility treatment	6	11.53%

Table 3 shows risk factors of ectopic pregnancy. In this study majority of the cases 18 (34.61%) had no risk factors. 9 (17.30%) had history of medical termination of

pregnancy, 8 (15.38%) had history of PID, 5 (9.61%) had previous history of ectopic pregnancy, 6 (11.53%) had history of caesarean section and 6 (11.53%) following infertility treatment.

**Table 4: Distribution of cases based on the site of ectopic pregnancy.**

Site of ectopic pregnancy	Number of cases	Percentage
Ampullary	39	75%
Isthmal	7	13.46%
Fimbrial	4	7.69%
Cornual	1	1.925%
Ovary	1	1.92%
<b>Total</b>	<b>52</b>	<b>100%</b>

Table 4 shows that most common site of ectopic pregnancy was in ampulla of fallopian tube 75%. Isthmic tubal pregnancy was seen in 13.46% and 7.69% cases had fimbrial pregnancy. Only 1.92% had both cornual and ovary pregnancy.

**Table 5: Clinical presentation.**

Symptoms	Number of cases	Percentage
Amenorrhea	28	54%
Abdominal pain	42	81%
Bleeding	22	42%
Shock	10	19.23%
UPT positive	41	78.84%

**Table 6: Distribution of the cases according to the involved side of fallopian tube in ectopic pregnancy.**

Side of fallopian tube	Number of cases (N = 52)	Percentage
Right	30	57.69%
Left	22	42.30%
<b>Total</b>	<b>52</b>	<b>100%</b>

**Table 7: Distribution of the cases based on the surgical procedure done.**

Procedure	Number of cases	Percentage
Unilateral salpingectomy	29	55.76%
Bilateral salpingectomy	8	15.38%
Unilateral salpingo-oophorectomy	11	21.15%
Salpingo-oophorectomy with contralateral tubectomy	4	7.69%
<b>Total</b>	<b>52</b>	<b>100%</b>

Table 5 shows majority of women presented with pain abdomen (81%), amenorrhea (54%), bleeding P/v (42%). Patient presented with shock 19.23%. Urine pregnancy test (UPT) was positive in 78.84%. Pallor was a

significant finding in 65% of cases who required blood transfusion.

Table 6 shows that right side tubal pregnancy is more common than left side.

Table 7 shows all patients underwent laparotomy. Significantly more cases underwent unilateral salpingectomy (55.76%), followed by unilateral salpingo-oophorectomy. 15.38% underwent bilateral salpingectomy as they had previous tubal sterilization.

## DISCUSSION

Ectopic pregnancy is the most common cause of death in the first trimester of pregnancy in developing countries. In the present study the majority of the patients belonged to the age group 21-25 years (N = 52, 71.15%). This is similar to the study by Rakhi et al in which the most common age group affected were 20-25 years (68.57%).<sup>12</sup> This is in contrast to the study by Kumar A et al and Poonam et al in which the peak age incidence was 26-30 years.<sup>13,14</sup>

Various studies have showed the symptoms of abdominal pain was seen in 70.97% to 97.3% of the patients. In the present by Shaikh BN et al, typical history of amenorrhea and abdominal pain was found in 46 (77%) women, 22 (38%) were in a state of shock.<sup>15</sup> In the study by Hassan N et al abdominal pain was seen in (44) 70.97%, amenorrhea (32) 51.61% and irregular vaginal bleeding (16) 25.81%.<sup>16</sup> Majority 80.6% (75/93) presented with abdominal pain and 35.8% (33/93) presented with vaginal bleeding in study by Ao Igwegbe et al.<sup>17</sup> In comparison to all these studies the present study had 81% of the patients had pain abdomen, 54% had amenorrhea, 42% had vaginal bleeding.

In the present study, previous medical abortions and previous lower segment caesarean section were present in 17.30% and 11.53% patients respectively, which is quite comparable to the studies done by Asuri SS et al, Yadav et al, Priyadarshini et al, Saha et al.<sup>18-21</sup> We found that history of infertility treatment was there in 11.53% patients almost similar to the studies of Asuri SS et al.<sup>18</sup> In our study history of PID was present in 15.38% patients. In our study 9.61% patients had previous ectopic pregnancy, comparable to the studies of Priyadarshini et al.

The commonest site of ectopic pregnancy in our study was the ampullary region of the fallopian tube. Incidence of ectopic was found to be highest among multiparous women. History of pelvic inflammatory disease is very difficult to elicit, since most of them have a subclinical infection and do not visit a health care centre for treatment. Lower abdominal pain was the most common clinical presentation in our subjects.

There was no maternal mortality due to ectopic pregnancy in the present study as in other studies.<sup>15,20,22</sup>

This may be as a result of prompt and proper management of the patients after reporting to the hospital. Hence it is seen clearly that while there is an increase in incidence of ectopic pregnancy, mortality has reduced significantly which can be because of improved diagnostic and treatment modalities.

## CONCLUSION

Ectopic pregnancy should be suspected in a woman of reproductive age presenting with the triad of pain in abdomen, amenorrhea and vaginal bleed irrespective of the status of tubal ligation. Surgical treatment was done more often because of patients reporting late to the hospital. Screening of high-risk cases, early diagnosis and early intervention reduces the morbidity and mortality in ectopic pregnancies.

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