



To Study the Different Clinical Presentations of Ectopic Pregnancy

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Abstract

Background: Ectopic pregnancy has become a commonly seen condition. Its immediate and delayed sequelae must not be underestimated. Although advancement in earlier diagnosis leads to decreased case fatality rate as well as conservative, Laparoscopic treatment have enabled improved outcome, ectopic pregnancy remain a leading cause of maternal mortality and morbidity and accounts for a sizable proportion of infertility and ectopic recurrence. Hence the present study was directed to survey and analyse various clinical aspects of ectopic gestation and to identify various risk factors associated with ectopic pregnancy.

Material & Methods: The present study of different clinical presentations of ectopic pregnancy was conducted on patients who had ectopic pregnancy and were admitted in Dept. of Obst. & Gynae., Rajkiya Mahila Chikitsalaya, J.L.N. Medical College, Ajmer during time period from Oct. 2015 to Dec. 2016. A detailed history of the patients was taken as mentioned in proforma including personal and family history. History of any medical illness and history of any previous surgery was taken. Special attention was paid upon pelvic inflammatory disease, tubal sterilization (either abdominal or Laparoscopic), intrauterine contraceptive devices, hormonal contraception and any history of tubal surgery.

Results: The present study shows the highest incidence of ectopic pregnancy was found in the age group 20-25 years (40%) and minimum incidence was found between 36-40 years of age (3.33%). Amongst the etiological factor in this study highest incidence of ectopic pregnancy was found in previous home delivery (36.66%). In this study incidence of ectopic pregnancy was 11.66% (7 cases) having H/o laparoscopic sterilization (table 3). Pain in lower abdomen was most common finding in this study being present in 99.98%. Clinically pallor was present in 41.66% cases. On per abdominal palpation diffuse tenderness was present in 53.33% cases. In this study group highest incidence of 50% of ectopic pregnancy was found in ampullary portion of fallopian tube and 33.33% in Fimbrial portion of fallopian tube. 1.66% cases of abdominal pregnancy.

Conclusion: It is concluded that most of the cases of ectopic pregnancy can be diagnosed easily by a detailed history and a thorough clinical examination. With the advent of pregnancy test, ultrasonography, and diagnostic laparoscopy diagnosis can be made earlier even before rupture of the tube and management can be done effectively.

Key Words: Ectopic pregnancy, Incidence, Ampulla, risk factors.

Introduction

Ectopic pregnancy is defined as one in which the fertilized ovum gets implanted at a site other than

uterus and also includes the pregnancy in the rudimentary horn and cervix (WHO, 2007).

Worldwide ectopic pregnancy complicate 0.25 - 2% of all pregnancy. In developing countries majority of hospital based studies reported E.P. case fatality rate of around 1 – 3% which is 10 times higher than those reported in developed countries. The natural incidence of heterotopic pregnancies approximates 1 per 30,000 pregnancies. However, because of assisted reproductive technologies (ART) their incidence has increased to 1 in 7000 overall and following ovulation induction, it may be as high as 0.5 to 1%¹. Rarely, twin tubal pregnancy with both embryos in the same tube or with one in each tube has been reported.

Ectopic pregnancy has become a commonly seen condition. Its immediate and delayed sequelae must not be under estimated. Although advancement in earlier diagnosis leads to decreased case fatality rate as well as conservative, Laparoscopic treatment have enabled improved outcome, ectopic pregnancy remain a leading cause of maternal mortality and morbidity and accounts for a sizable proportion of infertility and ectopic recurrence.²

Ectopic pregnancies can occur in various sites – these are tubal (96%), ovarian (1%), abdominal (0.1%) and other about (3%). In order of frequency the distribution of tubal pregnancy in ampullary (73.3%) Isthmic (12.5%), Interstitial (2.6%), fimbrial (11.6%) and infundibular (2%) (CEMUD, UK 2013). Women who develop tubal pregnancy seem to fall into two groups: Those of normal fertility in whom the ectopic is an accident and those in whom eccyesis is a symptom of compromised fertility, (Paurestein).³

Ectopic pregnancy not only threatens the life of the patients, but the subsequent fertility is also affected If not diagnosed and treated timely and effectively it can causes damage to fallopian tubes and sometimes even to the uterus and the ovary. Its consequences can be devastating to the reproductive potential of women and lowering the fertility by as much as 50%.

