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Original Research Article

Study of ectopic pregnancy in a Tertiary Care Hospital

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Abstract

Introduction: An ectopic pregnancy occurs when a fertilized ovum implants outside the normal uterine cavity. It is the most important cause of maternal mortality and morbidity in the first trimester. Our aimed is to study the different modes of clinical presentation, predisposing and etiological factors in case of ectopic pregnancy.

Materials & Methods: Department of Obstetrics & Gynaecology, Sri Aurobindo Medical College & Post Graduate Institution, Indore, MP from April 2014 to July 2015. All patients included in the study were diagnosed with ectopic pregnancy, in reproductive age group of 15-49 years. Total 50 patients participated in the study. A pre structured and pre tested questionnaire was used to know age, parity, risk factors & modes of presentation of ectopic pregnancy.

Result: out of 50 cases, the maximum no. of cases that is 22(44%) were in age group of 21 to 25 years. In present study 48% of patients were nulliparous which was highest. In present study, Infertility, History of previous abortion and pelvic inflammatory diseases were found to be the major predisposing factor for ectopic gestation. In present study, Abdominal Pain was the most common symptom seen in 47 (94%) cases followed by amenorrhea and abdominal tenderness.

Conclusion: A better understanding of risk factors and presentations related to ectopic pregnancy can help to manage and prevent its occurrence.

Keywords: Ectopic pregnancy, parity, risk factors, clinical presentation.

1. Introduction

Ectopic pregnancy is defined as pregnancy that develops after implantation of blastocyst anywhere other than endometrial lining of the uterine cavity.[1] Ectopic pregnancy remains an important cause of maternal morbidity and mortality. It is the leading cause of maternal mortality in first trimester of pregnancy[2,3] and is a major cause of reduced child-bearing potential.[4] The risk factors being sexually transmitted diseases particularly *C. trachomatis*, previous use of I.U.D, previous abdominal and pelvic surgeries, increase in use of assisted reproductive technology.[5,6] Prior surgical interventions (laparotomy for previous ectopic pregnancy/ tubectomy /cesarean section / appendectomy) may lead to tubal damage and increase the risk of further chances of ectopic pregnancy.[7] Diagnosis of ectopic pregnancy is almost always being a challenging task as the condition is complicated by a bizarre spectrum of clinical presentations ranging from asymptomatic cases to acute abdomen to hemodynamic shock.[8] Diagnosis and treatment of ectopic pregnancy before tubal rupture, can decrease the risk of death[3] and increase the chance of tubal conservation.[9] Optimizing tubal conservation surgery when appropriate can improve future fertility.[10,11] To diagnose and manage it before rupture is a hallmark of gynecologist's proficiency and perception. This study has been undertaken with the ultimate aim to study different modes of clinical presentation, predisposing and etiological factors, etc in case of ectopic pregnancy.

2. Material & Method

The present study is a descriptive case series, which is prospective in nature, carried out in the Department of Obstetrics & Gynaecology, Sri Aurobindo

medical college & post graduate institution, Indore, MP from April 2014 to July 2015. All patients included in the study were diagnosed with ectopic pregnancy, in reproductive age group of 15-49 years. Total 50 patients participated in the study. The diagnosis of ectopic pregnancy was based on history, clinical examination and investigations. The samples were selected by using purposive sampling. A pre structured and pre tested questionnaire was used. All diagnosed cases of ectopic pregnancy outside the specified age group, were excluded from the study. All diagnosed cases of ectopic pregnancy in which study subjects were not willing to participate in the study were excluded. A detailed history and clinical evaluation was done. Written informed consent was taken from all patients enrolled in the study. The clearance from the Institutional Ethics committee of Sri Aurobindo medical college & post graduate institution, Indore, MP, was obtained. The descriptive statistics was used. Results on continuous measurements were presented as Mean+/-SD (Min-Max) and results on categorical measurements were presented in numbers (%).

3. Result

During the study of 15 months clinic- pathological study of 50 cases of ectopic gestation was carried out

Table 1: Ectopic pregnancy and Age distribution

Age Group	No. of Cases	Percentage
20 or less	5	10
21-25	22	44
26-30	18	36
31-35	3	6
>35	2	4

Out of 50 cases, the maximum no. of cases that is 22(44%) were in age group of 21 to 25 years and minimum cases were in the age group above 35 years.

The observation was that the incidence of ectopic pregnancy decreased with advancement of age.

Table 2: Ectopic Pregnancy and Parity

Parity	No. of Cases	Percentage
0	24	48
1	12	24
2	5	10
3	5	10
≥4	4	8

In present study 48% of patients were nulliparous which was highest. The incidence of ectopic pregnancy decreases with increasing parity and only 10% patients have parity more than 3.

