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Research Article

## A retrospective study of ectopic pregnancies in a tertiary care hospital

Anuradha Murugesan\*, Karthiga Prabhu, Muthulakshmi M.

Department of Obstetrics and Gynaecology, SRM Medical College, Kanchipuram, Tamilnadu, India

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**\*Correspondence:**

Dr. Anuradha Murugesan,

E-mail: [anuthanigai@yahoo.com](mailto:anuthanigai@yahoo.com)

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### ABSTRACT

**Background:** Ectopic pregnancy is a common life threatening emergency in first trimester of pregnancy and it leads to serious maternal morbidity and also can cause mortality. The aim was to study the incidence, clinical presentation, risk factors and the management of patients with ectopic pregnancies admitted in our hospital over three year period.

**Methods:** The present study involves a retrospective analysis of ectopic pregnancies admitted in SRM Medical college hospital for three years from 2012 to 2015.

**Results:** The incidence of ectopic pregnancy in the present study is 1.77%. About 79% of the women were in the age group of 21-30 years. About 79% of patients in present study belonged to low socioeconomic status. In the study ectopic pregnancies were more common among multigravida (78%). 73% of patients had identifiable risk factors of which tubal surgeries were more common (31.15%). Ultrasound was diagnostic of ectopic pregnancy in 85% of patients. 97.26% were tubal ectopic pregnancies and 2.74% were ovarian ectopic pregnancies. Among tubal pregnancies majority of cases were ampullary pregnancies (62%). All patients in the study underwent surgical management.

**Conclusions:** Ectopic pregnancy is still a major challenge in gynaecological practice. Early diagnosis and early referral is the key to successful management. It is better to over diagnose an ectopic pregnancy especially in a rural setup. Most cases present late, making tubal conservation treatment inapplicable. The impact on future fertility can be improved by focusing on primary prevention and early diagnosis before rupture so that conservation treatment can be done.

**Keywords:** Ectopic pregnancy, Salpingectomy, Tubal, Ampullary, Morbidity

### INTRODUCTION

Ectopic pregnancy is a common life threatening emergency in first trimester of pregnancy and it leads to serious maternal morbidity and also can cause mortality. It not only leads to pregnancy wastage but also results in recurrence of ectopic pregnancy and reduction in fertility.

The rising incidence of ectopic pregnancy in the past few years is due to a number of risk factors which include pelvic inflammatory disease, infertility, intrauterine contraceptive device, tubal surgeries, assisted

reproductive techniques and availability of better diagnostic techniques.<sup>1</sup>

The early diagnosis and treatment of this condition over the past two decades has allowed a definitive medical management of unruptured ectopic pregnancies even before there were clinical symptoms in these high risk women so that tubal conservation is possible.

The present study analyses the incidence, clinical presentation, risk factors, diagnosis, management and maternal morbidity of ectopic gestation.

## METHODS

This was a retrospective study of ectopic pregnancies managed at SRM medical college hospital for three years from 2012 to 2015. The case records of the patients with ectopic pregnancy were traced from medical records department and theatre registers. All the relevant information were entered in a proforma prepared by the author which in turn analysed after entering in the excel sheets using descriptive analysis

## RESULTS

The incidence of ectopic pregnancy in the present study is 1.77%. About 79% of the women were in the age group of 21-30 years. About 79% of patients in the study belonged to low socioeconomic status. Ectopic pregnancies were more common among multigravida (78%) (Table 1). Maximum number of patients were in gestational age of 6 to 8 weeks (65.75%).