Ectopic pregnancy has always been the center of clinical interest to the gynaecologists because of

the varied clinical manifestations. Only a few pathological processes in medicine have a greater disparity of symptoms, signs, opinion and reports than ectopic pregnancy. At times it was difficult to diagnosis and it has to be differentiated from other acute abdominal condition. The diagnosis is usually easy in the acute cases. However, in the subacute and chronic it is not so easy. Chronic ectopic pregnancy masquerades in so many different forms that it may almost be impossible to diagnose the condition correctly. Most women with an ectopic pregnancy presents early. At the time of presentation the average gestation of an unruptured ectopic pregnancy is 6.9 (SD1.9) weeks and 7.2 (SD2.2) weeks if the tube is ruptured.⁴

Now a days hormonal imbalance caused by ovulation induction or oestrogen and progesterone administration may affect the transport mechanism of the fallopian tubes. The number, quality & viability of the oocytes may also alter the embryo's Journey to the uterus. IVF & ET has also been found to be an etiological factor, recently with the development of immuno assay utilizing monoclonal antibodies to beta HCG and high resolution ultrasound and Doppler, an ectopic pregnancy can be diagnosis before significant haemorrhage that threatened the life. This ability to make an early diagnosis coupled with the development of endoscopic surgical technique leads to new ways of treating ectopic pregnancy and thus improving fertility, morbidity & mortality from this life threatening condition.⁵

Hence the present study was directed to survey and analyse various clinical aspects of ectopic gestation and to identify various risk factors associated with ectopic pregnancy.

Material & Methods

The present study of different clinical presentations of ectopic pregnancy was conducted on patients who had ectopic pregnancy and were admitted in Dept. of Obst. & Gynae., Rajkiya Mahila Chikitsalaya, J.L.N. Medical College, Ajmer during time period from Oct. 2015 to Dec.

2016. A detailed history of the patients was taken as mentioned in proforma including personal and family history. History of any medical illness and history of any previous surgery was taken. Special attention was paid upon pelvic inflammatory disease, tubal sterilization (either abdominal or Laparoscopic), intrauterine contraceptive devices, hormonal contraception and any history of tubal surgery.

The vital parameters were taken. Through general physical examination, systemic examination, per abdominal examination and per vaginal examination were carried out.

The abdominal examination included any tenderness in lower abdomen, abdominal mass, fullness in lower abdomen, abdominal distension, rigidity, guarding and distended bladder.

The vaginal examination included cervical movement, fullness in posterior or lateral fornices, adnexal mass, enlarged uterus, blood stained discharge on examining finger and rectal tenderness.

Results

The present study shows the highest incidence of ectopic pregnancy was found in the age group 20-25 years (40%) and minimum incidence was found between 36-40 years of age (3.33%) (table 1). Amongst the etiological factor in this study highest incidence of ectopic pregnancy was found in previous home delivery (36.66%) (table 2).

History of previous abdominal surgery was found in 23.33% cases. In this study incidence of ectopic pregnancy was 11.66% (7 cases) having H/o laparoscopic sterilization (table 3). Pain in lower abdomen was most common finding in this study being present in 99.98% (table 4).

In this study out of 60 cases clear cut picture of shock was found in 30% cases. Clinically pallor was present in 41.66% cases. On per abdominal palpation diffuse tenderness was present in 53.33% cases (table 5).

In this study group highest incidence of 50% of ectopic pregnancy was found in ampullary portion of fallopian tube and 33.33% in Fimbrial portion of fallopian tube. 1.66% cases of abdominal pregnancy (table 6).

