



## CLINICAL PRESENTATION AND OUTCOME OF ECTOPIC PREGNANCIES AT TERTIARY CARE TEACHING HOSPITAL IN MAHARASHTRA, INDIA

### Obstetrics & Gynaecology

|                              |                                                                                                                                              |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dr. Sehal Shah*</b>       | Postgraduate Student, Dept of Obstetrics And Gynaecology, Rural Medical College, Loni, Ahmednagar, Maharashtra, India. *Corresponding Author |
| <b>Dr. Janhavi Palnitkar</b> | Senior Resident, Dept of Obstetrics And Gynaecology, Rural Medical College, Loni, Ahmednagar, Maharashtra, India                             |
| <b>Dr. Bangal Vidyadhar</b>  | Professor And Head, Dept of Obstetrics And Gynaecology, Rural Medical College, Loni, Ahmednagar, Maharashtra, India                          |
| <b>Dr. Lohitha Reddy</b>     | Postgraduate Student, Dept of Obstetrics And Gynaecology, Rural Medical College, Loni, Ahmednagar, Maharashtra, India                        |

### ABSTRACT

**BACKGROUND:** To study the clinical presentation and outcome of ectopic pregnancies. **METHODS:** A retrospective-prospective observational longitudinal study was carried out in cases of ectopic pregnancies at tertiary care referral hospital in Maharashtra. Data of symptoms of amenorrhoea, pain abdomen, vomiting at time of arrival was recorded. Maternal outcome in the form of intervention, morbidity, mortality, need for admission to intensive care unit, condition at discharge was observed and analysed. **RESULTS:** 100% patients presented with amenorrhoea, 90% with pain abdomen, 42.5% with vomiting. 98.75% cases were surgically managed, 75% of which were laparotomy, 77.50% (62 cases) of ectopic pregnancies were ruptured, 18.75% (15 cases) were unruptured and 3.75% (3 cases) were tubal abortions. There was no maternal mortality. **CONCLUSION:** Ectopic pregnancy, although can be diagnosed early, continues to remain one of the leading life-threatening obstetric emergencies.

### KEYWORDS

Obstetric emergency, amenorrhoea, maternal morbidity,

### INTRODUCTION

Ectopic pregnancy is one of the commonest acute obstetrical emergencies and a life-threatening condition. It is one of the leading causes of maternal mortality and morbidity in the first trimester, with a rise in incidence in the last decade<sup>1,2</sup>. Ectopic pregnancy is an abnormal form of pregnancy, where the foetus develops at a site outside the normal uterine cavity. Commonly referred to as "the great masquerader", it is frequently misdiagnosed. It presents with classic triad of amenorrhoea, abdominal pain and vaginal bleeding. The importance of early diagnosis lies in the fact that the women can be offered a conservative line of management which can have a beneficial effect on her reproductive outcome. Accurate diagnosis can be made by evaluation with different diagnostic modalities and keeping a high index of suspicion on clinical presentation. This study aimed to study the clinical presentations and maternal outcomes of ectopic pregnancies.

### MATERIAL AND METHODS

A prospective and retrospective observational longitudinal study was carried out in the department of Obstetrics and Gynaecology of Pravara Rural Hospital (PRH), Loni – a tertiary care teaching hospital in Western Maharashtra from 1st October 2019 to 30th September 2021. All women who were diagnosed and treated for ectopic pregnancy were included as study subjects. Women who were not willing to participate in the study were excluded. Pertinent data was collected using a pre-validated and pre-tested study tool from all study subjects.

Sources of data collection were hospital records like antenatal record, admission -discharge register, anaesthesia register, operation theatre register, indoor case file, treatment register, maternal death register. Information on outcome variables like gravidity, contraceptive history, history of infertility, past surgery on fallopian tubes or uterus, use of artificial reproductive technique, pelvic inflammatory disease, duration of pregnancy, site of ectopic pregnancy, side of ectopic, symptoms, signs, condition at the time of admission, beta HCG levels, ultrasonography findings, intraoperative findings, complications, modality of treatment, type of surgery, need for blood transfusion, need for intensive care treatment, duration of hospitalization, maternal outcome, were collected in a structured pre-tested and pre-validated proforma.

