

A Prospective Descriptive Study on Clinical Presentation and Management of Ectopic Pregnancy**Mala Sinha¹, Harvinder Kaur², Rita Ranjan³**¹DNB Junior Resident (Academics), Department of Obstetrics and Gynecology, Deen Dayal Upadhyay Hospital, New Delhi, India²Senior Consultant, Department of Obstetrics and Gynecology, Deen Dayal Upadhyay Hospital, New Delhi, India³EX-HOD, Department of Obstetrics and Gynecology, Deen Dayal Upadhyay Hospital, New Delhi, India

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Abstract**Aims and Objectives:** To study the incidence, clinical presentation, diagnostic modalities and different management approaches for treatment of ectopic pregnancy and to analyze outcome with respect to morbidity & mortality.**Materials and Method:** A total of 100 cases of ectopic pregnancy presenting to gynecology emergency department from April 2015 to March 2016 were enrolled. Depending upon the clinical presentation, serum β -human chorionic gonadotropin level and trans vaginal sonography (TVS) finding, management of ectopic pregnancy was done. Outcome was studied in terms of morbidity and mortality.**Results:** Incidence of ectopic pregnancy was 0.43%. Most common age of presentation was 26-30 yrs. More patients presented around 6th week of pregnancy (34.7%); 57% of cases presented with rupture. Lower abdomen pain was present in all cases. Among various predisposing factors; infection, abortion, infertility, tubal surgery were present in 48%, 28%, 11% and 5% respectively. Expectant management and medical management were successful in 9% and 10% cases respectively. Surgical management was employed in 80% cases. Salpingectomy, salpingo-oophorectomy and salpingostomy were done in 72.83%, 18.51% and 8.64% cases respectively. Post operative blood transfusion was required in 63% and ICU admission in 14% cases. No maternal mortality was noted.**Conclusions:** Ectopic pregnancy should be suspected in reproductive age women with lower abdominal pain regardless of missed period or vaginal bleeding or even absence of risk factor. Along with high clinical suspicion, β -hCG and transvaginal sonography should be considered earliest in high risk women to make early diagnosis and prevent the morbidity and mortality associated with ectopic pregnancy.**Key words :** ectopic pregnancy, β -hcg, tvs, managementThis is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

Ectopic pregnancy is any pregnancy in which the fertilized ovum implants outside the intrauterine cavity. It is the most life threatening emergency in pregnancy leading to maternal death [1]. In spite of the tremendous advances in obstetric care and technology, ectopic pregnancy remains a diagnostic dilemma.

The prevalence of ectopic pregnancy among woman with first trimester bleeding or pain or both ranges from 6% to 16% [2]. The incidence of ectopic pregnancy has been reported to be as high as 20 per 1000 pregnancies, a more than 4-fold increase over the last 20 years [3]. At the same time, the risk of death related to ectopic pregnancy decreased by almost 90%. Observed increase may represent an

increase in detection and diagnosis resulting from more sensitive

ultrasound technology, a rise in sexually transmitted illness and assisted reproductive technologies [4]. The most common site for ectopic pregnancy is the fallopian tube (95%). In the fallopian tube ampulla is the most common site (76.75%) followed by isthmus (16.27%), cornual (4.65%) and infundibulum (2.33%) [5]. Other less common sites are ovary, abdominal cavity, cervix, broad ligament, cesarean scar and rudimentary horn of bicornuate uterus. The faulty implantation leading to ectopic pregnancy occurs because of a defect in the anatomy or normal function of uterus, the fallopian tube, or the ovary.

The diagnosis of ectopic pregnancy remains a challenge to the clinicians. Bleeding and abdominal pain in women of childbearing age is considered an ectopic pregnancy until proven otherwise [6]. The clinical presentation can vary from vaginal spotting to vasomotor shock with hemoperitoneum. The classic triad of delayed menses, irregular vaginal bleeding and abdominal pain is most commonly not encountered [7]. A high index of suspicion and a rapid recourse to methods of early diagnosis and intervention helps in reduction of morbidity and mortality [8]. Early diagnosis of ectopic pregnancy is now possible as a consequence of an enhanced understanding of the true course of the disease, characteristic changes in b-hCG level as well as trans-vaginal ultrasound findings.

