



## Research Article

# A Clinical Study on Ectopic Pregnancy

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### Abstract

**Background:** Ectopic pregnancy is defined as any intra or extra uterine pregnancy in which the fertilized ovum implants at an aberrant site which is unfavorable to its growth and development. It is the most important cause of maternal mortality and morbidity in the first trimester. It occurs when the developing blastocyst implants either outside the uterus or in an abnormal position within the uterus cornual.

**Objective:** To find out the incidence of ectopic pregnancy and to determine the clinical features, risk factors, treatment and assessment of risk of maternal mortality and morbidity in a tertiary care hospital.

**Material and Methods:** This was a retrospective observational study conducted over a period of two years. A total of 17560 deliveries occur during this period and 78 cases were diagnosed as ectopic pregnancy. Data were collected from labor ward and operation theatre registers. All these cases were analyzed with respect to the history, clinical presentation, investigations and treatment.

**Results:** Out of 17560 deliveries 78 cases were diagnosed as ectopic pregnancy giving the incidence of 0.44%. A majority of the patients (70.51%) belonged to the age group of 20-30 yrs. Among that 71.8% were multigravida and 28.2% were primi gravid. Cervical motion tenderness was found to be a significant finding in 64 (82.05%) cases followed by adnexal mass in 61 (78.20%) cases. The commonest site for ectopic pregnancy was tubal (93.58%) followed by ovarian (3.84%). Ruptured ectopic was present in 79.48% cases on laparotomy while 11.53% were unruptured.

**Conclusion:** Ectopic pregnancy is a leading cause in young reproductive woman. High degree of suspicion and early diagnosis is the key to successful management.

**Keywords:** Amenorrhea, Ectopic pregnancy, Maternal mortality, Ruptured ectopic, Tubectomy.

### Introduction

Ectopic pregnancy is the most important cause of maternal mortality and morbidity in the first trimester<sup>1</sup>. It occurs when a fertilized ovum implants outside the normal uterine cavity or when the developing blastocyst implants either outside the uterus [Fallopian tube: ampullary (79.6%); isthmic (12.3%); fimbrial (6.2%), Ovary

(0.15%) and abdominal cavity (1.4%)] or in an abnormal position within the uterus cornual (1.9%), cervical (0.15%)<sup>2</sup>. The most common type of ectopic pregnancy is tubal pregnancy. Approximately 98.3% of ectopic pregnancies occur in the fallopian tubes.

Risk factors like previous ectopic pregnancy, tubal corrective surgery, tubal sterilization, intrauterine

devices, documented tubal pathology, infertility, assisted reproductive techniques, PID, smoking, prior abortions, multiple sexual partners and prior delivery have been implicated in the development of the ectopic pregnancy<sup>3</sup>.

The rate of ectopic pregnancy in most of the hospital is 1-2%<sup>4-6</sup>. Patients with an ectopic pregnancy commonly present with pain and vaginal bleeding between 6 and 10 weeks of gestation<sup>7</sup>. The diagnosis of ectopic pregnancy is complicated by wide spectrum of clinical presentations, from asymptomatic cases to acute abdomen, and hemodynamic shock<sup>8</sup>. Early diagnosis reduces the risk of tubal rupture and allows more conservative medical treatments to be employed<sup>9</sup>.

The current trend is a conservative way of management of these pregnancies be it chemotherapeutic agents or conservative surgical approaches, the ultimate goal is tubal conservative procedures rather than radical surgeries<sup>10,11</sup>. The availability of sensitive hcg and high-resolution sonography has resulted in earlier diagnosis and has reduced mortality rate<sup>12</sup>. This retrospective study was done to determine the incidence, clinical features, risk factors, treatment and morbidity and mortality associated with ectopic pregnancy in a tertiary care hospital.

### Material and Methods

**Study Population:** This was a retrospective observational study conducted in the Department of Obstetrics and Gynecology, Mathura Das Mathur Hospital under Dr S N Medical College, Jodhpur, Rajasthan over a period of two years from January 2017 to December 2018. There were 17560 deliveries during this period and 78 cases were diagnosed as ectopic pregnancy. The women who were diagnosed as ectopic pregnancy cases, who were in the reproductive age group of 15 to 44 years were included. All intrauterine pregnancies and ectopic pregnancies managed by medical or expectant management were excluded. The study was approved by the Institute Ethics Committee.

