



A Study on Clinical Trends of Ectopic Pregnancy in a Tertiary Care Hospital

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Abstract

Introduction: Ectopic pregnancy is the most common cause of maternal morbidity during first trimester of pregnancy. This study is done to analyse various management, clinical parameters and morbidity associated with ectopic pregnancy.

Aim: To study the incidence, clinical trends, management aspect, morbidity and mortality profile of ectopic pregnancy in a tertiary care hospital.

Materials and methods: Retrospective study conducted in women diagnosed as ectopic pregnancy over a period of 18 months. Total of 64 cases during this time period were included. Data were collected from case sheets in medical records department. All the parameters were tabulated and analysed.

Results: The peak age of incidence is 26 to 30 years. Ectopic pregnancy is found to be more common in multigravida. The most common gestational age at presentation is 6-8 weeks. Risk factors are associated with (26 cases) 40.62% of cases. Most common symptom being amenorrhoea. The commonest site is right tubal ectopic pregnancy. The most common morbidity being anaemia. Most common surgery done is partial salpingectomy (48 cases). The success rate of medical management is 88.88%. There is no mortality.

Conclusions: Early diagnosis of ectopic pregnancy decreases the morbidity. Proper evaluation of cases with high risk factors during early pregnancy itself will help in early diagnosis which in turn favours successful medical management and decreases in morbidity as well as preservation of fertility.

Keywords: Ectopic pregnancy, salpingectomy, tubal pregnancy, UPT, USG pelvis.

Introduction

An Ectopic Pregnancy poses great challenge to the obstetrician and gynaecologist due to its varying clinical presentation. The Ectopic Pregnancy is gaining importance not only because of its morbidity but also its impact on fertility of women. The Incidence of Ectopic Pregnancy is on rising trend and at the same time its clinical diagnosis is also difficult due to its wide spectrum of presentation ranging from asymptomatic, mild abdominal pain to acute abdomen and shock.

Recently management aspect of Ectopic Pregnancy has improved tremendously from salpingectomy, minimally invasive surgeries to non-invasive medical management. Hence, this study is conducted to analyse the various risk factors, clinical presentations, management, morbidity and mortality with respect to Ectopic Pregnancy.

Aim and Objectives of the Study

1. To determine the incidence and to know the age, parity, gestational age in association with Ectopic Pregnancy.
2. To determine and evaluate the risk factors and clinical presentations` of Ectopic Pregnancy.
3. To know the management aspects, morbidity and mortality associated with Ectopic Pregnancy.

Materials and Methods

A retrospective study conducted on 64 women with ectopic pregnancy admitted in the department of obstetrics and gynaecology over the period of 18 months. Inclusion criteria: all confirmed cases of ectopic pregnancy. Exclusion criteria: none. These women were managed either conservatively with medical treatment protocol or surgically depending on clinical presentation and investigation reports. Data were collected from case sheets in medical records department. For surgically managed patients, following data were collected-

- 1) Name and age
- 2) Date of admission and date of discharge to assess duration of hospital stay
- 3) Parity
- 4) Symptoms: Abdominal pain, bleeding PV, period of amenorrhea, fainting, shock and asymptomatic
- 5) Signs: Severe anaemia requiring blood transfusion, guarding of abdomen, palpable adnexal mass, cervical motion tenderness
- 6) Risk factors: Tubal ligation, history of previous Ectopic Pregnancy, sterilization reversal, previous abortion, previous pelvic surgeries and infertility treatment.
- 7) Investigations: Haemoglobin, blood grouping typing, USG pelvis, Urine pregnancy test.
- 8) Intra operative findings: Site and size of Ectopic Pregnancy, side of the tube affected, part of the tube involved, haemoperitoneum were noted

- 9) Post-operative complications: UTI, LRI and wound infections.

For medically managed patients, all relevant data were collected:

1. Name and age
2. Date of admission and date of discharge to assess duration of hospital stay
3. Parity
4. Risk factors: Tubal ligation, history of previous Ectopic Pregnancy, sterilization reversal, previous abortion, previous pelvic surgeries and infertility treatment.
5. Investigations: CBC, RFT, LFT, serum beta hCG, blood grouping typing, USG pelvis and Urine pregnancy test.
6. Number of methotrexate dose
7. Outcome of medical management.

