

The Study of Risk Factors And Clinical Presentation in Ectopic Pregnancy: An Observational Study.

Madhavi Santpur¹, Unmesh Santpur²

Madhavi Santpur Associate professor In Anaesthesiology Maharishi Markandeshwar
Institute Of Medical Sciences India
Corresponding Author: Dr. Unmesh Santpur

Abstract

Background: Ectopic pregnancy is one of the life threatening complication in the obstetric career of a patient . It has got a wide spectrum of clinical features, from silent chronic unruptured ectopic pregnancy to haemodynamically unstable ruptured ectopic . Patients may have identifiable associated risk factors. Thus, the diagnosis of ectopic pregnancy is by a high degree of suspicion. This is of significance for safe future pregnancies.

Aim: To identify the predominant risk factor for ectopic pregnancy and study the commonest clinical presentation.

Study design: A retrospective observational study. **Method:** This study was conducted at a tertiary health care centre. A total number of 100 patients with ectopic pregnancy were analysed by the presence or absence of predetermined risk factors and their clinical presentations .

Observation and results: Maximum incidence was observed in nulliparous patients(27%), between the age group of 21-30 years . Risk factors observed were PID 22%, IUCD 14%, previous ectopic 4%and post tubectomy 5%. The commonest presenting symptom was pain in abdomen 82%. Typical triad of presentation was seen in 44.4%.

Conclusion: The present study, revealed that the commonest risk factor was pelvic inflammatory disease. Majority of patients had pain in abdomen as the predominant presenting complaint. The early diagnosis of ectopic pregnancy will allow for prompt treatment preserving fertility and thus help in decreasing morbidity and mortality.

Keywords: ectopic pregnancy, risk factors, clinical presentation

Date of Submission: 14 -08-2017

Date of acceptance: 23-08-2017

I. Introduction

Ectopic pregnancy causes major maternal morbidity and mortality, with pregnancy loss, and its incidence is increasing worldwide.^{1,2} This is true especially in developing countries, where the majority of patients present late with rupture and hemodynamic compromise.³ The etiology of ectopic pregnancy is not well understood. However, multiple risk factors have been associated with ectopic pregnancy. Pelvic inflammatory disease, puerperal sepsis, post abortion sepsis, appendicitis, and the use of intrauterine contraceptive devices have been identified as sources of pelvic infection and major risk factors.^{4, 5} In addition assisted reproductive techniques including induction of ovulation has also been blamed for increased incidence. The management of a case of ectopic pregnancy, has always been a challenge to the clinician. The diagnosis being complicated by the wide spectrum of clinical presentations, from asymptomatic cases to acute abdomen, and hemodynamic shock.⁶ With evaluation and treatment of the risk factors, at the earliest it is possible to reduce the morbidity, mortality and fertility outcome in subsequent pregnancies.

The present study was conducted to determine the commonest associated risk factors and clinical presentation in cases of ectopic pregnancy being hospitalized to our tertiary care centre.

II. Aims

- To determine the commonest risk factor associated with ectopic pregnancy.
- To observe the most common clinical presentation.

Study design: A retrospective observational study.

III. Material And Method:

After obtaining the approval of Institutional Ethical Committee, this study was conducted at a tertiary care centre from the period of January 2012 to May 2014. A total of 100 patients of ectopic pregnancy were studied.

Inclusion criteria:

- All patients with clinical suspicion of ectopic pregnancy with positive urine pregnancy test (UPT) and history of amenorrhoea.
- All patients referred with the diagnosis of ectopic pregnancy by ultrasound examination.

Exclusion criteria:

- All patients with amenorrhoea with positive UPT and intrauterine pregnancy.
- All cases of abortion.

Patients history and clinical examination was focused to determine the probable risk factors:

age, parity, pelvic inflammatory disease, personal habits, previous ectopic, use of intra uterine contraceptive device and if patient had undergone tubectomy surgery. History of bleeding per vaginum, amenorrhoea, pain in abdomen, giddiness, palpitation and evidence of haemodynamic instability examined. General examination, systemic examination and gynaecological examination were done for all patients. Bedside urine pregnancy test (UPT) was done to confirm the pregnancy. Relevant blood investigations including haemoglobin (Hb), blood group, total blood cell count, coagulation profile, kidney function test and blood sugar were done. Abdominal ultrasound (USG) was advised to substantiate the diagnosis.

