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A One year prospective study of Ectopic Pregnancies in a Tertiary Medical College Situated in rural area of Tamil Nadu

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Abstract

Background: Ectopic pregnancy is an obstetric emergency which can cost a life if timely intervention is missed. It is one of the causes of morbidity and mortality in first trimester. The aim of this study is to analyse the risk factors, clinical profile, management and outcome of ectopic pregnancy.

Materials and Methods: The study was conducted at Rajah Muthiah Medical College and Hospital, Chidambaram over a period of one year from July 2019 to June 2020 in the Department of Obstetrics and Gynaecology. In the study, 76 patients with ectopic pregnancy were observed for various risk factors, clinical profile, appropriate management done and outcome studied.

Results: In my study, the incidence of ectopic pregnancies was found to be 1.26 percentage of total deliveries. In my study, risk factors like pelvic inflammatory diseases was seen in 15 patients (19.7%), treatment for subfertility (ovulation induction) was seen in 9 patients (11.8%), history of previous abortions was seen in 24 patients (31.6%), history of previous ectopic pregnancy was seen in 6 patients (7.9%), history of PPIUCD in 2 patients (2.6%), history of Tubectomy was seen in 11 patients (14.5%), history of previous caesarean section in 37 patients (28.12%). The most common presenting complaint was lower abdominal pain seen in 90.8% of patients. Lower abdomen tenderness was present in three fourth of the study population. Cervical motion tenderness was present in 82.9% of patients. Medical management with methotrexate was done in 10 patients and the remaining patients were managed surgically. The most common site of ectopic pregnancy was ampulla 64.2%. The most common procedure done was partial salpingectomy in 76.1%. There was no mortality in the study.

Conclusions: The chance of ectopic pregnancy is high in the presence of risk factors. Patients with ectopic pregnancy most commonly present with lower abdomen pain and amenorrhoea. Lower abdomen tenderness and cervical motion tenderness were the most common examination findings. Ampulla was the most common site of ectopic pregnancy. The success rate of medical management with methotrexate was found to be 90%.

Keywords: Ectopic pregnancy, methotrexate, partial salpingectomy

Introduction

Ectopic pregnancy is the implantation of the blastocyst in sites other than the normal uterine cavity. The most common site of ectopic pregnancy is the fallopian tube (95%). Ectopic pregnancy can also occur in other sites like the ovary, cervix, previous uterine scar, etc which are rarer ^[1]. The incidence of ectopic pregnancy is 0.5 to 1.5 percent of all first trimester pregnancies in developed countries ^[2]. It constitutes for 4 percent of maternal deaths in developing countries ^[3]. It is one of the causes for maternal morbidity and mortality in the first trimester.

The exact cause of ectopic pregnancy is a mystery to be solved. However, several risk factors like pelvic inflammatory disease, treatment for subfertility, history of previous abortions, history of previous ectopic pregnancy, history of tubal surgeries like Tubectomy, tubal recanalization, history of other pelvic surgeries, etc have been identified in ectopic pregnancy ^[4]. The classical triad of ectopic pregnancy amenorrhoea, lower abdominal pain and spotting per vaginum is not always present in patients with ectopic pregnancy. Atypical presentation is common in ectopic pregnancies making diagnosis challenging for obstetricians. However, with better imaging modalities and easy availability of beta HCG testing, diagnosis can be made early and timely interventions have become possible thereby reducing morbidity and mortality.

This study is an attempt to analyse the risk factors, clinical profile of patients admitted with ectopic pregnancy so that every obstetrician can suspect this condition which can help in early diagnosis thereby reducing morbidity and mortality.

Aims and objectives

- To calculate the incidence of ectopic pregnancy.
- To study the risk factors for ectopic pregnancy.
- To study the clinical profile of ectopic pregnancy.
- To study the management and outcome of ectopic pregnancy.

Materials and methods

This study was done in the Department of Obstetrics and Gynaecology for a period of one year from July 2019 to June 2020 in Rajah Muthiah Medical College and Hospital, Chidambaram. It is a tertiary care center in a rural area in Cuddalore district of Tamil Nadu. A proforma was used to collect all the details of the patient like age, risk factors, clinical

findings, investigations, management and outcome.

Results

The incidence of ectopic pregnancy was found to be 1.26 percent of total deliveries. It was more common in the age group of 21 to 30 years in my study. Majority of patients were multigravida (61 patients that is 80.3%). Risk factors like previous history of abortions was seen in 24 patients (31.5%), history of previous pelvic surgeries including caesarean section and other surgeries like appendectomy and diagnostic laparoscopy were seen in 56.5% patients. Treatment for subfertility (ovulation induction) was seen in 9 patients (11.8%), history of previous ectopic pregnancy was seen in 6 patients (7.9%), history of PPIUCD in 2 patients (2.6%) and history of Tubectomy was seen in 11 patients (14.5%) as risk factors as summarised in table 1. In my study, 15 patients were nulliparous and among them 60%, had history of treatment for subfertility (ovulation induction).