Table – 1: Relation of Ectopic Pregnancy with Age

Age of years	No. Of Cases	Percentage (%)
20-25	24	40
26-30	20	33.33
31-35	14	23.33
36-40	2	3.33

Table – 2: Etiological Factor of Ectopic Pregnancy

Etiological Factor	No. Of Cases	Percentage (%)
Home delivery	22	36.66
Pelvic inflammatory disease	18	30
History of Infertility	14	23.33
MTP	7	11.66
D & C	7	11.66
IUCD	11	18.33
• History of using IUCD	10	18.66
• IUCD in situ	1	1.66
Handling by dais	9	15
Oral contraceptive	8	13.33
Puerperal sepsis	6	10
Tuberculosis	6	10
STD's	3	5

Table – 3: Surgical causes of Ectopic Pregnancy

Surgical causes	No. Of cases	Percentage (%)
Previous Abdominal Surgery	14	23.33
<u>Tubal ligation</u>		
• Laparoscopic sterilization	7	11.66
• Abdominal sterilization	0	0
Previous ectopic pregnancy	2	3.33

Table – 4: Clinical Presentation of Ectopic Pregnancy

Symptoms	No. of cases	Percentage (%)
Pain abdomen		
Acute	28	46.66
Chronic	12	20
Subacute	13	21.66
No H/o Pain	7	11.66
Amenorrhoea (day)		
0-30	9	0
31-60	40	66.66
61-90	5	8.33
>90	1	1.66
No. H/o Amenorrhoea	16	26.66
Vaginal Bleeding	35	58.33
Sudden collapse	14	23.33
Shoulder pain	7	11.66
Vomiting	18	30
Fever	10	16.66
Retention urine	10	16.66
Dysurias	10	16.66
Constipation	11	18.33
Passage of clots	7	11.66

Table – 5: Relation of Ectopic pregnancy with different clinical signs

Signs	No. Of cases	Percentage (%)
Shock	18	30
General pallor	25	41.66
Tenderness lower abdomen	32	53.33
Abdomen mass	7	11.66
Abdomen rigidity	16	26.66
Abdomen fullness and distension	15	25
Distended bladder	10	16.66
Painful cervical movement	44	73.33
Fullness and tenderness in posterior fornix	37	61.66
Adnexel mass	39	65
Uterine size		
normal	35	58.33
Enlarged	12	20
Not made out	15	25
Restricted mobility	24	40
Blood on examining finger	23	38.33
Rectal tenderness	10	16.66

Table – 6: Localization of ectopic pregnancy

Site of ectopic	No. of cases	Percentage
Fallopian tube		
Ampulla	30	50
Fimbrial	20	33.33
Isthmus	9	15
Interstitial	0	0
Ovarian		
Ovarian	0	0
Broad ligament	0	0
Abdominal	1	1.66

Discussion

In the present study the highest incidence of ectopic pregnancy was found in the age group of 20-25 years (40%) and little less in 26-30 years (33.33%). It shows that reproductive age group (20-30 years) is more prone to ectopic pregnancy. It is because of increase incidence of sexually transmitted disease and pelvic inflammatory disease in this age group. These results into the functional alteration of tubes, resulting in complete obliteration of the tubal lumen and sterility or cicatricial alteration of endosalpinx favouring tubal implantation of the impregnated ovum. It may also be because of increase incidence of illegal abortion and spontaneous abortion in this age group and use of intra uterine contraceptive device. Identical findings were reported by Johan Ara Saeed (2013)³.

Amongst the etiological factor in the present series highest incidence of ectopic pregnancy was found in previous home deliveries (36.66%). H/o puerperal sepsis was found in 10% cases & H/o handling by dai's was given by 15% patients.

Increase incidence of ectopic pregnancy in home delivery cases can be explained by increased incidence of puerperal sepsis in these cases, which leads to salpingitis, peritubal adhesion, partial closure of the lumen, intra tubal adhesions, diverticuli and cysts formation. Because of damage to mucosal surface of the fallopian tube, altering embryo transportation due to presence of adhesions between plical folds which produces gland like space and blind pockets in which the fertilized ovum may be trapped. It may also lead to decreased ciliation of the tubal mucosa.

The next etiological factor was pelvic inflammatory disease. In the present series a history of PID was found in 30% cases, similar findings were reported by Abdullah (2012)⁶. Pelvic inflammatory disease are responsible for causing peritubal adhesions, partial closure of lumen, intratubal adhesions, diverticuli & cysts and these findings are compatible with the observation of the other authors. In the diverticuli the myoelictrial activity is diminished and limited to that segment of the tube only and therefore the fertilized ovum gets trapped in it. The difference can be explained to some extent by the greater use of antibiotics in the treatment of PID leading to partially blocked tubes & residual endosalpingitis. Six patients (10%), out of 60 were found to have had treatment for tuberculosis. In 5% of cases, there was past H/o sexually transmitted disease.

