

**A Retrospective Study of Management of Ectopic Pregnancy at a Tertiary health centre**

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**Abstract**

**Background:** Ectopic pregnancy is very common in young women and it frequently leads to maternal morbidity and mortality when patients presents late with rupture and hemo dynamically unstable.

Treatment includes medical management with methotrexate or surgery with salpingectomy/ salpingostomy. The aim of this study was to determine the risk factors, clinical profile of the patients and management options of ectopic pregnancy.

**Material & Methods:** A retrospective study was conducted in department of obstetrics & gynecology, GMERS medical college and civil hospital, Junagadh among pregnant who were diagnosed to have ectopic pregnancy clinically and confirmed on ultrasonography. Data was analysed based on patient’s history, risk factors for ectopic pregnancy, clinical examination and ultrasonography of patient and treatment given to them.

**Results:** There were 25 patients with ectopic pregnancy during the study period of 6 months. 16 (64%) patients

had age  $\leq 25$  years which is the maximum reproductive age, 13 (52%) patients had parity  $\leq 1$ , while 12 (48%) were multipara. Lower abdominal pain was present in all the patients. 18(72%) had gestational age  $\geq 6$  weeks increasing the risk of ruptured ectopic and 21(84%) had risk factors associated with ectopic pregnancy with history of tubal surgery (tubal sterilization and/or recanalization) being most common in 8(38%) patients. 4 patients were managed with inj methotrexate and 21 required surgery as 18(85.7%) patients had ruptured ectopic and salpingectomy was the most common procedure employed in 17(80.9%) patients.

**Conclusion:** Ectopic pregnancy being a major life-threatening emergency condition, if treated early has good prognosis. In developing countries majority of the patients present late eventually needing surgery and making tubal conservation impossible. Efforts should be made towards woman education, improved hospital accessibility and better diagnostic skills and blood and blood products available for emergency transfusion.

**Keywords:** Ectopic pregnancy, Tubal surgery, Salpingectomy.

### Introduction

Ectopic pregnancy is a life threatening condition which needs immediate care and examination by a gynaecologist, especially in developing countries because of high mortality and morbidity associated with it due to demographic factors like anemia & malnutrition in pregnancy. It is the leading cause of maternal mortality in the first trimester as majority of patients present late with features of rupture ectopic pregnancy and hemodynamic compromise. Ectopic pregnancy also increases risk of repeat ectopic pregnancy and subsequent infertility.

Ectopic pregnancy is associated with previous ectopic pregnancy, infertility, tubal surgeries and sterilization operations, pelvic infections & inflammation, advances in assisted reproductive technology, history of previous abortions<sup>1</sup>. Ectopic pregnancy can occur without any obvious risk factor<sup>2</sup>.

Ectopic pregnancy requires utmost importance in our country because instead of early diagnosis and conservative approach of management in developed nations, we are challenged by late presentations with rupture in >80% cases<sup>2</sup>. Early diagnosis and management of ectopic pregnancy requires high index of suspicion in women of reproductive age presenting with history of amenorrhea, a positive pregnancy test, abdominal pain, vaginal bleeding, syncopal attack which should be confirmed by ultrasonography.

The management of ectopic pregnancy is depends on hemodynamic condition of patient, the site of ectopic gestation, the reproductive wish of patient and the available facilities and technology. Women with ectopic pregnancy are typically managed either medically with methotrexate or surgically. Methotrexate is administered via intramuscular injection and offers a non-invasive

route of treatment. Surgical treatment most commonly consists of either salpingectomy or salpingostomy with tubal preservation. Medical management requires close follow up with serial estimation of  $\beta$ -hcg.

As ectopic pregnancy is a life threatening condition and a major health problem in the women of reproductive age group, the aim of our study is to determine the risk factors, clinical profile and management options given to patients of ectopic pregnancies at our tertiary health centre.

