

A Retrospective Study Assessing Clinic-Epidemiological and Risk Profile of Ectopic Pregnancies**Suchandra¹, Renu Jha², Kumudini Jha³**¹Senior Resident, Department of Obstetrics and Gynecology, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India²Associate Professor, Department of Obstetrics and Gynecology, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India³Professor and HOD, Department of Obstetrics and Gynecology, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India

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Abstract**Aim:** The purpose of this study was to appraise all the cases of ectopic pregnancy managed at a tertiary care centre and to determine the incidence, risk factors, clinical presentation, management and morbidity associated with ectopic pregnancy.**Methods:** This retrospective study was conducted at Department of Obstetrics and Gynaecology for one year. The case records of patients diagnosed with EP were retrieved from the medical records department. Total 200 patients were reported.**Results:** About 78% 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%). In present study, tubal surgeries (sterilisation and tubal recanalisation) were found in 30% followed by previous abortion (18%). 28% of patients had no identifiable risk factors. 90% 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 46% and forniceal tenderness in 68% of patients. Adnexal mass was palpable in 13%. Among tubal ectopic pregnancies majority of cases were ampullary pregnancies (62%) followed by isthmus (22%), fimbrial (13%) and cornual (3%). 31% of patients had more than one litre of blood loss. 20% underwent laparoscopic salpingectomy. Among laparotomy, salpingectomy was done in 60%, partial salpingectomy in 16% and partial ovariectomy in 4%.**Conclusion:** Ectopic pregnancy is still a major challenge in gynaecological practice. Early diagnosis and early referrals 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.**Keywords:** Ectopic pregnancy, Salpingectomy, Tubal, Ampullary, Morbidity.

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Introduction

Ectopic Pregnancy (EP) is a pregnancy implanted outside the cavity of the uterus. It is well recognised as a life-threatening emergency in early pregnancy. The incidence of EP is around 1-2% in most hospital based studies. [1-6] Diagnosis requires a high index of suspicion as the classic triad of amenorrhoea, abdominal pain and vaginal bleeding is not seen in majority of cases. Women may present with non-specific symptoms, unaware of an ongoing pregnancy or even present with haemodynamic shock. The contribution of EP to the maternal mortality rates in developing countries including India is not precisely known, with data

from few studies indicating 3.5-7.1% maternal deaths due to EP. [7,8]

Occasionally, a multifetal pregnancy contains one conceptus with normal uterine implantation and the other implanted ectopically-Heterotopic pregnancy. [9] The classic triad of ectopic pregnancy is Amenorrhoea that is followed by Abdominal pain and Vaginal bleeding. 'When in doubt, do it' was indeed standard teaching in the management of ectopic pregnancy until the development and easy availability of serum beta-hcg testing, transvaginal ultrasound and

laparoscopy. With highly sensitive urine pregnancy tests, if the test is positive and the uterus is empty on ultrasound, a diagnosis of ectopic pregnancy should be made unless proved otherwise. Because of the ready availability of both pregnancy test and the ultrasound, a number of ectopic pregnancies are now diagnosed even before any symptoms occur or at a very early stage with mild bleeding and discomfort and stable haemodynamic condition. This has opened up the possibility of treating ectopic pregnancies medically without the need for surgery. Ultrasound criteria of an ectopic gestation include failure to visualise an intrauterine pregnancy at a serum beta-hCG level greater than 1500 units, visualisation of an extra uterine gestation sac with or without a living embryo, a nonspecific, variably vascular, variably tender adnexal mass and free fluid in the pelvis. [10] 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 purpose of this study was to appraise all the cases of ectopic pregnancy managed at a tertiary

care centre and to determine the incidence, risk factors, clinical presentation, management and morbidity associated with ectopic pregnancy.

Materials and Methods

This retrospective study was conducted at department of obstetrics and Gynaecology, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India for one year. The case records of patients diagnosed with EP were retrieved from the medical records department. Total 200 patients were reported. Other characteristics like age, parity and risk factors for ectopic pregnancy were noted. Hemoglobin level, B-HCG level, mode of diagnosis, management modality, complications and need for blood transfusion and other morbidities were also recorded. The primary outcome measures studied were incidence of ectopic pregnancy, their risk factors, mortality and morbidity in these women. Data was entered in MS excel spreadsheet and analyzed using SPSS software version 19.0. For categorical variables, data was compiled as frequency and percent.

Results

Table 1: Demographic details

Parameters	N	Percentage
Age		
<20	4	2
21-30	156	78
30-40	40	20
Parity		
Primigravida	44	22
Multigravida	156	78
Socioeconomic status		
High socioeconomic status	42	21
Low socioeconomic status	158	79

About 78% 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 2: Risk factors

Risk factors	No. of cases	Percentage
Previous ectopic	10	5
Infertility	22	11
Tubal surgeries	70	30
Sterilisation	56	28
Recanalisation	6	3
Pelvic inflammatory diseases	20	10
Intrauterine contraceptive device	4	2
Previous abortion	36	18
Bicornuate uterus	4	2
Previous appendectomy	4	2
No risk factors	56	28

In present study, tubal surgeries (sterilisation and tubal recanalisation) were found in 30% followed by previous abortion (18%). 28% of patients had no identifiable risk factors.