Criteria for Medical Management

1. Clinically stable patient
2. Asymptomatic or minimal symptoms
3. HCG level less than 3000 IU
4. Ectopic pregnancy size <3 cm
5. No foetal cardiac activity
6. No hemoperitoneum
7. Patient fully understanding symptoms and implications of ectopic pregnancy.
8. Assured follow up
9. Prerequisite baseline investigations: Complete blood count, Liver function test, Renal function test.

Medical Management Protocol

Methotrexate 50mg/m² intramuscularly as single dose injection. Beta-hCG level was monitored on day 4 and day 7. If the decrease in beta hCG level between day 4 and day 7 is more than 15 %, then weekly beta hCG follow up was done. If the decrease in beta hCG level between day 4 and day 7 is less than 15 %, repeat methotrexate dose and consider new day one. Reliable contraception was ensured for 3 months after methotrexate because it is teratogenic. Anti-D was given in Rh negative patients.

Statistical analysis was done with Microsoft Excel. Frequency and percentage of each parameter was calculated. The results were expressed as percentage.

Results

During this 18 months study period, there were 8201 deliveries and 64 cases of ectopic pregnancy, and incidence of ectopic pregnancy being 7.8 per 1000 deliveries.

Among 64 cases, 11 cases were unruptured ectopic pregnancy (17.18%) of which 9 (14%) cases were asymptomatic hence managed with medical treatment protocol and rest 55 cases were managed by surgical methods.

In this study, age distribution varied from 20 to 35 years. The peak age of incidence was 26 to 30 years and the mean age was 27.14 years.

Ectopic pregnancy was found to be more common in multigravida (56.26%).

In the present study, the gestational age at presentation varied from 4 to 10 weeks. The most common gestational age at presentation was found to be 6-8 weeks (table 1)

Risk factors were associated with (26 cases) 40.62% of cases. Analysis of risk factors were shown in table: 2. Among 8 cases of previous LSCS one patient had appendectomy done. Some had more than one risk factor.

Table: 3 shows clinical presentation of ectopic pregnancy. Most common symptom being amenorrhoea (89.06%). Classical triad of amenorrhoea, abdominal pain and bleeding PV is present in 16 (25%) cases. Among 53 ruptured ectopic pregnancies, 20 cases had signs and symptoms of hypovolemic shock like severe pallor, fainting and guarding of abdomen.

The commonest was tubal ectopic pregnancy, most common side affected was right fallopian tube (table 4) and site of fallopian tube being ampulla 67.18% (Fig:1). There were 2 cases of ovarian pregnancy.

Table: 5 analyses morbidity associated with ectopic pregnancy. The most common being anaemia requiring blood transfusion and others were LRI,

UTI and wound infection. About 20 cases had haemoglobin of less than or equal to 7 g%.

Most common surgery done was partial salpingectomy 48 cases. Total salpingectomy done for 5 cases. Salpingoopherectomy was done for 2 cases of ovarian ectopic pregnancy.

Fig: 2 shows duration of hospital stay. Seven cases required hospital stay more than 14 days.

Out of the 9 cases of ectopic pregnancy that were managed by medical management, 8 of them were cured of the disease. The cure rate was 88.88%. One case had persistent trophoblastic disease that progressed even after 2nd dose of methotrexate which ruptured later and emergency laparotomy was done.

There was no mortality in this case series.

Table 1 Distribution of Cases According to Age, Parity & GA

Age	20 to 25	26 to 30	31 to 35
N ^o	25	28	11
%	39.07	43.75	17.18
Gravida	Primi	G2	≥G3
N ^o	28	18	18
%	43.75	28.12	28.12
GA in Wks	4 to 6	6 to 8	8 to 10
N ^o	28	30	6
%	43.75	46.88	9.37

Table 2 Descriptive Analysis Of Risk Factors

Risk Factor	N ^o	%
Previous Abortion	9	14.06
Previous LSCS	8	12.5
Previous Ectopic	2	3.125
Tubal Ligation	5	7.81
ST Reversal	1	1.56
Infertility	4	6.25
Total Risk Factors	26	40.625