### Methodology

The case sheets of the patients with ectopic pregnancy were traced through the labor ward registers and operation theatre registers. Information regarding the total number of ectopic pregnancies in the study period, details of demographic characteristics, clinical symptoms and signs, diagnostic tools used, treatment, risk factors for the ectopic pregnancy as well as associated morbidity and mortality were obtained. Statistical analysis was done by using SPSS software version 21.

### Results

Out of 17560 deliveries 78 cases were diagnosed as ectopic pregnancy giving the incidence of 0.44%. A majority of the patients (70.51%) belonged to the age group of 20-30 yrs (Table 1).

In the present study, 71.8% were multigravida and 28.2% were primi gravid. (Table 2) Out of 78 cases of ectopic pregnancy all the patients i.e 100% have abdominal pain followed by 93.58% had amenorrhoea and 69.23% had bleeding problem. (Table 3)

Out of 78 patients cervical motion tenderness was found to be a significant finding in 64 (82.05%) cases followed by adnexal mass in 61 (78.20%) cases. Other symptoms like pallor, abdominal lump was seen 73.07% and 39.74% respectively. (Table 4)

The urinary pregnancy test was positive in 96.15% of the cases while 3.85% were negative. (Table 5)

Of the total 78 cases of ectopic pregnancies, there was no specific risk factor in 43 cases (55.12%), PID in 13 cases (16.6%) followed by D and C in 9 cases (11.54%), IUCD in 7 cases (8.97%), tubectomy in 5 cases (6.41%) and previous ectopic in one case (1.28%). (Table 6)

The commonest site for ectopic pregnancy was tubal (93.58%) followed by ovarian (3.84%) and cornual and C/S Scar both (1.28%). (Table 7) In this study ruptured ectopic was present in 79.48% cases on laparotomy while 11.53% were

unruptured ectopic cases and tubal abortion was found in 8.97% cases. (Table 8)

**Table 1** Age of study population

Age	Number	Percentage
<20 years	12	15.4%
20-25 years	34	43.6%
26-30 years	21	26.9%
> 30 years	11	14.1%

**Table 2** Incidence of Ectopic Pregnancy According to the Gravidity

Gravidity	Frequency	Percentage
Primi	22	28.2%
Multi	56	71.8%

**Table 3** Distribution of various symptoms in Ectopic Pregnancy

Symptoms	Frequency	Percentage
Amenorrhea	73	93.58 %
Pain abdomen	78	100%
Bleeding	54	69.23%
Others Associated	22	28.20

**Table 4** Different signs in Ectopic Pregnancy

Signs	Frequency	Percentage
Pallor	57	73.07%
Abdominal pump	31	39.74%
Cervical motion tenderness	64	82.05
Adenexal mass	61	78.20
Fullness in POD	24	30.76

**Table 5:** UPT interpretation in Ectopic Pregnancy

UPT	Frequency	Percentage
Positive	75	96.15%
Negative	03	3.85%

**Table 6** Risk factors in ectopic pregnancy

Risk	Frequency	Percentage
None	43	55.12 %
Tubectomy	05	6.41%
PID	13	16.66 %
IUCD	07	8.97%
D and C	09	11.54%
Previous Ectopic	01	1.28%

**Table 7** Different Sites of Ectopic Pregnancy

Site of Ectopic	Frequency	Percentage
Tubal	73	93.58%
Ovarian	03	3.84%
Corneal	01	1.28%
Cervical	00	0 %
c/S scar	01	1.28%

**Table 8** Condition on Laprotomy

Condition	Frequency	Percentage
Ruptured	62	79.48%
Unruptured	09	11.53%
Tubal abortion	07	8.97%
Secondary abdominal pregnancy	00	0%

**Discussion**

Ectopic pregnancy accounts for 3.5-7.1% of maternal mortality in India<sup>13,14</sup>. The incidence of ectopic pregnancy was 0.44% in our study. This is in agreement with most studies from developing countries where incidence ranged from 0.56-1.5%<sup>4-6,15,16</sup>. It is a significant cause of mortality in the first trimester. Timely referral to a higher centre is imperative in order to reduce mortality and morbidity.

In this study majority of the patients (70.51%) were in the age group of 20-30 years. Our results are in concordant with Panchal D et al<sup>17</sup> (71.66%) and A Gaddagi et al<sup>18</sup> (70.2%) while Porwal et al<sup>19</sup> reported an incidence of 47.5% in age group of 21-25 years. In India most of the women marry at an early age and completes their family at an early age<sup>18</sup>. This age corresponds to the age of peak sexual activity and reproduction.