Treatment of ectopic Pregnancy should be individualised to woman's clinical status and personal informed choice. Different treatment options are 1. Expectant management 2. Medical management using methotrexate, usually via systemic approach and 3. Surgical treatment which involves Salpingectomy, Salpingostomy or salpingo-oophorectomy and Laparoscopy. There is an increasing trend towards conserving the tubes and methotrexate use, with prospect of future fertility. The treatment of an ectopic pregnancy with methotrexate is safe and effective in carefully selected cases. [9]

Methods

The present prospective study was conducted in the emergency department of obstetrics and gynaecology over a duration of one year at Deen Dayal Upadhyay hospital New Delhi, after approval of the study protocol by ethical committee. A predesigned proforma was used in all pregnancy test

positive patients to collect data of ectopic pregnancy cases coming in Obstetrics & Gynaecology emergency department. Informed consent was taken. History included age, menstrual history, obstetric history, previous history of predisposing factors like history of infection, history of IUCD, previous tubal surgery and treatment for infertility. After taking history, general physical examination was performed followed by per abdominal and bimanual per vaginum examination. Depending upon the clinical presentation, serum β -hCG level and transvaginal sonography(TVS) finding, management of ectopic pregnancy was done either by expectant, medical or surgical approach. Statistical analysis of data was performed by the SPSS program for windows, version 17.0.

Continuous variables are presented as mean \pm SD, and categorical variables were presented as frequencies and percentage.

Results

Out of total 23316 pregnant patients coming to the emergency, 100 patients were found to have ectopic pregnancy. Incidence was found to be 0.43%. The mean age of presentation was 28.01 ± 3.77 year. Maximum number of the patients presented to the hospital at 6th weeks of period of gestation (34.7%), followed by 7th weeks (18.4%).

Primipara constituted to maximum number (34%) of cases, followed by nullipara (29%). Maximum number of patients gave history of previous infection (48%). Other significant history was history of abortion(28%), infertility (11%), tubal surgery (5%) and in 23% no risk factors were identified. Table 1 shows distribution of patients according to clinical presentation.

Table 1: Clinical presentation of ectopic pregnancy

Signs & Symptoms	Frequency	Percentage
Lower abdominal pain	100	100
Amenorrhoea	98	98
Bleeding P/V	85	85
Fainting	10	10
Shock	11	11
Pallor	57	57
Abdominal tenderness	80	80
Enlarged uterine size	26	26
Cervical motion tenderness	71	71
Adnexal mass/tenderness	82	82

(Total no of patients with ectopic pregnancy =100)

For deciding management of ectopic pregnancy some special investigations were done. Serum β - hCG was helpful in 58% cases ,TVS was performed in 89% cases ,out of which 61.8% were confirmed as ectopic and 38.2% had other findings like TO mass, collection in POD. The results of TVS finding are shown in table 2.

Table 2: TVS findings in patients with suspected ectopic

TVS	Frequency	Percentage
Ectopic pregnancy	55	61.8
Tubo ovarian mass	18	20.2
Collection in pouch of douglus	16	17.8

(Patients subjected to TVS = 89)

Most of the cases (80%) were managed surgically. 10% cases were managed by expectant treatment and out of this one case 10% was converted to medical treatment because of increasing value of β - hCG. Medical treatment was employed in 12% cases and from this two (16.7%) cases were managed surgically due to increasing β - hCG and deteriorating condition of patient (table 3).

Table 3 : Management protocol for ectopic pregnancy

Management	Frequency	Percentage
Expectant	10	10
Medical	12	12
Surgical	80	80

(Total no patients = 100)

Out of 80 cases, salpingectomy was done in 72.5% cases followed by salpingoophorectomy in 18.8% and salpingostomy in 8.6% cases (table 4)

Table 4: modes of surgical management of tubal ectopic pregnancy

Operative procedure	Frequency	Percentage
Salpingectomy	58	72.5
Salpingostomy	7	8.6
Salpingo-oophorectomy	15	18.8

(Total no of patients = 80)

In 90% cases fallopian tubes were the most common site of ectopic, it includes the cases which were managed medically and expectantly where sites were confirmed by TVS. Ovary was involved in 5% cases and in 5% cases site of ectopic were not determined. Table 5 shows frequency of different tubal sites affected by ectopic pregnancy.

Table 5: frequency of different tubal sites found during laparotomy

Tubal site	Frequency	Percentage
Ampulla	53	73.6
Isthmus	12	16.7
Fimbria	5	6.9
Cornua	2	2.8

(total patients = 72)

A total of 57% cases had ruptured ectopic pregnancy while 43% were unruptured ectopic pregnancy. Unruptured cases included 41.86% cases of tubal pregnancy which were managed medically and expectantly, 4.65% ovarian, and 11.6% cases, were sites were undetermined. It was found that in 61% cases right tubes were involved and in 39% cases left tubes were involved. A total of 63% patients required blood transfusion during intraoperative or postoperative period. Postoperative ICU admission was required in 14% of cases. There was no case fatality.