The next important etiological factor found to be responsible for ectopic pregnancy was history of prolonged primary infertility which was found in 14 cases (23.33%). Increased incidence of prolonged infertility is associated with increased frequency of assisted reproductive technologies leading to ectopic pregnancy. 11.66% of cases had history of undergoing medical termination of pregnancy by various methods at govt. institutions and private clinics. 11.66% patients had dilatations & curettage for various gynaecological indications. Post MTP and D & C endometritis, salpingitis may lead to tubal pathologies leading to ectopic pregnancy. The permanent agglutination of the folds of the endosalpinx result from salpingitis which allows the passage of the smaller sperm but prevent the transport of the larger blastocyst, which can get trapped in blind pockets formed by adhesions of the endosalpinx. Similar studies done by J.M. Chow, M.L. Yonekura, A. Richwold, S. Greenland, R.L. Sweet and J. Schachter(1999)⁷.

Out of 60 patients 18.66% has a previous IUCD inserted & one case (1.66%) was of ectopic pregnancy with IUCD in situ. The increased rate of ectopic pregnancy with IUCD in situ or after its removal is associated with a reversible foreign

body reaction in the tube mimicking pelvic inflammatory disease and also ascending infection. Similar finding were given by Curcie A, Novakov-A (1997)⁸ 15%, lavanzo (2008)⁹.

Oral contraceptives have also been found to be responsible for the occurrence of ectopic pregnancy in 13.33% cases, because progesterone is thought to increase the patency of the ampullo isthmic junction and reduce the motility of the tube. Similar result was seen by Franks – AL; Barel-V et al (1990)¹⁰, 13% Ankum-W.M. Vnader-Vee-F (1995)¹¹ 11%.

Incidence of ectopic pregnancy in previous abdominal operations (caesareans, laprotomy, myomectomy) is 23.33% in present study. Similar findings have been reported by Michalas et al (1992)¹² 20%. But the cause of ectopic pregnancy following adhesions, kinked tubes, tortousity of the tissue causing impaired motility and therefore ectopic pregnancy.

In the present series previous history of sterilization operation was found in one case (1.66%). That was done by laparoscopic method. These figures are parallel with the previous reports of Peterson-HB 0.73% (1997)¹³. Previous history of tubal ligation is gaining importance as an etiological factor. These findings are compatible with the theory that ectopic pregnancy occurs commonly after tubal ligation, due to the formation of tuboperitoneal fistula or recanalization of the tube in abdominal sterilization which allows the passage of small sperms but does not permit the fertilized ovum to pass through it. In laparoscopic sterilization along with MTP there may be partial tubal obstruction probably due to thick and oedematous tubes because of pregnancy. According to Peterson-HB (1997)¹³ the cumulative probability varied substantially according to the method of sterilization and women's age at the time of sterilization. Women sterilized by bipolar tubal coagulation before the age of 30 years had a probability of ectopic pregnancy that was 27 times as high as that among women of similar age who underwent postpartum

partial salpingectomy (31.9 vs 1.2 ectopic pregnancy per 1000 procedures).

The cases of ectopic pregnancy had various clinical presentations. Lower abdominal pain was the most common symptom in this series, being present in 49.98% cases, pain abdomen was of acute type in 46.66% cases and the duration of pain lower abdomen was generally 0-4 hrs. or more. It was of sudden onset, generally located on side of ectopic pregnancy and later on it spread diffusely. It was sharp or cutting in nature. It is caused by the chriodecidual haemorrhage or by the escapes of blood into the peritoneal cavity. The severity of pain depends on the amount of blood lost and there is nearly always an associated syncope but chronic ectopic causes intermittent pain due to stretching of the tube.

Chronic pain abdomen occurred in 20% cases. It was of dull aching type and fest different all over the abdomen. In 20.96% cases pain was intermitted in nature, occurring off and on with some acute exacerbation. Pain may be where in the abdomen with a large hemoperitoneum, pleuritic chest pain may occur from diaphragmatic irritation.