### RESULTS

In this study, 80 patients who presented to PRH, Loni and were diagnosed as ectopic pregnancy were studied. **Table 1** summarizes the clinical presentations of the patients. 80 cases (100%) presented with amenorrhoea, 72 patients (90%) had pain in abdomen, 34(42.50%) had

bleeding per vagina and 15(18.75%) had vomiting, 4 patients (5%) presented with syncope and 1 patient (1.25%) with giddiness. **Table 2** depicts the types of ectopic pregnancies at the time of presentation. 77.50% (62 cases) of ectopic pregnancies were ruptured, 18.75% (15 cases) were unruptured and 3.75% (3 cases) were tubal abortions. On admission, 30 patients (37.50%) had haemoglobin level more than 10gm%, 27 patients (33.75%) had haemoglobin level between 9-10gm%, 20 (25%) had 6-8gm% and 3 (3.75%) had haemoglobin levels less than 6gm%. 98.75% (79) of ectopic pregnancies in our study required surgical intervention and only 1.25% (1 case) were managed medically. **Table 3** summarizes the type of surgical intervention required for the patients. 60 (75%) of ectopic pregnancies required laparotomy and 19 (23.75%) were operated laparoscopically. Salpingectomy was the common treatment modality in our study, despite recent trend of conservative surgical and medical management. This was mainly because a majority of cases presented late to the hospital after the ectopic pregnancy was ruptured. Out of 80 cases, 6.25% (5 patients) went into haemorrhagic shock, 1.25% (1 patient) developed ARDS and 1.25% (1 patient) had pulmonary oedema requiring ICU admission, as depicted in **Table 4**. 100% of patients with ectopic pregnancies were stable at discharge.

**Table 1- Distribution of cases as per clinical presentation**

| Sr. No | Clinical Presentations | No (%)      |
|--------|------------------------|-------------|
| 1      | Amenorrhea             | 80 (100%)   |
| 2      | Pain in abdomen        | 72 (90.00%) |
| 3      | Bleeding per vaginum   | 34 (42.50%) |
| 4      | Vomiting               | 15 (18.75%) |
| 5      | Syncope                | 04 (05.00%) |
| 6      | Giddiness              | 01 (01.25%) |
| 7      | Any other              | 02 (2.5%)   |

**Table 2- Distribution of cases as per type of ectopic**

| Sr. No | Type of ectopic | No (%)      |
|--------|-----------------|-------------|
| 1      | Ruptured        | 62 (77.5%)  |
| 2      | Un-ruptured     | 15 (18.75%) |
| 3      | Tubal abortion  | 3 (3.75%)   |

**Table 3- Distribution of cases as per mode of surgical management**

| Sr. No | Mode of surgical management | No (%)      |
|--------|-----------------------------|-------------|
| 1      | Laparoscopy                 | 19 (23.75%) |
| 2      | Laparotomy                  | 60 (75.00%) |
| 3      | Combined                    | 00          |
| 4      | Any other                   | 00          |

**Table 4- Distribution of cases as per complications**

| Sr. No | Complications     | No (%)      |
|--------|-------------------|-------------|
| 1      | Hemorrhagic Shock | 05 (06.25%) |
| 2      | ARDS              | 01 (01.25%) |
| 3      | Pulmonary oedema  | 01 (01.25%) |
| 4      | Any other         | 00          |

## DISCUSSION

The classical triad of ectopic pregnancy includes amenorrhoea, pain in abdomen and PV bleeding. In the present study 100% of women had amenorrhoea. Similar findings were seen in study done by Patel M et al<sup>3</sup> in which amenorrhoea was seen in 100% of cases and in a study conducted by Swami M B in 2015<sup>4</sup> (100%). This is comparable to study done by Prassanna B in which 96% of patients had similar complaint<sup>5</sup>. Similar results are found in study done by Swami M B in which 97.05% of cases had amenorrhoea<sup>4</sup>. 93.1% of patients had amenorrhoea in study conducted by Tahmina et al<sup>6</sup>.

In present study, 90% of patients had history of pain in abdomen which is comparable to study done by Patel M<sup>3</sup> (90%). Gaddagi R A found thus symptom in 89.2% of cases<sup>7</sup>. Chate M T reported pain as a symptom in 80.6% of patients<sup>8</sup>. Ninety seven percent of cases reported pain in abdomen as symptom in a study done by A Helvacioğlu<sup>9</sup>, L C Gilstrap<sup>10</sup>, S A Alsuleiman<sup>11</sup>, D A Kallenberger et al<sup>12</sup>.

In present study, 42.5% had bleeding per vaginum which is comparable to study done by Behera A et al (43.2%)<sup>13</sup>. Fifty one percent of cases had vaginal bleeding in study done by A U Oransaye<sup>14</sup>. Gaddagi et al reported spotting per vaginum in 43.2% of cases<sup>7</sup>.

19% percent cases had vomiting in the present study, which was comparable to study conducted by Swami M B et al<sup>4</sup> in which it was 14.7%. Prasaana B et al reported nausea and vomiting in 8% of cases<sup>5</sup>.