Table 3: Clinical features

Clinical features	No. of cases	Percentage
Amenorrhoea	180	90
Pain	192	96
Bleeding per vaginum	70	35
Pallor	100	50
Tachycardia	60	30
Hypotension	28	14
Abdominal distention	52	26
Abdominal tenderness	160	80
Cervical movement tenderness	92	46
Forniceal tenderness	136	68
Adnexal mass	26	13

90% 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 46% and forniceal tenderness in 68% of patients. Adnexal mass was palpable in 13%.

Table 4: Operative findings

Operative findings	No. of cases	Percentage
Site		
Tubal	192	96
Ampullary	134	62
Isthmial	44	22
Fimbrial	26	13
Cornual	6	3
Ovarian	4	2
Course of ectopic pregnancy		
Ruptured	132	62
Unruptured	28	14
Tubal abortion	48	24
Hemoperitoneum		
<100 ml	32	16
100-500 ml	80	40
500ml-1000 ml	26	13
>1000 ml	62	31

Among tubal ectopic pregnancies majority of cases were ampullary pregnancies (62%) followed by isthmus (22%), fimbrial (13%) and cornual (3%). 31% of patients had more than one litre of blood loss.

Table 5: Surgery

Surgery	No. of cases	Percentage
Laparoscopic salpingectomy	40	20
Laparotomy		
Salpingectomy	120	60
Partial salpingectomy	32	16
Partial ovariectomy	8	4

20% underwent laparoscopic salpingectomy. Among laparotomy, salpingectomy was done in 60%, partial salpingectomy in 16% and partial ovariectomy in 4%.

Discussion

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. [11] Ectopic pregnancy is the leading cause of maternal death in early pregnancy. [12] The diagnosis of

ectopic pregnancy is complicated by wide spectrum of clinical presentations, from asymptomatic cases to acute abdomen, and hemodynamic shock. [13] There is considerable regional variation in its incidence. Associated risk factors include sexually transmitted infection, pelvic inflammatory diseases, previous tubal surgery, previous ectopic pregnancy etc. Management depends upon clinical presentation, site of rupture and future reproductive desire. Management can be medical, surgical or conservative. There is considerable regional variation in its incidence and globally the incidence is on rise. Although the overall incidence is rising in the past three decades but the case fatality has come down, this is because of early diagnosis and management. Worldwide the incidence of ectopic pregnancy is 0.25%-2.0%. [14] According to last national data reported by Centers for Disease control the incidence of ectopic pregnancy is approximately 2%. [15]

About 78% of the women were in the age group of 21-30 years which was comparable to the study done by Singh et al [16] which may be because this is the most fertile period with infrequent contraception usage. About 79% of patients in the study belonged to low socioeconomic status. Ectopic pregnancies were more common among multigravida (78%). In present study, tubal surgeries (sterilisation and tubal recanalisation) were found in 30% followed by previous abortion (18%). 28% of patients had no identifiable risk factors which was comparable to the study by Singh S et al [16] and Lakshmi N et al. [17] 90% 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. which correlates with the study by Prasanna et al [18] in which 96% of the patients had history of amenorrhea, 90% had pain abdomen and 68% had bleeding per vaginum. 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 46% and forniceal tenderness in 68% of patients. Adnexal mass was palpable in 13%. Among tubal ectopic pregnancies majority of cases were ampullary pregnancies (62%) followed by isthmus (22%), fimbrial (13%) and cornual (3%). 31% of patients had more than one litre of blood loss.

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. 20% underwent laparoscopic salpingectomy. Among laparotomy, salpingectomy was done in 60%, partial salpingectomy in 16% and partial ovariectomy in 4%. Stovall TG et al has

suggested that 3.3% of patients undergoing medical management had rupture even after meeting selection criteria. [19] All patients in present study underwent laparoscopy or laparotomy 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. Prevention and treatment of PID and encouraging women to undergo an early transvaginal ultrasonography to confirm the location of pregnancy is likely to prevent late diagnosis. This will also allow medical management or fertility sparing conservative surgical management. Setting up Early Pregnancy Assessment Units has been shown to result in higher quality and cost-effective care, and to have a positive effect on early pregnancy care in the UK. [20] Future studies are required to evaluate usefulness of such EPAUs and feasibility of setting them up in India.

Conclusion

Ectopic pregnancy is still a major challenge in gynaecological practice. Early diagnosis and early referrals 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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