Amenorrhoea was present in 76.65% cases, the duration varying from 31 days to 4 months. In 66.66% cases it was of 31-60 days. In 8.33% cases 61-90 days and in one case it was of 4 months duration. Amenorrhoea was absent in 26.66% (16) cases as women may mistake the uterine bleeding that frequently occurs with tubal pregnancy for a true menstrual period. It is extremely important that the character of the last menstrual period should be elicited in respect to time of onset, duration, and amount of bleeding and it is advisable to ask whether it impressed her as abnormal in any way.

H/o sudden collapse was seen in 23.33% cases. Shock is associated with ruptured ectopic pregnancy with massive hemoperitoneum. Sudden collapse occurs within ½-2 hrs. of the onset of pain.

Shoulder pain was complained of by 11.66% cases. Shoulder pain is caused by the escape of

blood into the peritoneal cavity, causing irritation of under surface of diaphragm. It occurred 2-6 hrs. After the onset of abdominal pain.

16.66% of patients had raised temperature ranging from 99-102°F and was present for four to five days prior to the diagnosis of pregnancy, mostly in chronic type of ectopic. Rise in body temperature may also occur because of the absorption of the degraded products of blood.

Rectal and urinary symptoms were reported in 18.33% in form of constipation and 16.66% in form of dysuria and 16.66% in form of retention of urine & were found to be more commonly in association with the chronic ectopic pregnancy. Rectal and Urinary symptoms may be because of pressure of pelvic hematocele upon bladder & Rectum.

Signs and symptoms of early pregnancy that is nausea and vomiting were noted in 30% cases. Clear cut picture of shock was found in only 30% of cases with rapid low volume pulse, low/non recordable pressure, narrow pulse pressure, and air hunger. Skin was cold & clammy, when bleeding continued and hypovolemia became significant.

Clinically pallor was present in 41.66% cases. It is caused by profuse bleeding from ruptured ectopic pregnancy with massive hemoperitoneum. After haemorrhage depleted blood volume is restored towards normal by hemodilution over the course of a few days even after a substantive haemorrhage, therefore haemoglobin or hematocrit readings may at first show only a slight reduction for the first few hrs. after an acute haemorrhage. A decrease in haemoglobin or hematocrit level while the patient is under observation is a more valuable index of blood loss than is the initial reading. This is true unless the initial reading is low and the anaemia is normocytic.

On per abdominal palpation diffuse tenderness in lower abdominal was present in 53.33% cases associated with rebound tenderness. It is due to collection of food in peritoneal cavity. Abdominal mass was present in only 11.66% cases localized to the affected side. These were cases where

amenorrhoea was 3 or more than 3 months duration.

Abdominal distension was found in 25% cases and abdominal rigidity was present in 26.66% cases. Muscle guarding over the lower abdomen, especially on the affected side, is a striking feature. The amount of blood in the peritoneal cavity is unlikely to be sufficient to give rise to signs of free fluid, but some degree of intestinal distension is a common and important diagnostic sign.

Bladder was found to be distended in 16.66% cases. It was due to presence of pelvic hematocele which causes acute retention of urine. In some cases it was because of acute pain abdominal which loss of sensation of bladder fullness.

On per vaginal examination a mass was present in 65% of cases mostly on affected side, it varies in size, consistency and position ranging between 3-5 cm in diameter depending upon the duration of pregnancy as well as the amount of intramural haemorrhage. Such masses were often soft and elastic, sometimes it was firm because of extensive infiltration of blood into the tubal wall. It was always posterior or lateral to the uterus.

Fullness and tenderness in posterior fornix was found in 61.66% cases. It was because of gradual disintegration of tubal wall followed by slow leakage of blood into peritoneal cavity & collection of the blood in the fornices. In some cases it was found to be walled off by adhesions and pelvic hematocele formation.

Painful cervical movement were seen in 73.33% cases of the present series. It was because of recently effused blood in the pouch of Douglas.

Uterus was found to be normal in size in 58.33%, enlarged in 20% and size was not made out in 25% cases. In most of cases uterus was normal in size but it was soft. Uterus was found enlarged because it is under the influence of the hormones of the corpus luteum and of the trophoblast, so it responds by generalized enlargement, increased vascularity, hypertrophy of all tissues and tissue and decidual reaction in the endometrium. Uterine

size was not made out because of collection of blood in pelvis, rigidity and tenderness of the abdomen.