Statistical analysis

All the relevant data was collected and tabulated as shown in results. Frequency and percentage of each parameter was calculated and analyzed.

IV. Observation And Results :

A total of 100 patients of ectopic pregnancy were studied and observations were as follows:

Clinical profile:

1) Age

The maximum number of ectopic pregnancy was found in the age group between 21 to 24 years, constituting 42 % of patients, as most of the married women in India belong to this age group, whereas between 25 to 28 years were 27 % and 28 to 32 years were 16%. There were four patients with teenage pregnancy. The oldest patient was 40 years.

2) Parity

Table I: Parity wise distribution

Parity	Total Percentage(%)	Patients(n=100)
Nulliparous	27	27
Gravida 1	16	16
Gravida 2	25	25
Gravida 3	21	21
Gravida 4	11	11

As shown in table I, the maximum number of ectopic pregnancy occurred in nulliparous patients (27%). However as the parity increased, the chances of ectopic pregnancy decreased.

3) Habits associated with ectopic pregnancy

Among the study population 17% were addicted to tobacco chewing and rest did not have any addictions. In western countries smoking constitutes one of the risk factor for ectopic gestation, where as in India tobacco chewing constitutes the major risk factor, which is practised most commonly by rural population.

4) Contraceptives used

Among the contraceptive measures adopted, oral contraceptives were used by 21 % patients, tubal sterilization was done for 4 % patients, barrier method was used by 5 % and IUCD was used by 14 % patients. Here it was noticed that maximum population in the present study (46%), had not used any method of contraception.

5) Body mass index (BMI)

BMI analysis revealed that maximum number (70%) of ectopic pregnancy occurred in normal BMI patients (18.5-25), where as 22% of patients had a BMI of 25.1-30. Patients with a BMI <18.5 were three and BMI >30 were five.

6) Gestational age in weeks at the time of diagnosis

Maximum number of ectopic pregnancy was found in 6 to 10 weeks of gestation (35%). Fifteen percent patients were diagnosed to have ectopic pregnancy before six weeks of gestation and 11% patients had gestational age of more than ten weeks. However 39% of patients had not known their period of amenorrhoea.

Table II:

Risk Factors	Number of patients	Percentage
Pelvic inflammatory disease	22	22
Tubectomy	12	12
Previous ectopic pregnancy	4	4
IUCD	14	14
Tobacco chewing	17	17
No risk factor detected	31	31

As shown in table II, pelvic inflammatory disease was found to be the most common risk factor accounting for 22% of patients. Four patients were a case of previous ectopic. Tobacco chewing was noted in 17 patients and 14 patients had intrauterine contraceptive device. No risk factor was detected in 31 patients. In the present study, it was noticed that pelvic inflammatory disease constitutes the commonest cause of ectopic pregnancy.

Table III: Clinical presentation

Clinical presentation	Total number of patients (n=100)	Total Percentage
Pain abdomen	82	82
Amenorrhoea	100	100
Pervaginal Bleeding/spotting	74	74
Vomiting	62	62
Asymptomatic	0	0

As shown in table III, 100% of ectopic pregnancy patients had amenorrhoea. Pain in abdomen was present in 82% of patients, 62 % patients had vomiting and 74 % patients had per vaginal bleeding.

Table IV: General findings

Conditions	Total number of patients	Percentage
Pallor	59	59
Tachycardia	67	67
Hypotension	62	62
Needed resuscitation(SHOCK)	50	50

As shown in table IV, tachycardia was present in 67 % of patients, 59% patients were pale, 62 % developed hypotension and 50 % of patients needed resuscitation.

V. Discussion

A total of 100 patients of ectopic pregnancy referred to our tertiary centre were studied. This was a retrospective study conducted to analyze the commonest risk factor and commonest clinical presentation. Maximum ectopic pregnancies occurred between age group of 21 – 30 years. Similar observation was reported by Rose et al ⁷, with a incidence of 43 %. Mufti et al ⁸ reported 75.4 % and Lawani et al ⁹ reported 78.05 % which

corresponds with the present study (80%) .These observations could be due to early detection and increased use of contraceptive practices.

