

# Analysis of 62 Cases of Ectopic Pregnancies in a Rural Medical College Set Up at Nalgonda Telangana, India

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## Abstract

**Introduction:** An ectopic pregnancy is emerging as a life-threatening obstetric emergency as the incidence is increasing in the recent times and has a profound effect on future of women's fertility. The objective of our study was to study the clinical profile and management of ectopic pregnancies.

**Materials and Methods:** The present retrospective study was conducted over a period of 2½ years from December 2012 to May 2015 for risk factors, mode of presentation, treatment modalities, and management of patients with ectopic pregnancy.

**Results:** On analyzing 62 cases of ectopic pregnancies admitted in medical college, it was found an incidence of 5.22 ectopic pregnancies per 1000 live births. Majority of the patients (53.22%) were in the age group 26-30 years. The second gravida had the highest incidence of ectopic pregnancies (41.93%). Previous tubal ligation was the most common identifiable risk factor, and the majority of cases (24.19%) had a H/O tubectomy. Most of the cases presented with lower abdominal pain (93.54%) followed by amenorrhea (79.03%). The most of the cases (62.90%) in our study had ruptured tubal pregnancy. Unruptured tubal pregnancy was seen in 24.19% cases. Chronic ectopic pregnancy was diagnosed in 8.06% of cases. Interestingly, it was also found three cases of ovarian pregnancy. Partial salpingectomy by the open method was the mainstay of treatment and was done in 79.03% of cases. Eight cases were managed laparoscopically. Partial oophorectomy was carried out for the three cases of ovarian ectopic pregnancy. Two cases were successfully managed by medical management with intramuscular methotrexate.

**Conclusion:** Although ectopic pregnancy can never be completely prevented, but the incidence can be reduced, and much of the morbidity and mortality is also preventable with efficacious diagnostic and interventional strategies aimed principally at women who are at high risk for ectopic pregnancy.

**Key words:** Amenorrhea, Ectopic, Pregnancy, Salpingectomy, Tubal

## INTRODUCTION

The ectopic pregnancy is one of the most dreaded life-threatening obstetric emergencies in early pregnancy. It is defined as ectopic implantation of the embryo at sites other than the normal uterine cavity, unfavorable

for further growth, and development of the embryo. In about 95% of ectopic pregnancies, the fertilized ovum implants in the tubes, but rarely in other organs such as abdomen, ovaries, cervix, spleen, omentum, cesarian section scar, and intramural. The risk factors for ectopic pregnancy include pelvic inflammatory disease (PID), previous tubal surgery, previous ectopic pregnancy, progestin contraceptive, assisted reproduction, ovulation induction, induced abortion, salpingitis isthmica nodosa, smoking, and diethylstilbestrol exposure.<sup>1,2</sup> Most of the tubal pregnancies become symptomatic within 12 weeks, but a small number of them progress beyond this gestation and are diagnosed late.<sup>3</sup> Consequently, there is a fetal loss with increased maternal morbidity and

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mortality, also compromising future fertility potential. Early diagnosis of ectopic pregnancy is a difficult task but can be possible with the help of quantitative beta-human chorionic gonadotropin ( $\beta$ -HCG) level, transvaginal ultrasonography, and laparoscopy.<sup>4,5</sup> In spite of the advances in diagnostic methods and management, ectopic pregnancy still remains a very serious threat to maternal safety. Identifying the risk factors and taking steps to reduce them, improves morbidity, mortality, and fertility outcomes. The purpose of present study was to highlight the clinical profile of patients of ectopic pregnancy, to identify the risk factors and to study the various modalities of management in Kamineni Institute of Medical Sciences, Sreepuram, Narketpally.

## MATERIALS AND METHODS

The present study is based on an analysis of 62 cases of ectopic pregnancy admitted to Kamineni Institute of Medical Sciences, Sreepuram, Narketpally over a period of 2½ years from December 2012 to May 2015. The age, parity, marital status, and presenting symptoms were recorded. History of any prior surgery, tubal surgery, infertility, PID, previous ectopic or any medical disorder deemed to be significant, was taken.

Vitals were recorded and a thorough abdominal and bimanual examination was done.

The diagnosis was made with the help of urine pregnancy test and ultrasonography. The abdominal findings on exploration were recorded. Treatment given was recorded as either medical or surgical.

## OBSERVATION AND RESULTS

In the present study conducted over a period of 2½ years, the total number of deliveries was 11,861, and the total number of ectopic pregnancies were 62; giving an incidence of 5.22 per 1000 live births.