Restricted mobility of uterus was found in 40% cases. It is because of presence of adhesions due to previous pelvic or abdominal surgery or chronic pelvic inflammatory disease or due to presence of pelvic haematocele.

Blood on examination finger was found in 38.33% of cases. It may be because of decidual separation which is uterine in origin. Sometimes it is tubal in origin.

Rectal tenderness was found in 16.66% of cases. It is because of the collection of blood in the pouch of Douglas.

The diagnosis of ectopic pregnancy remains a challenge to the clinician, despite advance in sonographic and biochemical technology. Contemporary practice requires an understanding of the normal sonographic features and hormonal profile for normal pregnancy as well as the pathogenesis of an ectopic nidation (Cartwright-PS; 1991)¹⁴.

Ectopic pregnancy was identified in the fallopian tube in 98.33% of cases in this series. Ampullary portion of the tube was found to be commonest site for ectopic pregnancy in 30 (50%) cases followed by fimbrial portions in 20 (33.333%) and Isthmic Portion in 9 (15%) of cases. 1 cases (1.66%) was of secondary abdominal pregnancy.

Ampullary portion of the tube is commonest site of ectopic pregnancy because it is the widest part of tube and provides best vascular supply to the ovum. Decidual reaction is not so well seen in the tube. The termination possible are tubal mole, tubal abortion, rupture or perforation of the tube or continuation of pregnancy till later months or even to term. Tubal gestation rarely reaches the stage of fetal viability.

The erosive ability of trophoblast, coupled with an inappropriate environment for implantation in the tubal wall (i.e. scanty decidual reaction, absence of submucosa and thin muscular layer) result in penetration in tubal arterial system, achoriodesidual haemorrhage and early separation of the products

of conception from the implantation site, leading to the death of the concepts and cessation of trophoblastic activity with reduced HCG levels. There is decrease in the sign and symptoms of pregnancy and uterine bleeding ensues. Similar findings have been reported by Johan Ara Saeed(2013)³. Out of 30 cases in ampullary portion of tube 16 were intact, 10 were ruptured, 2 tubal abortion and 2 were chronic pregnancy. Ectopic pregnancy was found in fimbrial portion of tube in 33.33% of cases which is second commonest site for ectopic pregnancy in this series. From 20 cases which were found in fimbrial portion of the tube 10 cases were of tubal abortion, 7 were ruptured and 3 intact ectopic pregnancy.

50% cases of fimbrial ectopic pregnancy ended as tubal abortion. The fertilized ovum or mole may be extruded out through the fimbrial end either partially or wholly. It results from intraluminal extension or rupture of the thinned out mucosa covering the tubal gestation and haemorrhage and extrusion of the products of conception into the peritoneal cavity.

Tubal rupture may be intra or extra peritoneal into the layers of broad ligament leading to hematoma formation. Rupture may be sudden leading to profound shock; or it may be gradual erosion leading to recurring attacks of severe pain abdomen and syncope. It may lead to secondary abdominal pregnancy. 9 cases (15%) of ectopic pregnancy were found in Isthmic end of the fallopian tube. Out of 9 cases, 7 were ruptured, 1 was intact and one was tubal abortion. Rupture occurs mostly between 6-10 weeks of pregnancy as the lumen here is very narrow.

Secondary abdominal pregnancy was found in 1 cases (1.66%). It was of 16 weeks gestation lying in the peritoneal cavity between gut loops. In this case the right sided fallopian tube was oedematous forming a mass with omentum and gut. Most of abdominal pregnancies are of the secondary type because of early rupture or tubal abortion and placental blood supply is maintained by an

attachment to the tube, the primary site of implantation.

Conclusion

It is concluded that most of the cases of ectopic pregnancy can be diagnosed easily by a detailed history and a thorough clinical examination. With the advent of pregnancy test, ultrasonography, and diagnostic laparoscopy diagnosis can be made earlier even before rupture of the tube and management can be done effectively. It also helps to reduce the maternal morbidity & mortality and maintain fertility.

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