**Table 1: Demography.**

Parameters	No. of cases	Percentage
<b>Age</b>		
<20	1	1.37
21-30	58	79.45
30-40	14	19.18
<b>Parity</b>		
Primigravida	16	21.92
Multigravida	57	78.08
<b>Socioeconomic status</b>		
High socioeconomic status	15	20.55
Low socioeconomic status	58	79.45

**Table 2: Risk factors.**

Risk factors	No. of cases	Percentage
Previous ectopic	4	5.48
Infertility	8	10.96
Tubal surgeries	23	31.51
Sterilisation	21	28.76
Recanalisation	2	2.74
Pelvic inflammatory diseases	7	9.59
Intrauterine contraceptive device	1	1.37
Previous abortion	14	19.17
Bicornuate uterus	1	1.37
Previous appendectomy	1	1.37
No risk factors	21	28.77

In present study 73% of patients had identifiable risk factors of which tubal surgeries (sterilisation and tubal recanalisation) was found in 31.15% followed by

previous abortion (19.17%). 28.77% of patients had no identifiable risk factors (Table 2).

**Table 3: Clinical features.**

Clinical features	No. of cases	Percentage
Amenorrhoea	65	89.1
Pain	70	95.89
Bleeding per vaginum	26	35.62
Pallor	37	50.68
Tachycardia	22	30.14
Hypotension	10	13.7
Abdominal distention	19	26.1
Abdominal tenderness	59	80.82
Cervical movement tenderness	41	45
Forniceal tenderness	49	67.5
Adnexal mass	10	13.7

89% of patients had amenorrhoea, 96% of patients presented with pain abdomen, 35% of patients had bleeding per vaginum. 13.7% of patients presented with features of shock. 50% of patients had anaemia due to hemoperitoneum. 26% of patients had abdominal distention. Abdominal tenderness was present 80% of the patients. Cervical movement tenderness was present in 45% and forniceal tenderness in 67.5% of patients. Adnexal mass was palpable in 13.7% (Table 3). Urinary HCG was positive in 87.6% and negative in 5.48% of patients. Ultrasound was diagnostic of ectopic pregnancy in 85% of patients.

**Table 4: Operative findings.**

Operative findings	No. of cases	Percentage
<b>Site</b>		
Tubal	71	97.26
Ampullary	44	61.97
Isthmial	16	22.54
Fimbrial	9	12.67
Cornual	2	2.82
Ovarian	2	2.74
<b>Course of ectopic pregnancy</b>		
Ruptured	45	61.64
Unruptured	10	13.7
Tubal abortion	18	24.65
<b>Hemoperitoneum</b>		
<100 ml	11	15.07
100-500 ml	25	34.25
500ml-1000 ml	10	13.7
>1000 ml	17	23.28

71 cases (97.26%) were tubal ectopic pregnancies out of which 60.56% was ruptured, 14% unruptured and 25.35% tubal abortion. 2 cases (2.74%) were ovarian ectopic pregnancies both ruptured. Right side ectopic gestation was more common (58.9%). Among tubal ectopic pregnancies majority of cases were ampullary

pregnancies (62%) followed by isthmus (22.5%), fimbrial (12.67%) and cornual (2.82%). 23.28% of patients had more than one litre of blood loss (Table 4).

**Table 5: Surgery.**

Surgery	No. of cases	Percentage
Laparoscopic salpingectomy	15	20.55
Laparotomy		
Salpingectomy	44	60.27
Partial salpingectomy	12	16.44
Partial ovariectomy	2	2.7

20.55% underwent laparoscopic salpingectomy. Among laparotomy (79.4%) salpingectomy was done in 60.27%, partial salpingectomy in 16.44% and partial ovariectomy in 2.7%. Two patients underwent salpingectomy due to failed methotrexate (Table 5). Blood transfusion was required in 48% of patients. 10.95% had more than 3 transfusions. Maternal morbidity was due to anaemia (27.4%) and wound infection (8.22%). One patient had bronchospasm as anaesthetic complication. There was no maternal mortality.