In present study, 77.5% of ectopic pregnancies were ruptured, 18.75% were unruptured and 3.75% were tubal abortions. In Ara A et al<sup>15</sup> study the incidence of tubal rupture (72.4%), unruptured ectopic (10.5%) was found to be same as in present study. In a study conducted by Swami M B<sup>4</sup>, incidence of ruptured ectopic was found to be 79.41%. This is also similar to study done by S A Alsuleiman (78.2%)<sup>11</sup>. Similar findings are seen in study done by Chate M T in 2017<sup>8</sup>. In a study conducted by Parmar S<sup>16</sup> the incidence of unruptured ectopic (57.53%) was found more than ruptured ectopic pregnancies (38.5%) which is conflicting to the present study.

In present study, 53.8% of patients had haemoglobin levels >10gm/dl, 18.8% had haemoglobin levels in between 9-10gm/dl, 19% had in between 6-8gm/dl, 3.8% had haemoglobin <6gm/dl at the time of admission. This is similar to study done by Swami M B in which 38.23% were found with normal haemoglobin, 61.76% were anemic<sup>4</sup>. Prasaana B et al reported HB% <7gm% in 28% of patients and 72% of patients had HB% >7 gm%<sup>5</sup>.

In the present study 98.75% of cases were surgically managed, laparotomy being the most common method of surgery (75% of cases), 1.25% of cases received medical management with injection methotrexate, which can be compared to study done by Susheela T L et al in which medical management was done in 2% of cases<sup>17</sup>. Twenty four percent of cases were treated by laparoscopy. This is similar to study done by Patel M et al in which laparotomy was the main treatment of choice<sup>3</sup>. In a study done by Behera A et al<sup>13</sup> all cases were surgically managed, salpingectomy by laparotomy being the most common mode. Most studies reported a similarly high rate of surgical management<sup>18,19</sup>. Canis M et al in their study concluded that the surgical treatment should be given if patient is hemodynamically unstable, beta HCG is >10,000miu/ml, the ectopic diameter is >4cm, if there is contraindication to medical management and if the patient may not be followed up adequately after surgery<sup>20</sup>.

Laparoscopy and medical therapy have now emerged as the widely used therapeutic modalities with greater success in terms of shorter hospital stay and conservation of fertility<sup>21</sup>. However, choice depends upon early identification of ectopic pregnancy and hemodynamic condition of patient<sup>22</sup>.

In present study, ICU admission was seen in 6.25% of cases due to haemorrhagic shock and 1.25% of cases admitted to ICU due to pulmonary oedema. In a study conducted by Ara A et al<sup>15</sup> 14.5% cases

required ICU admission, 11.2.7% of cases needed ICU due to transfusion related lung injury in study by Gaddagi RA<sup>7</sup>.

Ectopic pregnancy accounts for 3.5-7.1% of maternal mortality in India<sup>23,24</sup>. Mostly death in ectopic pregnancy results from sudden massive haemorrhage. No maternal mortality was seen in the present study, which is consistent with study done by S A Alsuleiman<sup>11</sup>. Similar findings were consistent in studies of A Abbas and H Akram<sup>25</sup>. Behera A et al reported mortality rate of 3.2% in their study<sup>13</sup>.

## CONCLUSION

Ectopic pregnancy is the leading cause of maternal mortality and morbidity in first trimester of pregnancy, with rising incidence. A high index of suspicion is required for its early diagnosis to allow for a conservative approach to management and avoid complications. One should be vigilant to rule out ectopic pregnancy in all patients of reproductive age group presenting with pain in abdomen, bleeding per vaginum with or without amenorrhoea. With the classic findings in USG of empty uterus, fluid in pouch of Douglas along with positive UPT, the diagnosis of ectopic pregnancy can be made accurately. There is need of awareness and education among women of reproductive age group regarding risk factors and early warning symptoms of ectopic pregnancy.

Early diagnosis with USG and timely intervention will help in reducing morbidities like need for blood transfusions, exposure to anaesthesia, laparotomy, consequences on future fertility and to improve the future reproductive outcome.