Table 3: Risk factors associated with ectopic pregnancy

Risk factors	No. of Cases	Percentage
History of infertility	11	22
Previous abortion	12	24
Pelvic inflammatory disease	10	20
Previous Tubal surgery	4	8
▪ Tubal Recanalisation	2	4
▪ Tubal Ligation	2	4
Appendicetomy	2	4
IUCD insertion	4	8
Previous ectopic	4	8
Unexplained	3	6

In present study, Infertility, History of previous abortion and pelvic inflammatory diseases were found to be the major predisposing factor for ectopic gestation. History of infertility was in 11 (22%) cases; this may be due to tubal lesion. History of D & E for incomplete or induced abortion is in 12 cases (24%). 4 (8%) patients having previous tubal surgery, among which 2(4%) were having tubal ligation and other 2 (4%) had tubal recanalisation. (8%) cases have history of IUCD insertion.4 (8%) cases have history of previous ectopic pregnancy. In 3 (6%) cases, no identifiable causes were found.

Table 4: Modes of presentations

Presentation	No. of Cases	Percentage
Amenorrhoea	40	80
Abdominal Pain	47	94
Vaginal Bleeding	24	48
Nausea/ Vomiting/ Dizziness/ Giddiness	17	34
Shock	7	14
Abdominal Tenderness	40	80
Forniceal Tenderness/ Cervical Motion Tenderness	25	50
Pallor	23	46
Tachycardia	17	34

In present study, Abdominal Pain was the most common symptom seen in 47 (94%) cases. The classical triad of abdominal pain, Amenorrhea, and Vaginal Bleeding was present in 24 cases (48%). Abdominal Pain and Amenorrhea were present in 40 cases (80%). 17 cases (34%) of Patients presented with tachycardia. 7 cases (14%) presented with shock suggestive of major volume of blood loss.

4. Discussion

The youngest patient included in the study was of 18 years and the oldest was of 37 years. (Table No. 1) Majority of patients (44%) were between 21 to 25 years of age. Parrazini *et al* [5] reported the highest number of

ectopic gestation in age group of 26 to 30 years. Hoover *et al* **[**12] reported that the ectopic pregnancy rate increases with age; it was 0.3% among girls and women aged 15-19 years and 1.0% among women aged 35-44 years. Most of the women in India marry at an early age and completes their family at an early age. This age corresponds to the age of peak sexual activity and reproduction.

In this study we found that maximum number of patients was nulliparous (48%) (Table 2) our findings correlate with the findings of Priti *et al***[**13]. She also reported maximum number of ectopic gestation in nulliparous women. We can attribute as it is the tubal pathology which was responsible for ectopic pregnancy. While some other studies multiparous women were found to be more prone to have ectopic pregnancy.[14] The higher incidence in multigravidae is probably due to previous miscarriages and infections resulting in tubal damage.

The common predisposing factors for ectopic pregnancy found in this study were previous abortion and Pelvic inflammatory disease (PID) and history of infertility. History of infertility with increase in risk of EP was detected which may be due to a significant role of hyper stimulation, with high estrogen levels.[15] The association of prior spontaneous abortion with increased risk of EP.[16] This was might be due to the infection, hormonal imbalance, or immunologic factors. [17.18] Previous studies have reported a strong association between prior PID and EP.[19,20]

The commonest presenting complaint was that of Abdominal Pain is the most common symptom seen in 47 (94%) cases. Abdominal Pain and Amenorrhea present in 40 (80%) cases. 17 (34%) cases of Patients present with tachycardia, suggestive of major volume loss (Hemo-peritoneum). The classical triad of abdominal pain, Amenorrhea, and Vaginal Bleeding is present in 24 (48%) cases. This is correlating with the study done by Gupta *et al* **[**21] in which amenorrhea was present in 90%, pain abdomen in 87.5% and bleeding PV in 67.5% of the patients. These features help in early diagnosis of ectopic pregnancies. Barnhart *et al* [22] also reported that moderate and/or severe bleeding and the presence of pain were significantly and positively associated with the presence of an EP. Therefore, it is essential to evaluate all women with complaints of considerable pain or bleeding after a period of amenorrhea as a patient with a potential EP.[19]

5. Conclusion

A better understanding of risk factors and presentations related to ectopic pregnancy can help to manage and prevent its occurrence. There is a need to recognize these risk factors and presentations for earlier diagnosis and management.