Table 3 Descriptive Analysis of Clinical Presentation

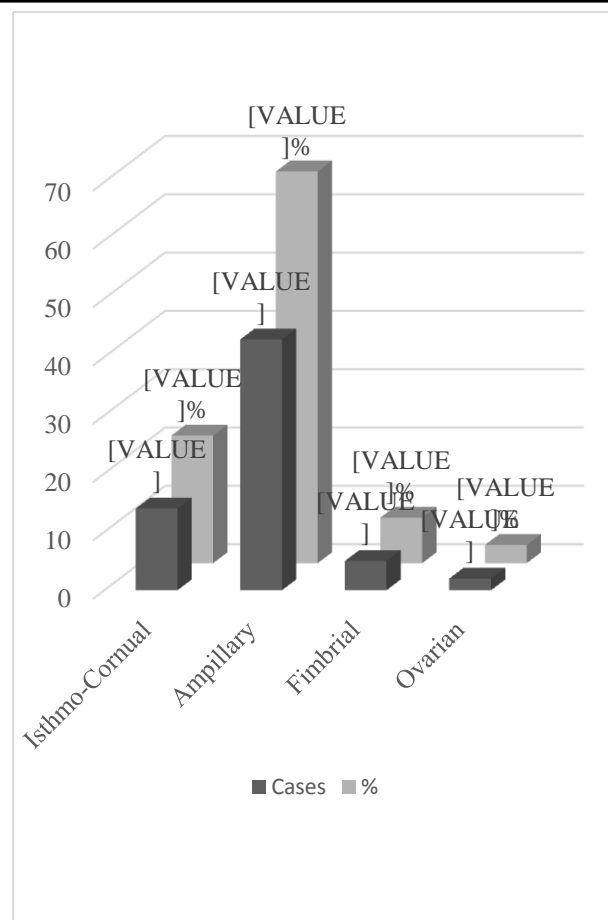
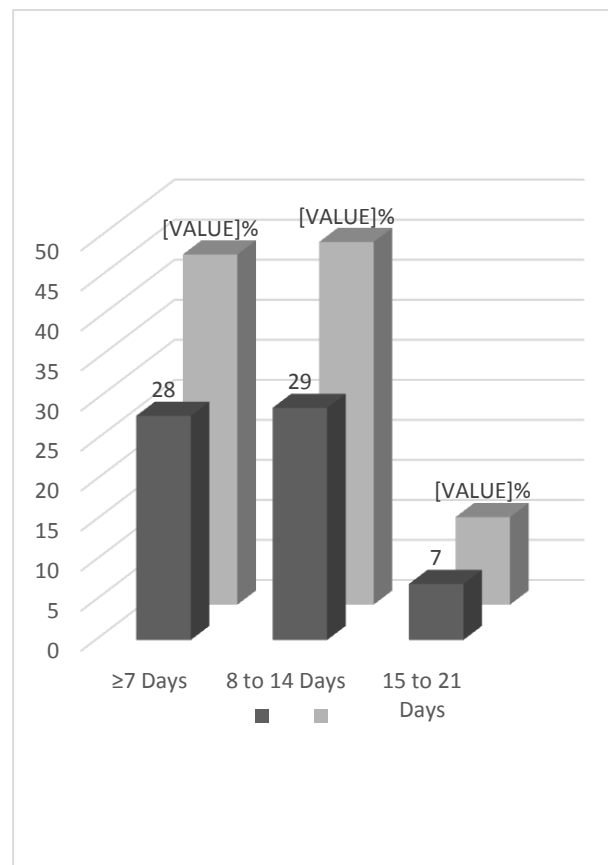
Signs & Symptoms	N _o	%
Asymptomatic	9	14.06
Abdominal Pain	55	85.93
Amenorrhea	57	89.06
Bleeding PV	17	26.56
Signs of Hypovolemic Shock	20	31.25
Adnexal Mass	27	42.18
Cervix Excitation Tenderness	35	54.68

Table 4 Descriptive Analysis of Intra-Operative Findings

Intra-Op Findings		N _o	%
Side	Right	45	70.31
	Left	19	29.68
Size in CM	<3.5	21	32.81
	3.5 to 5.9	37	57.81
	6 to 9	6	9.37
Condition	Ruptured	53	82.81
	Unruptured	11	17.18

Table 5 Morbidity Profile

Morbidity		N _o	N _o of Blood Units Transfused
Anaemia	Hb : 3 to 7	20	≥3
	Hb : 7.1 to 9	30	1 to 2
	Hb : 9.1 to 11	14	1 or nil
UTI		2	
LRI		5	
Wound Infection		1	