### Material & methods

A retrospective study of management of ectopic pregnancy was carried out at GMERS medical college and civil hospital, Junagadh from 1<sup>st</sup> January 2022 to 30<sup>th</sup> June 2022. The patient data was received from their case files which included their clinical presentations, history, examination findings and ultrasonography suggesting ectopic pregnancy and management option given for a particular patient depending on their clinical condition. The data was analyzed with simple descriptive statistics and presented in frequency tables.

### Results

There were 2366 deliveries during the study period at our hospital, while 25 patients had ectopic pregnancy with an incidence of 1.05% during 6 months.

Table 1: Distribution as per age & parity of patients.

Age	N (25) (%)
≤20	01 (4)
21-25	15 (60)
26-30	06 (24)
31-35	03 (12)
Parity	N (25) (%)
0	3 (12)
1	10 (40)
2	6 (24)

3	4 (16)
≥4	2 (8)

Table-1 shows the demographic distribution of patients with respect to age and parity having ectopic pregnancy which shows 60% patients were in age group of 21-25 years which is the maximum reproductive age of women, while 24% were 26-30 years of age. 40% patients were primipara, while 12% were nullipara and 48% patients were multipara with parity ≥2.

Table 2: Clinical presentation.

Period of Amenorrhea	N (25) (%)
<6 weeks	07 (28)
6-10weeks	12 (48)
>10 weeks	06 (24)
Clinical Features	N (25) (%)
Lower abdominal pain	25 (100)
Vaginal bleeding	22 (88)
Syncopal attack	08 (32)
Shock	06 (24)

The above table shows that 28% patients had <6 weeks of pregnancy, while 48% were between 6-10 weeks and lower abdominal pain was present in all the patients (100%) with vaginal bleeding present in 88%, syncopal attack in 32% and features of shock in 24% suggesting signs of ruptured ectopic and hemodynamic compromise of patient.

Table 3: Risk factors associated with ectopic pregnancy.

Risk factors	N=21
Previous ectopic pregnancy	6 (28.57)
H/o tubal surgery	8 (38.09)
Infertility treatment	1 (4.76)
H/o abortion	4 (19.07)
Pelvic inflammatory disease	2 (9.52)

Amongst risk factor for ectopic pregnancy 38% patients had undergone tubal surgeries like tubal sterilization and tubal recanalization for conception, while 28.5% had history of previous ectopic pregnancy which further increased the risk of repeat ectopic pregnancy. 19% patients had history of induced abortion and had taken MTP pills for the same. 9.5% had pelvic inflammatory disease as risk factor of ectopic pregnancy. Of 25 patients in our study 4 patients had no underlying risk factor for ectopic pregnancy.

Table 4: Mode of Treatment.

Gestational Age	Medical (N=4)	Surgical (N=21)
<6 weeks	4	3
6-10 weeks	-	12
>10weeks	-	6

The above table shows medical and surgical mode of treatment of ectopic pregnancy with 21(84%) patients requiring surgery and only 4(16%) with gestational age <6 weeks were given medical management as per criteria for medical management. Injection Methotrexate remained the mainstay in medical management, which is given intramuscular every alternate day with injection folic acid. All the patients with gestational age ≥6 weeks needed surgery.

Table 5: Intraoperative findings.

Intraoperative Findings	N=21 (%)
Ruptured ectopic	18 (85.71)
Unruptured ectopic	3 (14.29)
Site of ectopic	N=21
isthmus	5 (23.81)
ampulla	12 (57.14)
fimbrial	2 (9.52)
cornual	2 (9.52)
Surgical Treatment	N=21
Salphingectomy	17 (80.95)

Salphingostomy	3 (14.29)
Salphingoopherectomy	01 (4.76)

The above table shows intraoperative findings of 21 patients who were managed surgically. 18 patients had ruptured ectopic pregnancy of which 17 required salphingectomy of the involved fallopian tube & 1 required salphingoopherectomy.

3 patients had unruptured ectopic and they were treated with salphingostomy, where the tube can be preserved. All 21 patients required in ta operative and postoperative blood transfusion. There was no maternal mortality due to ectopic pregnancy during the study period.