In this study we found that majority of women with ectopic pregnancy were multi gravida (71.8%) while 28.2% were primi gravid. Multiparous woman was found to be more prone to ectopic pregnancy in Gaddagi et al<sup>18</sup> i.e. 62.2%; Shetty et al<sup>20</sup> i.e. around 83.9% and Khaleequa et al<sup>5</sup> study about 61%. The higher incidence in multigravitate is probably due to previous miscarriages and infection resulting in tubal damage<sup>21</sup>.

In this study we found that out of 78 cases of ectopic pregnancy all the patients i.e 100% have abdominal pain followed by 93.58% had amenorrhoea and 69.23% had bleeding problem. Our results are in consistent with M B Swami et al<sup>22</sup> who also found all the patients having abdominal pain followed by amenorrhoea and bleeding problem. This shows that in ectopic pregnancy pain in abdomen, amenorrhea and bleeding is most frequent symptom. In study

conducted by Rashmi Gaddagi et al<sup>18</sup> found amenorrhea in 77.5%, pain in abdomen in 89.2 %, bleeding p/v 42.3%.

In this study urinary pregnancy test was positive in 96.15% of the cases while 3.85% were negative. Our results are correlated with the study done by WM Fgeeh et al<sup>23</sup> (96%).<sup>10, 16</sup> and Rashmi A Gaddagi, et al<sup>18</sup> (97.3%) who also reported similar findings.(53-53-1). This shows that negative pregnancy test cannot rule out ectopic pregnancy.

In this study we found that there was no specific risk factor in 43 cases (55.12%) while PID in 13 cases (16.6%) followed by D and C in 9 cases (11.54%), IUCD in 7 cases (8.97%), tubectomy in 5 cases (6.41%) and previous ectopic in one case (1.28%). Similarly Meenakshi et al<sup>24</sup> (38.71%) and Gaddagi et al<sup>18</sup> found 37.83% had no apparent risk factors. Our findings are in line with the study conducted by V S Sudha et al<sup>21</sup> who reported history of PID in 15.78% of the cases with ectopic pregnancy where as Bhavna et al<sup>25</sup> reported 22.7% of the cases with ectopic pregnancy. Similarly Smita et al<sup>26</sup> reported pelvic inflammatory disease was found to be strongest risk factor (35.29%) and Yakasai, et al<sup>27</sup> reported (31.68%)

In this study the commonest site for ectopic pregnancy was tubal (93.58%) followed by ovarian (3.84%) and cornual and C/S Scar both (1.28%). Our results are in concordant with various authors who also reported the same findings. S Tahmina et al<sup>28</sup> reported the fallopian tubes were the most common seat of ectopic pregnancy (94.4%). Shetty S et al<sup>20</sup> reported the commonest site of location of the ectopic pregnancy was in the ampulla of the fallopian tube seen in 45.2% cases. Similar findings were noted by Gaddagi R et al<sup>18</sup> i.e. majority of the cases were ampulla pregnancies (69.7%). Porwal S et al<sup>19</sup> observed that ampullary portion of tubes (40%) and isthmus (32.5%) to be most common sites.

As medical management needs extremely close follow up and hospitalization, surgical management is still the method of choice in our

country<sup>29</sup>. Laparoscopy and medical therapy have now emerged as the widely used therapeutic modalities with great success in terms of reduced morbidity, shorter hospital stay and conservation of fertility<sup>30</sup>. In this study ruptured ectopic was present in 79.48% cases on laparotomy while 11.53% were unruptured ectopic cases and tubal abortion was found in 8.97% cases. Similar study conducted by Sabina et al who reported ruptured ectopic pregnancy in 62.3% cases, 24.5% had unruptured ectopic and tubal abortion in 13.9% cases. Similarly In Latchaw G et al study, tubal rupture was present in 59% cases and 41% had unruptured ectopic pregnancies. They concluded that the patients with a history of a previous ectopic pregnancy are significantly more likely to experience a tubal rupture<sup>31</sup>.

### Conclusion

Ectopic pregnancy is a leading cause in young reproductive woman. High degree of suspicion and early diagnosis is the key to successful management to reduce the morbidity and mortality associated with ectopic pregnancy.

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