**Fig.1** Site of Ectopic Pregnancy**Fig. 2** Duration of Hospital Stay

Discussion

In our study, the incidence of ectopic pregnancy being 7.8 cases per 1000 deliveries which is marginally higher than a similar study conducted by Shraddha Shetty K et al ^[1] (5.6 per 1000 deliveries). This higher incidence can be attributed to increased incidences of induced abortions, infertility treatment and advancements in diagnostic modalities. Most commonly affected age group is 26 to 30 years (43.75%) which is comparable to Malathi T et al ^[2] (35%) and the mean age is 27.14 years which is comparable to a study conducted by Rajendra Wakankar ^[3] et al (29.1 years). Majority of cases are multiparas (56.26%) which is similar to Khaleeque et al ^[4] (61%). The most common Gestational age is 6 to 8 weeks which is comparable to studies conducted by Khaleeque et al ^[4] and Rajendra Wakankar et al ^[3]. Risk factors analysed in this study are previous abortions, prior ectopic pregnancy, prior pelvic surgeries, infertility and tubal surgeries. The existence of risk factors can help in early diagnosis of ectopic pregnancy but it can occur in the absence of any risk factors. About 1/3 of women with ectopic pregnancy will have no known risk factors (NICE guidelines). About 40.62% of women had risk factors for ectopic pregnancy in this study which is comparable to the observations of Khaleeque et al ^[4] (33%). In our study, 14.06% cases had prior abortions which is close to observations of Khaleeque et al ^[4] (12.9%) and Prasanna B et al ^[8] (16%). In this study, previous tubal ligation were observed in 7.81% of cases which is close to results of Prasanna B et al ^[8] (6%). Further, 6.25% of cases had undergone infertility treatment which is slightly lower than the observations of Prasanna B et al ^[8] (10%), Panchal D et al ^[10] (11.6%) and Samiya M ^[9] (8.77%). Only one (1.56%) case of sterilisation reversal has been observed in this study. In this study, 3.12% of cases had previous ectopic pregnancy which is slightly lower than the study conducted by Prasanna B et al ^[8] (6%), Uzma Shabab, et al ^[13] (5%) and Samiya M ^[9] (5.26%). The most common symptom being amenorrhea (89.06%) which is similar to Porwal Sanjay et al ^[11] (90%) and Rajendra Wakankar et al

^[3] (80.76%). About 85.93% of cases presented with abdominal pain which is comparable to Porwal Sanjay et al ^[11] (87.5%) and Rajendra Wakankar et al ^[3] (86.53%). About 31.25% of patients presented with signs of shock which is comparable to study conducted by Rajendra Wakankar et al ^[3]. The classical triad of amenorrhoea, abdominal pain and bleeding per vaginum is present in 25% of cases which is similar to a study conducted by Malathi T et al ^[2] (24.03%). The most commonly affected fallopian tube is right side which is 70.31% similar results are obtained in the studies conducted by Khaleeque et al ^[4] (60%) Shraddha Shetty et al ^[1] (62%) and Rajendra Wakankar et al ^[3] (55.76%). The most common site of fallopian tube affected is ampulla (67.18%) which is comparable to studies conducted by Rajendra Wakankar et al ^[3] (53.84%) and Khaleeque et al ^[4] (58.9%). In our study, about 3.12% are ovarian ectopic pregnancy which is comparable to Singh et al ^[5] (4%) and Rajendra Wakankar et al ^[3] (1.9%). About 14% are unruptured ectopic Pregnancy which is similar to Wakankar et al ^[3] (15.38%). Most common surgery done is salpingectomy (82.8%) which is comparable to the observations of Wakankar et al ^[3] (84.61%) and Yakasai et al ^[6] (89.10%). About 5.9% of cases has undergone salpingoophorectomy which is comparable to the observations of Khaleeque et al ^[4] (3.85%) and Shraddha Shetty et al ^[1] (6.5%). The success rate of medical management is 88.88% in our study. In this study also there is no mortality similar to the observations of Shraddha Shetty et al ^[1], Rajendra Wakankar et al ^[3] and Udigwe et al ^[7].

Conclusion

Early diagnosis of ectopic pregnancy decreases the morbidity. Early diagnosis is made possible with the help of investigations like ultra-sonogram pelvis and urine pregnancy test. Risk factors play an important role in increasing the risk of ectopic pregnancy, hence appropriate and complete evaluation of cases with high risk factors during early pregnancy itself will help in early diagnosis which in turn favours successful medical management and decrease in morbidity as well as preservation of fertility.

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