Table 1: Risk Factors of ectopic pregnancy

Risk Factors	Frequency (n=76)	Percentage (%)
PID	15	19.7
H/O treatment for subfertility (ovulation induction)	9	11.8
Previous H/O Abortions	52	68.4
H/O previous ectopic pregnancy	6	7.9
H/O previous cesarean section	37	48.7
H/O pelvic surgeries other than cesarean section	4	5.3
IUCD	2	2.6
H/O Tubectomy	11	14.5
Tubal recanalization	0	0
H/O MTP pill intake	4	5.3
H/O uterine anomalies (unicorn ate uterus)	2	2.6
H/O use of combined OCPs	0	0.0
Progesterone only pills	0	0.0
ART	0	0.0
H/O endometriosis	0	0.0
H/O smoking	0	0.0

The most common presenting complaint was lower abdominal pain seen in 90.8% of patients. Amenorrhoea was present in 86.8% of patients. The classical triad of ectopic pregnancy

amenorrhoea, lower abdominal pain and bleeding or spotting per vaginum is seen only in 22.4% (Table 2) of patients.

Table 2: Symptoms of ectopic pregnancy

Symptoms	Frequency	Percentage (%)
Amenorrhoea	66	86.8
Lower Abdominal pain	69	90.8
Spotting per vaginum	7	9.2
Giddiness	9	11.8
Nausea	7	9.2
Vomiting	11	14.5
Classical Triad	17	22.4

Table 3 depicts the findings on general examination. Tachycardia was present in 75% of the patients.

Table 3: General examination findings in ectopic pregnancy

Clinical findings		Frequency (n=76)	Percentage (%)
Pallor	Present	29	38.2
	Absent	47	61.8
Blood Pressure in mmHg	SBP<90 DBP<60	13	17.1
	SBP>90 DBP>60	63	82.9
Pulse Rate	>90 beats/minute	57	75
	60-90 beats/ minute	19	25

The per abdomen examination findings are summarised in table 4. About three fourth of the study population had lower

abdomen tenderness. There were no abnormal abdominal examination findings in 20 patients (26.3%).

Table 4: Per Abdominal examination findings

Per Abdomen Findings	Frequency (n=76)	Percentage (%)
Presence of lower abdominal tenderness	56	73.7
Presence of abdominal distension	2	2.6
Guarding	0	0
Rigidity	0	0
No Abnormality	20	26.3

The bimanual pelvic examination findings are summarised in table 5. On bimanual pelvic examination, finical tenderness was present in 78.9%. Cervical motion tenderness was present in 82.9% of patients. Culdocentesis was positive in 41 patients

(53.9%) and it was not done in 16 patients (21.1%) as it was not warranted. Culdocentesis was not done in cases of unruptured ectopic pregnancies and in cases where ultrasound showed features of massive hem peritoneum.

Table 5: Pelvic bimanual examination findings

Pelvic bimanual examination findings	Frequency (n=76)	Percentage (%)
Presence of spotting P/V	15	19.7
Presence of forniceal tenderness	60	78.9
Presence of forniceal fullness	15	19.7
Presence of forniceal pulsations	0	0
Presence of cervical motion tenderness	63	82.9
Culdocentesis (of 76 cases) Positive	41	53.9
Negative	19	25
Not done	16	21.1

Urine pregnancy test done as a bed side test was strongly positive in 97.4% and weakly positive in the remaining 2.6% of

patients.

Table 6: Diagnostic tools

		Frequency (n=76)	Percentage (%)
Urine Pregnancy test	Positive	74	97.4
	Weakly positive	2	2.6
	Negative	0	0.0
Ultrasound findings	Empty uterus, adnexal mass with free fluid	52	68.6
	Empty uterus, adnexal mass without free fluid	11	14.4
	Normal study	1	1.3
	Empty uterus, No adnexal mass, with free fluid	11	14.4
	Empty uterus, No adnexal mass, No free fluid	1	1.3

Medical management was done in 10 patients. It was found to be successful in 9 patients with success rate of 90%. Surgical management was done in 67 patients. Ampulla was the most common site for ectopic pregnancy in 64.2% of patients (Table 7).

Table 7: Site of ectopic pregnancy

Site of ectopic pregnancy	Frequency (n=67)	Percentage (%)
Ampullary	39	58.2
Isthmus	8	11.9
Cornual	5	7.5
Infundibular	4	6.0
Tube ovarian mass chronic (ectopic)	3	4.5
Isthmoampullary	2	3.0
Fimbrial	2	3.0
Ampullo-infundibular	2	1.5
Ovary	1	1.5
Rudimentary horn	1	1.5

The surgical interventions are summarised in table 8. Partial salpingectomy was done in 76.1%. There was no mortality noted

in the study.