Discussion

In the present study, incidence of ectopic pregnancy was found to be 4.3 per 1000 pregnancies which is comparable with the study done by others. This incidence may be explained by the fact that this

study was hospital based rather than community based. Maximum patients were in the age group of 26-30 year and mean age was 28.01 ± 3.7 , which is comparable to the study done by Majhi AK et al [10]. In our study para 1 (34%) were maximally involved which is comparable to study done by Majhi et al [10], In a study done by Prasanna et al [11] 84% multipara were involved. 49% nullipara were involved in the study done by Pradhan P et al [12]. In our study the most important risk factor was found to be history of infection (48%), followed by abortion (28%) and in 23% cases no risk factors were identified which is comparable to other studies [11,18]. Endosalpingitis damages the mucosa and may entrap the migrating embryo, leading to ectopic implantation. Exo Salpingitis give rise to peritubal adhesions, impairing peristaltic movements, giving rise to inadequate transportation. The relationship

between prior abortions and ectopic pregnancy is explained by the post-abort infections leading to tubal damage. In the present study 5% patients had history of previous ectopic pregnancy which is correlating with Prasanna B et al [11] and Shaista et al [13] study. There is increased risk of ectopic with previous ectopic pregnancy because it reflects the underlying tubal pathology which is almost always bilateral. In other studies, the risk factors varies depending on social strata, previous surgery and many other factors. Abortion (37.8%) was the most common risk factor in study of shaista et al^[13] and infertility (33.3%) was common in study done by Pradhan P et al [12]. In other studies, the risk factors varies depending on social strata, previous surgery and many other factors. The triad of ectopic pregnancy which is well known to all is also proved in our study, i.e. pain abdomen (100%), amenorrhoea (98%) and BPV (85%). In our study 11% patients presented with shock which is similar to other studies [11,18]. These patients presented late with signs of rupture and hypovolemia. 57% patients had pallor which is same as that of Prasanna et al [11]. Pre-existing anemia with superimposed acute blood loss explains higher incidence of pallor in ruptured ectopic pregnancy. Adnexal mass/tenderness was present in 82% of patients which is comparable to study done by Pradhan P et al [12], this sign should be considered seriously in all the patients coming to gynae emergency department. Cervical motion tenderness was present in 71% cases in this study and abdominal tenderness was present in 80% cases. Out of total patients subjected to TVS for suspected ectopic 61.8% were diagnosed as ectopic which is similar to study done by Majhi AK et al [10]. In the present study β -hCG was done in 58% cases, because some cases came in emergency condition in which this investigation was not possible and some had direct indications for surgical management.

Most cases of ectopic were managed by surgery. As medical management needs extremely close follow up and hospitalisation, surgical management is still the method of choice in our country. In our study expectant management was done in 10% of cases, medical in 12% of cases and laparotomy in 80% cases, which is comparable to study done by Shaikh et al [14]. Laparoscopy was not done in our study because of limited resources. Partial/total salpingectomy was the most common operative procedure (72.5%) followed by salpingo-oophorectomy (18.8%) and salpingostomy (8.8%) which is comparable to Majhi AK et al study^[10]. Conservative surgery is superior to radical surgery at preserving fertility. Most common site of ectopic pregnancy was found to be tubes (90%); ovaries were involved in 5% and in 5% cases site was undetermined which is comparable to study done by G.Padmaja et al [15].

The commonest site of location of the ectopic pregnancy was in the ampulla (73.6%) of the fallopian tube which is similar with other studies [18]. In the present study 57% of cases presented with rupture while 43% cases were unruptured. Postoperative period was marked by requirement of blood transfusion in 63% cases and ICU stay in 14% of cases which is similar as in Shradha Shetty et al study [16]. There was no mortality reported in the present study due to early diagnosis and proper management which is consistent with many previous studies [17,18].

Conclusion

Ectopic pregnancy should be suspected in any women in the reproductive age with lower abdominal pain regardless of missed period or vaginal bleeding or even absence of risk factors. The rise in the incidence of ectopic pregnancy is going in parallel with the rise in the incidence of risk factors like sexually transmitted infections, increased tubal sterilization and reversal, delayed childbearing, assisted reproductive technology, increased awareness and improvements in diagnostic techniques available. Despite many advances in the diagnostic techniques, ectopic pregnancy is still a diagnostic dilemma because of its varied clinical presentation. Increase awareness should be made for safe sexual practice and contraceptive use to decrease abortion and in turn reduce the risk of ectopic pregnancy. Along with high clinical suspicion, β -hCG and transvaginal sonography should be considered earliest in high risk women to make early diagnosis and prevent the morbidity and mortality associated with ectopic pregnancy.

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