### Discussion

Ectopic pregnancy being life threatening condition especially in cases with ruptured ectopic & can prevent catastrophe if diagnosed early in pregnancy, hence all the patients should undergo ultrasound examination at first antenatal visit to see an intrauterine or ectopic gestation. At our institute the incidence of ectopic pregnancy was 1.05% during the study period of 6 months which was higher than 0.6% by Arup Kumar et al<sup>1</sup> and 0.4% in the ICMR multi-centre study<sup>3</sup> as our institute is also a referral centre for other health centres.

The demographic factors observed in our study were age and parity of patients which showed 60% patients were in the age group of 20-25 years which is the maximum reproductive age of a female and it was similar to study by Osaheni et al<sup>4</sup> with 50.89% in the similar age group. The incidence of ectopic pregnancy was observed in women with parity  $\leq 1$  was 52% suggesting ectopic pregnancy is associated with low parity as observed in different studies.

Ectopic pregnancy has typical clinical presentation with lower abdominal pain, bleeding per vagina, and history of missed periods/period of amenorrhea. Lower abdominal pain was present in 100% of patients followed

by vaginal bleeding in 88%, while patients with ruptured ectopic typically had additional features of hemodynamic imbalance suggested by syncope and signs of shock similar features were also seen in a study by Arup Kumar et al<sup>1</sup>.

The exact etiology for ectopic pregnancy is not known, but different risk factors have been identified associated with it. In our study 21 patients had risk factors associated with ectopic pregnancy, with history of tubal surgery (38.09%) being most common, followed by history of previous ectopic (28.5%). Similar risk factors were seen in study by Ankum et al<sup>5</sup>. Patients undergoing tubal surgeries were advised to undergo clinical examination and an ultrasonography whenever they had history of missed period to diagnose an intrauterine or ectopic pregnancy as early as possible.

The management option in our study was in line with recommendations of the National institute of clinical excellence<sup>6</sup>. Out of 25 patients 9 had gestational age  $< 6$  weeks of which 4 were treated medcially with inj methotrexate every alternate day and was followed up with serial  $\beta$ -hcg every 48 hours which was in decreasing trend in all 4 patients. Of the 21 patients treated surgically 18(85.7%) patients had gestational age  $\geq 6$  weeks and all of them had ruptured ectopic, which can be explained as with increasing gestational age the villi development will lead to tubal erosion and rupture. A study by Odefinmi F et al<sup>7</sup>. also had similar results increased ruptured ectopic with increasing gestational age. Amongst ruptured ectopic 57.14% patients had ampullary ectopic pregnancy.

In surgical management salphingectomy was done in 17(80.9%) due to late presentation in developing countries with signs of ruptured ectopic and massive hemoperitoneum, similar to study by Swende TZ et al<sup>8</sup>. 1 patient had undergone salphingoopherectomy where the

ovary on the side of ectopic pregnancy could not be preserved. 3 patients were managed with Salpingostomy where the involved fallopian tube was preserved. Although surgery is the mainstay of management, expectant and medical therapy can be offered to prevent fertility impairment.

21 patients required blood transfusion intraoperative and also postoperative as there was massive hemoperitoneum in all of them. There was no maternal mortality due to ectopic pregnancy during our study period.

### **Conclusion**

Ectopic pregnancy will always remain a major life-threatening emergency, often leading to maternal mortality if not diagnosed and managed timely. For prevention of morbidity & mortality related to ectopic pregnancy there should be awareness about the risk factors associated in women of reproductive age group, early pregnancy testing and easy access to health care facility equipped with surgical management as and when required along with facility for blood transfusion. Women with history of previous tubal surgery, previous abortion and previous ectopic pregnancy should be followed up carefully & counselled about the possibility of ectopic pregnancy. Early diagnosis of ectopic pregnancy remains the most important life saving measure as it gives an opportunity to have medical management and tubal conserving approach and reduces the risk of surgery and hazards of ruptured ectopic and massive blood transfusion.

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