## DISCUSSION

The incidence of ectopic pregnancy has increased in last 20 years. The incidence in present study was 1.77% comparable to the study done by Musa et al (1.74%) and Prasanna B et al (1.8%).<sup>2,3</sup> The rising incidence of ectopic pregnancy in the past few years is due to a number of risk factors which include pelvic inflammatory disease, infertility, intrauterine contraceptive device, tubal surgeries, assisted reproductive techniques and availability of better diagnostic techniques. In present study majority of the women were in the age group of 21 to 30 years and most of them were multigravida (78%) which is comparable to the study done by Singh et al which may be because this is the most fertile period with infrequent contraception usage.<sup>4</sup> Majority of them belonged to low socioeconomic status. Women belonging to low socioeconomic status will have poor personal hygiene and lack of immunity, predisposing them to pelvic inflammatory diseases including tuberculosis. 67.75% were in the gestational age of 6 to 8 weeks. This may be due to more number of ampullary tubal pregnancies which usually ruptures around 8 weeks.

73% of patients had identifiable risk factors of which tubal surgeries (sterilisation and tubal recanalisation) was found in 31.15% which is comparable to the study by Singh S et al and Lakshmi N et al.<sup>4,5</sup> The reason of such a high incidence is probably due to the early age of tubectomy in women predisposing them to higher rate of subsequent recanalization and tubal pregnancy.<sup>5</sup> History of previous ectopic pregnancy was found in 5.48% of patients correlating with the studies done by Samiya M et al (5.26%) and Uzma S et al (5%).<sup>6,7</sup> There is increased

risk of ectopic pregnancy with previous ectopic pregnancy because it reflects the underlying tubal pathology which is almost always bilateral. 19.17% had previous abortion correlating with study by Rashmi A et al (18.91%).<sup>8</sup>

96% of patients presented with pain abdomen, 90% of patients had history of amenorrhoea and 35% had bleeding per vaginum which correlates with the study by Prasanna et al in which 96% of the patients had history of amenorrhoea, 90% had pain abdomen and 68% had bleeding per vaginum.<sup>3</sup> In present study 13.7% of patients presented with features of shock which is almost similar to the study by Panchal D et al.<sup>9</sup> 50% of patients had anaemia which is correlating with the study done by Prasanna B et al.<sup>3</sup> 4% of patients did not have any signs and symptoms and they were diagnosed by routine ultrasonography.

Urinary HCG was positive in 87% of patients and negative in 12.32% which is less than when compared to the study done by Rashmi A et al (97.3%) and Prasanna et al (96%).<sup>3,8</sup> In present study 85% of patients were diagnosed by ultrasonography which is comparable to the study by Lakshmi N et al (83.3%).<sup>5</sup>

Among ectopic pregnancies 97.26% were tubal and 2.74% were ovarian ectopic pregnancies. Among tubal pregnancies 60.56% were ruptured, 14% unruptured and 25.35% were tubal abortion. Majority of cases were ampullary pregnancies (62%) followed by isthmus (22.5%), fimbrial (12.67%) and cornual (2.82%).

Ectopic pregnancy can be treated by medical method or surgery depending upon clinical condition of the patient, site, size of ectopic pregnancy, HCG Levels and availability of resources. In present study only two patients underwent medical therapy because most of them did not meet the criteria for medical management and some patients who met the criteria were not willing for Methotrexate. Two patients who underwent medical management had rupture and subsequently Laparotomy with salpingectomy was done. Stovall TG et al has suggested that 3.3% of patients undergoing medical management had rupture even after meeting selection criteria.<sup>10</sup> All patients in present study underwent laparoscopy (20.55%) or laparotomy (79.45%) depending upon the clinical condition of the patient. This is because patients themselves presented late as our hospital is tertiary care centre with many referrals. There was no maternal mortality due to ectopic pregnancy because of availability of adequate infrastructure, blood transfusion facilities and supporting speciality departments like anaesthesia and intensive care.

## CONCLUSION

Ectopic pregnancy is still a major challenge in gynaecological practice. Early diagnosis and early referral are the key to successful management. It is better

to over diagnose an ectopic pregnancy especially in a rural setup. Most cases present late, making tubal conservation treatment inapplicable. The impact on future fertility can be improved by focussing on primary prevention and early diagnosis before rupture so that conservation treatment can be done.

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