On comparison of parity in various studies, the maximum incidence of ectopic pregnancy was observed in nulliparous (27 %) , which almost corresponds with the study by Lawani et al⁹ (32.68%). But in the study by Rose et al ⁷, as parity increases there is a decrease in the incidence of ectopic pregnancy. In all the studies nulliparity constitutes the most common risk factor. According to ICMR Multicentric Case Control Study ¹⁰of ectopic pregnancy, majority of women were young and had low parity. In Mufti et al ⁸ study, it is noticed that as parity increases the incidence of ectopic pregnancy decreases, which is the same as in our study.

Table V: Comparison of Risk factors in various studies

Risk factors	Rose et al ⁷ (2002)	Mufti et al ⁸ (2012)	Lawani et al ⁹ (2013)	Present study (2013)
PID	34.4	10.01	43.4	22
Tubectomy	5.4	-	-	5
IUCD	21.5	-	10	14
Smoking/tobacco chewing	-	-	-	8
Previous ectopic	3.2	5.26	3.4	4
None	32.2	44.73	-	-

Comparison of risk factors in various studies shown in table V ,depicts :

1) PID

In the present study, twenty two patients gave a history of PID. Literature shows that PID is an important factor predisposing to the development of ectopic pregnancy. According to study done by Rose et al ⁷, the incidence of PID as a risk factor was 34.4%. PID following gonococcal, chlamydial and other bacterial infection cause 3.3-6 fold increased risk of ectopic pregnancy. Relative risk based upon ICMR multicentric Case Control Study ¹⁰was 6.4. Many cases of chlamydia salpingitis are indolent, cases may go unrecognized causing tubal damage and subsequent tubal pregnancy. Lawani⁹ also had a incidence of 43.4 %

2) Previous ectopic gestation

In the present series 4 cases (4%) had been operated for previous ectopic gestation, which is in concurrence with the study of Rose et al ⁷, who reported 3.2% of repeat ectopic pregnancy. Since tubal disease is nearly always bilateral there is a strong tendency for ectopic pregnancy to occur first on one side and then at a later date on the other. Lawani et al ⁹,constitutes previous ectopic of 3.4% and Mufti ⁸reported 5.26 % which corresponds with the present study(4%).

3) Use of IUCD

In the present series IUCD was used by 14 patients (14%). Most common IUCD used were CU T-380A and CU T- 2008. These devices produce an inflammatory reaction or foreign body reaction which in turn causes biochemical and cellular changes in the endometrium and in uterine and tubal fluids when inserted post-coitally it prevents implantation of fertilised ovum. Throughout literature there are reports linking the use of various types of IUCDs with the occurrence of ectopic pregnancy. An incidence of 10 % was quoted by Lawani et al ⁹

Table VI: Comparison of symptomatology in various studies:

Symptomatology	Rose et al ⁷ (2002)	Pradhan ¹¹ (2007)	Panchal et al ¹² (2011)	Ayaz et al ¹³ (2013)	Present study (2013)
Pain	78.5	94	98.3	88.6	82
Amenorrhoea	92.4	72.2	85	93.2	100
Bleeding	62.6	58.3	68.3	77.3	74

As depicted in table VI, it was noticed that most common symptom was pain in abdomen. Manifestations of an unruptured tubal pregnancy are not characteristic. Almost all the symptoms and signs produced by tubal pregnancy are caused by ultimate rupture of tubal wall or abortion with resultant hemorrhage into the peritoneal cavity. Hence, symptoms and signs of tubal pregnancies described are nothing but the clinical description of tubal gestation which has been disturbed. No specific sign or symptoms are said to be pathognomonic of ectopic gestation, but combination of various findings may be suggestive. The clinical picture is dependent on several factors, the most important factor being the extent of time taken for disturbance to occur in ectopic gestation. The more extensive and rapid the disturbance, the more clear is the clinical picture. Hence, undisturbed ectopic gestation is likely to be missed in majority of the cases as the clinical features are vague. Acute pain in the lower abdomen was the most common presenting feature in 82% of the cases. No history of

pain abdomen was seen in 18 cases (18%), may be due to undisturbed nature of tubal pregnancy or due to individual differences in the pain threshold.