## REFERENCES

- Pradhan P, Thapamagar S B, Maskey SA profile of ectopic pregnancy at Nepal medical college teaching hospital. Nepal Med Coll J.2006;8 (4):238-42
- Tancer ML, Delke I, Veridiano NP. A fifteen-year experience with ectopic pregnancy. Surg Gynecol Obstet. 1981 ;152 (2):179-82
- Patel M, Chavda D, Prajapati S. A retrospective study of 100 cases of ectopic pregnancy: clinical presentation, site of ectopic and diagnosis and evaluation. Int J Reprod Contracept Obstet Gynecol 2016;5:4313-6.
- M.B. Swami, Parul sharma, Manvi Tyagi, Rinku Khushwa, Juhee Harit. "Clinical study of ectopic pregnancy". Journal of Evolution of Medical and Dental sciences 2015; vol.4, issue 86, October 6; page 15057-15062, DOI: 10.14260/jemds/2015/2136
- Prasanna B, Jhansi CB, Swathi K, Shaikh MV. A study on risk factors and clinical presentation of ectopic pregnancy in women attending tertiary care centre. IAIM.2016;3 (1):11-4
- Tahmina S, Daniel M, Solomon P. Clinical Analysis of Ectopic Pregnancy in a Tertiary Care Centre in Southern India: A Six Year Retrospective Study J Clin Diagn Res. 2016; 10(10):QC13-QC16
- Gaddagi RA, Chandrashekhara AP. A clinical study of ectopic pregnancy. JCDR.2012;6:867-9
- Chate M, Chate B, Chate. Clinical study of ectopic pregnancy. Int J Reprod Contracept Obstet Gynecol 2017; 6:348-350
- A Helvacioğlu, E M Long Jr, S L Yang. Ectopic pregnancy. An eight-year review. J Reprod Med 1979;22 (2):87-92.
- L C Gilstrap 3rd, R E Harris. PMID: 1273619.Ectopic pregnancy: a review of 122 cases South Med J 1976;69 (5):604-6.
- S A Alsuleiman, E M Grimes. PMID: 7097661. Ectopic pregnancy: a review of 147 cases. J Reprod Med 1982;27 (2):101-6.
- D A Kallenberger, D A Ronk, G K Jimerson. PMID: 663716. Ectopic pregnancy: a 15-year review of 160 cases. South Med J. 1978;71 (7):758-63
- Behera A, Ghadei R, Bal RN. A clinical study of ectopic pregnancy in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol 2018; 7:4461-4
- A U Oransaye, G I Odiase. Incidence of ectopic pregnancy in Benin City, Nigeria. 1981;11(4):160-163
- Ara A, Chawla I, Agarwal R, Manjhi B. Clinical Study on presentation and management of ectopic pregnancies in a tertiary care centre. Int J Reprod Contracept Obstet Gynecol 2020; 9:173-78
- Parmar S, Sharma N, Dhakar V. Ectopic pregnancy: an observational study in a tertiary care centre of Southern Rajasthan. Int J Reprod Contracept Obstet Gynecol 2020; 9
- Suseela LT, Gunakala CK. A study on management, morbidity and mortality of ectopic pregnancy attending a tertiary care centre at Rajiv Gandhi institute of Medical Sciences General Hospital, Kadapa, Andhra Pradesh, India. Int J Reprod Contracept Obstet Gynecol.2016;5 (11):3736-9.
- Spandana N, Togarikar SM, Polepaka D. A retrospective study of ectopic pregnancy in a tertiary care hospital. JMSR.2016;4 (4):9985-8.
- Asuri SS, Kalpana P. A clinical study of ectopic pregnancy. Int J Reprod Contracept Obstet Gynecol.2016; 5:3750-3.
- Canis M, Savary D, Pouly JL, Wattiez A, Mage G. Ectopic pregnancy: criteria to decide between medical and conservative surgical treatment J Gynecol Obstet Biol Reprod (Paris).2002;32 (7 suppl): S54-63.
- Jurkovic D. Ectopic pregnancy. In: Edmonds DK, editor. Dew Hurst's textbook of Obstetrics and Gynecology. 7ed. USA: Blackwell Publishers;2007.
- Shah N, Khan NH. Ectopic Pregnancy; presentation and risk factors. J Coll Physicians Surg Pak.2005; 15:535-8.
- Shah P, Shah S, Kutty RV, Modi D. Changing epidemiology of maternal mortality in rural India: time to reset strategies for MDG-5. Trop Med Int Health.2014;19 (5):568-75
- Yadav K, Namdeo A, Bhargava M. A retrospective and prospective study of maternal mortality in rural tertiary care hospital of Central India. Indian J Comm Health.2013;25 (1):16-21
- Abbas A, Akram H. Ectopic pregnancy; Audit at Maula Bakhsh Teaching Hospital Sargodha. Prof Med J 2011;18 (1):24-27. Lozeau AM, Potter B. Diagnosis and management of ectopic pregnancy. Am Fam Physician. 2005; 72:1707-14.