References

[1] Mishell DR. Ectopic pregnancy etiology, pathology, diagnosis, management, fertility prognosis. In: Stenchever MA, Droegmueller W, Herbst AL, editors, Comprehensive gynecology. 4th ed. St. Louis (MO): Mosby; 2001.

[2] Centers for Disease Control and Prevention. Ectopic pregnancy surveillance, United States, 1970-1987. *MMWRCDC Surveill Summ* 1990; 39(SS-4):9 —17.

[3] American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 3, December 1998, Medical management of tubal pregnancy. ACOG, Compendium of Selected Publications. ACOG, Washington, DC; 2002 (p. 410).

[4] Saxon D, Falcone T, Mascha EJ, Narino T. A study of ruptured tubal ectopic pregnancy. *Obstet Gynecol* 1997; 90: 866.

[5] Parazzine F, Tozzi L, Ferraroni M, Bocciolone L, La Vecchia C, Fedele L. Risk Factors for Ectopic Pregnancy: An Italian Case-Control study. *Obstet Gynecol.* 1992 Nov; 80(5):821-6.

[6] Centers for Disease Control and Prevention. Current trends in ectopic pregnancy-United States, 1990-1992. *MMWR Surveill Summ* 1995; 44(03):46-8.

[7] F, Gary Cunningham, Kenneth J. Leveno, Steven L. Bloom, John C. Hauth, Dwight J. Rouse, Catherine Y. Spong. Williams Obstetrics. 23rdedition. McGraw - Hill Companies. USA. 2010: 238.

[8] Jonathan S. Berek, Deborah L. Berek. Berek& Novak's Gynecology. 15th edition. Lippincott, Williams & Wilkins, a Wolters Kluwer business. USA.2012: 627

[9] Dubuisson JB, Morice PC, Chapron C, De Gayffier A, Mouelhi T. Salpingectomy- the laparoscopic surgical choice for ectopic pregnancy. *Human Reproduction* 1996; 11(6):1199-203.

[10] Vermesh ML, Presser SC. Reproductive outcome after linear salpingostomy for ectopic gestation: A prospective 3years follow- up. *Fertil Steril* 1992; 57:682.

[11] Valle JA, Lifchez AS. Reproductive outcome following conservative surgery for tubal pregnancy in women with a single fallopian tube. *Fertil Steril* 1983; 39:316-20.

[12] Hoover KW, Tao G, Kent CK. Trends in the diagnosis and treatment of ectopic pregnancy in the United States. *Obstet Gynecol.* 2010 Mar;115(3):495-502

[13] Priti S Vyas, Pratibha Vaidya. Epidemiology, Diagnosis and management of ectopic pregnancy-an analysis of 196.http://www.bhj.org/journal/2000_4203_jul00/original_458.htm.

[14] R. C (Karki) L, Pradhan B, Duwa S. Annual Analysis of Ectopic Pregnancy in Tertiary Care Hospital. *PMJN* 2011;11 :5-8

[15] Berek JS. 14th edn. Philadelphia: Lippincott Williams and Wilkins; 2007.

[16] Berek and Novaks Gynecology Bouyer J, Rachou E, Germain E, Fernandez H, Coste J, Pouly JL, *et al*. Risk factors for extrauterine pregnancy in women using an intrauterine device. *Fertil Steril.* 2000; 74:899–908.

[17] Bouyer J, Coste J, Shojaei T, Pouly JL, Fernandez H, Gerbaud L, *et al*. Risk factors for ectopic pregnancy: A comprehensive analysis based on a large case-control, population-based study in France. *Am J Epidemiol.* 2003;157:185–94

[18] Fernandez H, Bouyer J, Coste J, Job-Spira N. The hidden side of ectopic pregnancy: The hormonal factor. *Hum Reprod.* 1996; 11:243–4.

[19] Barnhart KT, Sammel MD, Gracia CR, Chittams J, Hummel AC, Shaunik A. Risk factors for ectopic pregnancy in women with symptomatic first-trimester pregnancies. *Fertil Steril.* 2006; 86:36–43.

[20] Coste J, Bouyer J, Job-Spira N. Construction of composite scales for risk assessment in epidemiology: An application to ectopic pregnancy. *Am J Epidemiol*. 1997; 145:278–89.

[21] Gupta R, Porwal S, Swarnkar M, Sharma N, Maheshwari P. Incidence, trends and risk factors for Ectopic Pregnancies in a tertiary care hospital of Rajasthan. *J Pharm Biomed Sci.*, 2012; 16(07): 1-3.

[22] Barnhart KT. Clinical practice. Ectopic pregnancy. *N Engl J Med*. 2009; 361:379–387.