In the present study, it was found that the majority of ectopic pregnancies, that is 53.22%, occurred in the females of the age group 26-30 years (Table 1).

Second gravide at 41.93% accounted for the maximum number of ectopic pregnancies in the present study (Table 2).

Table 3 shows that more than half of the patient, i.e. 59.65%, had identifiable risk factors, the most important one being a history of tubal ligation at 24.19%. This was followed by a history of prior surgery in 16.12%, a history

of infertility in 9.67%, a history of PID in 6.45%, and a history of previous ectopic pregnancy in 3.22% of cases. In the rest 40.32% patients, there was no identifiable risk factor.

The majority of the patients presented with lower abdominal pain (93.54%), followed by amenorrhea, abnormal uterine bleeding, and syncopal attack. Cervical motion tenderness was elicited in 75.80% of cases (Table 4).

**Table 1: Agewise distribution of ectopic pregnancy cases in present study**

Age group	Number of cases n=62 (%)
20-25	14 (22.58)
26-30	33 (53.22)
31-35	10 (16.12)
36-40	5 (8.06)

**Table 2: Gravidity in present study**

Gravidity	Number of cases n=62 (%)
1	18 (29.03)
2	26 (41.93)
3	12 (19.35)
4	6 (9.67)

**Table 3: Risk factors for ectopic pregnancy in present study**

Risk factors	Number of patients n=62 (%)
H/O PID	4 (6.45)
H/O tubal ligation	15 (24.19)
H/O previous pelvic surgery	10 (16.12)
H/O previous ectopic	2 (3.22)
H/O infertility	6 (9.67)
No identifiable risk factors	25 (40.32)

PID: Pelvic inflammatory disease

**Table 4: Symptomatology in present study**

Clinical features	Number of cases n=62 (%)
Lower abdominal pain	58 (93.54)
Amenorrhea	49 (79.03)
Cervical motion tenderness	47 (75.80)
Adnexal mass or fullness	39 (62.90)
Abnormal uterine bleeding	45 (72.58)
Abdominal guarding and rigidity	40 (64.51)
Syncopal	10 (16.12)

**Table 5: Modalities of management in present Study**

Management	Number of patients n=62 (%)
Partial salpingectomy (open)	49 (79.03)
Laparoscopic partial salpingectomy	8 (12.90)
Partial oophorectomy	3 (4.83)
Medical management	2 (3.22)

**Table 6: Site and acuity of ectopic pregnancy in present study**

Site and acuity	Number of cases n=62 (%)
Ruptured (tubal)	39 (62.90)
Unruptured (tubal)	15 (24.19)
Chronic (tubal)	5 (8.06)
Ovarian pregnancy	3 (4.83)

In the present study, surgery in the form of salpingectomy either by open method or laparoscopically and partial oophorectomy was the mainstay of the treatment (Table 5). Medical management with methotrexate was offered to two cases.

Upon opening the abdomen, tubal pregnancies of different acuity (Table 6) was found except in three cases where the site of ectopic pregnancy was found in the ovary.

## DISCUSSION

The incidence of ectopic pregnancies is on the rise. Centers for Disease Control USA 1 has reported a 4-fold increase in its incidence from 1970 to 1983, 4.5 to 16.18 per 1000 pregnancies.<sup>6</sup> At the same time, the fatality rate has also decreased from 35.5 to 3.8 per 10,000 ectopic pregnancies, a decrease by 90%. In a multicentric case-control study in India, (ICMR Task Force Project, 1990) the incidence of ectopic pregnancy is 3.12 per 1000 pregnancies or 3.86 per 1000 live births. In the present study, the incidence of ectopic pregnancy was 5.22 per 1000 live births which are similar to the study by Ayaz *et al.* where they found an incidence of 5.8 per 1000 live births.<sup>7</sup>

In present study, peak age of incidence of ectopic pregnancy is 26-30 years at 53.22%. This is almost similar to the study conducted by Mufti *et al.*<sup>8</sup> where 55.25% of patients were in the age group 26-30 years. Similar results were also found by Majhi *et al.*<sup>9</sup> in their analysis of 180 cases of ectopic pregnancy. Westrom in Sweden<sup>10</sup> and Rubin *et al.* in the USA,<sup>11</sup> however, reported an increasing incidence of ectopic pregnancy with age. This difference may be because in our country women marry at an earlier age and finish childbearing earlier too.