Table 8: Surgical Intervention

Surgical intervention	Frequency (n=67)	Percentage (%)
Partial Salpingectomy	51	76.1
Salphingo-oophorectomy	12	17.9
Cornual repair	2	3.0
Ovarian wedge resection	1	1.5
Excision of rudimentary horn	1	1.5

Discussion

In the present study, the incidence of ectopic pregnancy was 1.26 percent of total deliveries. In a study conducted by Porwal Sanjay *et al.* the incidence was found to be 0.246 percent of total deliveries [3]. In a study conducted by Shradha shetty *et al.* the incidence was found to be 0.56 percent of total deliveries [5]. In a study conducted by Lakshmi Karki the incidence was found to be 0.68 percent of total deliveries [6].

In the present study, ectopic pregnancy was found to be more common between the age group of 21 to 30 years (71.1%) with a mean age of 28 years. In several other studies by Sanjay Porwal, Shradha Shetty, Kaleeque, Smita, Samiya, laxmi *et al.* similar results were found [3, 5, 6, 7].

In the present study, ectopic pregnancy was common in multigravida (80.3%) and the same was found in studies by Laxmi *et al.*, Smita *et al.*, Samiya *et al.* [6, 7].

In the present study risk factors like treatment for subfertility was seen in 9 patients (11.8%), history of abortions was seen in 24 patients (31.5%), history of previous ectopic pregnancy was seen in 6 patients (7.9%), history of PPIUCD in 2 patients (2.6%), history of Tubectomy was seen in 11 patients (14.5%), history of previous LSCS in 37 patients (28.12%), history of other pelvic surgeries was seen in 56.5% patients. 15 patients were nulliparous and 60% of them had history of treatment for subfertility.

In the present study, the classical triad of ectopic pregnancy amenorrhoea, lower abdominal pain and bleeding or spotting per vaginum is seen only in 22.4% of patients. The classical triad was not seen in a majority of patients in my study. Any woman in the reproductive age group with a positive urine pregnancy test and with history of spotting per vaginum must be further evaluated for presence of ectopic pregnancy.

In the present study, the most common presenting complaint was lower abdominal pain seen in 90.8% of patients and the same was seen in studies by Porwal Sanjay *et al.*, Shraddha Shetty *et al.*, Smita Singh *et al.*, Samiya Mufti *et al.* [3, 5, 8, 9] Amenorrhoea was present in 86.8% of patients and the same was seen in other studies also. Amenorrhoea for a period of 6 to 8 weeks was seen in 34.2% patients. A majority of patients presented within 24 hours (46.1%).

Tachycardia was present in 75% of patients similar to the study by Porwal Sanjay [3]. On abdominal examination 73.7% of patients had lower abdomen tenderness which is consistent with other studies [8, 9].

On bimanual pelvic examination, forniceal tenderness was present in 78.9% of patients. Cervical motion tenderness was present in 82.9% of patients which was consistent finding with other studies [3, 8, 9]. Culdocentesis was positive in 41 patients (53.9%) and it was not done in 16 patients (21.1%). Culdocentesis was not done in patients with ultrasound showing features of hem peritoneum, unruptured ectopic pregnancy. Urine pregnancy test was strongly positive in 97.4% and weakly positive in 2.6% of patients.

In the present study 10 patients were medically managed with methotrexate. In my study, 1 patient on medical management was taken up for emergency laparotomy for ruptured ectopic pregnancy during treatment for 9 patients, medical management with methotrexate was successful giving a success rate of 90%. Out of 10 patients 5 were given single dose regimen of methotrexate and 5 patients received multiple dose regimen. Out of 5 patients on multiple dose regimen of methotrexate 1 patient went for surgery.

In the present study, 67 patients were taken up for emergency laparotomy. As most patients were attended in the night duty hours laparotomy was preferred to laparoscopic procedure. Ampulla was the most common site noted in 64.2% of patients and similar results were also noted in other studies [3, 7, 8, 9]. The least common site in the fallopian tube was cornua seen in 7.5%. One patient had ovarian pregnancy for which ovarian wedge resection was done. One patient had caesarean scar ectopic and was medically managed. One patient had ruptured ectopic pregnancy in the rudimentary horn for which excision of the rudimentary horn was done.

The most common procedure done was partial salpingectomy in 76.1% patients. The next common procedure was Salphingo oophorectomy done in 17.9% patients.

Blood transfusions were done in 53.9% of patients. 1 unit was

given in 27.1%, 2 units were given in 17.1%, 3 units were given in 9.2% patients.

Duration of hospital stay was 5 to 10 days in 68.4% of patients. There was no mortality in the present study which is consistent with study by Rashmi *et al.*, Abbas *et al.*, H. Akram *et al.* [10, 11].

Conclusion

Ectopic pregnancy is an obstetric emergency which can cost a life if not treated timely. Because of the atypical presentations, diagnosis can be challenging for the obstetricians. The common presenting complaint in ectopic pregnancy was lower abdominal pain with amenorrhoea. Lower abdomen tenderness and cervical motion tenderness were common examination findings in cases of ectopic pregnancy. A positive urine pregnancy test with no intrauterine gestational sac in transvaginal ultrasound should raise the suspicion of ectopic pregnancy which can help in early diagnosis, thereby morbidity and mortality can be reduced.

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