In study done by Rose et al⁷, amenorrhoea was present in 92.4% of cases where as Panchal et al¹² study, amenorrhoea constituted 85% of cases and in present study amenorrhoea was present in all 100 cases (100%).

Table VII: Comparison of general condition in various studies.

Signs	Rose et al ⁷	Panchal et al ¹²	Ayaz et al ¹³	Present study
Pallor	70.9	26.66	31.8	59
Shock	9.7	18.33	22.7	50
Tachycardia	-	-	-	69
Hypotension	-	-	-	62

As shown in table VII, in the present study, pallor was seen commonly in 59% of cases and (50%) patients came in a state of shock. Rose et al⁷ study reported only 9.7% of patients to present with shock and 70.9 % patients had pallor as symptom. Panchal et al¹² study revealed that, pallor was present in 26.66 % and shock was seen in 18.33% of cases.

VI. Conclusion

The diagnosis of ectopic pregnancy should be made with high degree of suspicion as there are no hallmark features of ectopic gestation. The clinical presentation is varied and hence in the reproductive age group diagnosis of ectopic pregnancy should be entertained irrespective of the presence or absence of amenorrhoea in any women presenting with pain in the lower abdomen. Maximum incidence of tubal gestation occurred between the age group of 21-30 years with greater incidence in nulliparous patients. The most common risk factor was PID and majority of patients presented with pain in abdomen. The typical triad of amenorrhoea, pain abdomen and bleeding was observed in 44.4% of cases and 50% patients manifested hypovolemic shock at the time of presentation.

Bibliography

- [1]. Storeide O, Veholmen M, Eide M, Bergsjø P, Sandevi R. The incidence of ectopic pregnancy in Hordaland County, Norway 1976-1993. *Acta Obstet Gynecol Scand* 1997; 76:345-9.
- [2]. Ectopic pregnancy—United States, 1990-1992. *MMWR* 1995;44: 46-8.
- [3]. 3)Panti A, Ikechukwu NE, lukman OO, Yakubu A, Egondu SC, Tanko BA. Ectopic pregnancy at Usmanu Danfodiyo University Teaching Hospital Sokoto: a ten year review. *Ann Niger Med*. 2012; 6 (2):87–91.
- [4]. Abdul FI. Ectopic pregnancy in Ilorin: a review of 278 cases. *Niger J Med*. 2000; 9(3):92–96.
- [5]. Erickson BT. Ectopic pregnancy. In: Bader T, editor. *Ob/Gyn Secrets*. 3rd ed. Maryland Heights (MO): Mosby; 2007:109–113.
- [6]. Berek JS, Berek DL. *Berek and Novak's Gynecology*. 15th ed. USA: Lippincott, Williams & Wilkins, A Wolters Kluwer Business; 2012. 627.
- [7]. Rose jophy, A.T., Arun Mhaskar, *J Obst and Gyn India* 2"002.
- [8]. Mufti Samiya , R.S., Wasiqa,Khalida, Ectopic pregnancy :An Analysis of 114 cases. *JK-practitioner*, 2012. 17: 20-23.
- [9]. Lawani, D.L., O.B. Anozie, and P.O. Ezeonu, Ectopic pregnancy: a lifethreatening gynecological emergency. *Int J Womens Health*, 2013. 5.: 515-21.
- [10]. ICMR task force project. Multicentric case control study of ectopic pregnancy in India. *J Obst Gyn India*. 1990;40:425-30.
- [11]. Pradhan P, Thapamagar SB, Maskey S. A profile of ectopic pregnancy at Nepal Medical College, Teaching Hospital. *Nepal Med Coll J* 2006; 8:238-42
- [12]. Panchal D, Vaishnav G, Solanki K. Study of management in patient with ectopic pregnancy. *NJIRM* 2011; Vol. 2(3) : 91-93
- [13]. Ayaz A, Emam S, Farooq MU. Clinical course of ectopic pregnancy: A single-center experience. *Journal of human reproductive sciences*. 2013 ; 6(1):70-73.

*Dr.K.Kodandapani. "Newer Management of Distal tibial Fractures with Periarticular Locking Plate – Our Experience." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)* , vol. 16, no. 08, 2017, pp. 01–12.