In present study more than half of the patients, i.e. 59.65%, had an identifiable risk factors such as H/O PID in 6.45%, H/O prior tubal ligation in a significant percentage of patients at 24.19%, H/O prior pelvic surgery in 16.12%, H/O previous ectopic in 3.22%, and H/O infertility in 9.67%. Similar to our study, Patel *et al.* in their study found that 30.8% of cases had ectopic pregnancy following tubal ligation.<sup>12</sup> In contrast to the present study, studies by Mufti

*et al.*, Majhi *et al.*, had a higher incidence of H/O prior abortion as the most common identifiable risk factor. Increasing the incidence of Cesarean section, and tubal ligation over the years at the institute and in general, can be attributed as the causative factor for increased incidence of post tubal ligation ectopic pregnancy in our study. Vyas and Vaidya<sup>13</sup> found PID as the commonest risk factor with an incidence of 25% in their study of 192 cases of ectopic pregnancy.

In recent years, the incidence of ectopic pregnancy is on the rise in women attending infertility clinics even in the absence of tubal disease.<sup>14</sup> Assisted reproductive technology adds to the risk of ectopic pregnancies. *In vitro*, fertilization is associated with an ectopic pregnancy risk of 2-5% and even higher if associated with the tubal disease. Patel *et al.* in their study on ectopic pregnancy in their institute found the H/O infertility in 42.3% of cases.<sup>12</sup>

Abdominal tenderness is the commonest presenting sign and pain lower abdomen is the commonest symptom which was present in 93.54% of cases in our study. This was similar to the study conducted by Patel *et al.*,<sup>12</sup> where they recorded this in 92.3% of cases. Cervical motion tenderness was present in 75.80% cases which was almost similar to the study by Patel *et al.*<sup>12</sup> where they recorded it in 82.69% of cases studied.

The treatment options in cases of ectopic pregnancy are:

- Surgical treatment
- Surgically administered medical treatment
- Medical treatment
- Expectant management.

Newer techniques, especially recent advances in laparoscopic surgery, have brought in an era of conservative surgical management. In the present study, surgery by the open method was the mainstay of treatment, and 79.03% of cases were managed by partial salpingectomy. This was similar to study by Mufti *et al.*,<sup>8</sup> where salpingectomy was done in 74.48% cases. Laparoscopic management was done in 8 (12.90%) cases which was almost similar to the study by Patel *et al.*,<sup>12</sup> where they managed 13 (25%) cases laparoscopically. In almost all the cases of ovarian ectopic pregnancies, ovary can be preserved because the implantation is usually superficial.<sup>15</sup> Partial oophorectomy was done in 3 (4.83%) of our ovarian ectopic pregnancy cases. Medical management was successfully implemented in two cases where the patients were managed by a single dose of injection methotrexate intramuscular and were subsequently monitored for decreasing serum levels of serum  $\beta$ -HCG successfully.

## CONCLUSION

The study on ectopic pregnancy which was conducted in Kamineni Institute of Medical Sciences, Sreepuram, Narketpally, aimed at analyzing ectopic pregnancies, the incidence, and the various risk factors, presenting symptoms associated with it, the acuity and the modalities of management utilizing the resources available at our hand. In presented study done in a medical college in the midst of a rural setup, the most common risk factor associated with ectopic pregnancy was a history of a previous tubal ligation. The most of the cases had undergone tubectomy in camps and hence the only possible explanation could be improper aseptic measures leading to scarring of the tubes as a result of post tubectomy infection or inflammation. PID, infertility, a prior pelvic surgery, and a previous ectopic pregnancy are other identifiable risk factors leading to ectopic pregnancy. A high degree of clinical suspicion of ectopic pregnancy must be held in the presence of any of the risk factors unless proved otherwise.

The rising number of cases of ectopic pregnancy poses a serious concern over maternal mortality. With advances in the field of medicine, more young women are adopting newer fertility control methods such as newer oral contraceptives, intrauterine contraceptive device, and various tubal surgeries to limit their families. Moreover, newer drugs for ovulation induction and tubal reconstructive surgeries have led to delayed conception with increased risk of ectopic pregnancy. Although ectopic pregnancy can never be completely prevented, but its incidence can be reduced along with reduction of maternal morbidity and mortality by efficacious diagnostic and

interventional strategies aimed at all the women at high risk for ectopic pregnancy.

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