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Original Research Article

An Hospital Based Observational Assessment of Ectopic Pregnancy

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Abstract

Aim: The aim of the present study was to determine the incidence, risk factors, clinical features, diagnosis, management and outcome of ectopic pregnancies.

Methods: This prospective observational study was carried out among 100 cases were diagnosed with ectopic pregnancy in the Department of Obstetrics and Gynaecology, Netaji Subhas Medical College and Hospital, Bihta, Patna, Bihar, India for 2 years.

Results: 50% of the patients belonged to 20-25 age group followed by 26-30 (30%) and 31-35 age group (15%). According to socio-economic status, 65% belonged to low status followed by low 25%. According to parity, 75% were multipara followed by 15% nullipara. In the present study, 90% ectopic pregnancy was due to fallopian tube. 78% cases had ampullary fallopian tube ectopic pregnancy. The leading risk factors were previous abdominal/pelvic surgery, H/O Infertility, H/O PID, H/O suction evacuation, MTP Pill intake. In some patients multiple risk factors were associated.

Conclusion: Early diagnosis, timely referral, improved access to health care, aggressive management and improvement of blood bank facilities can reduce the maternal morbidity and mortality associated with ectopic pregnancy.

Keywords: Ectopic Pregnancy, Pelvic Inflammatory Disease, Risk Factors, Salpingectomy, Tubal Pregnancy.

Introduction

Ectopic pregnancy is a global problem and has showed a rising incidence during last three decades. [1] It is also the most important cause of maternal morbidity & mortality in the first trimester. [2] Ectopic pregnancy is a life-threatening condition that every practicing obstetrician and gynaecologist encounters in his or her practice. It greatly endangers the life of the woman and also her future fertility by causing damage to the fallopian tubes and/or ovary. The physician who is ectopic minded rarely fails to make the diagnosis. Ectopic pregnancy occurs when the fertilized ovum implants outside the uterus. [3] Approximately 1-2% of all pregnancies in developed countries are ectopic. [4] In the developing world, the incidence is much higher and 1 in 10 women admitted with a diagnosis of tubal ectopic pregnancy ultimately die from the condition. [5] In the developing countries, ectopic pregnancy is possibly the second most common cause of maternal death next to postabortal complications in the first three months of pregnancy. [6]

Although, overall incidence of ectopic pregnancy has increased over the past few years, death due to ectopic pregnancy has declined. [7,8]

Ectopic pregnancy results following implantation anywhere other than the endometrial cavity of uterus, fallopian tube being the most frequent site. [9,10] Most common tubal site is ampulla (55%), isthmic (25%), fimbrial (17%) and interstitial (2%). Extra tubal sites can be the uterus itself (Cornual, cervical or in a rudimentary horn of uterus), ovary, broad ligament and abdominal cavity. Most of the abdominal pregnancies are secondary to tubal abortion or rupture and subsequent implantation on the bowel, omentum or mesentery. [11] Rarely, ectopic pregnancy may be bilateral or may be concurrent with an intrauterine pregnancy (heterotrophic). [12] This catastrophic life threatening condition is one of the commonest acute abdominal emergencies and accounts for approximately 2% of all pregnancies. [13]

Etiology of ectopic pregnancy includes anatomic alteration, disruption or damage to the mucosal portion of the fimbria or fallopian tube preventing normal embryo transport. Other possible causes consist of, inherent defect in fertilized egg, delayed-ovulation, post-mature eggs with tendency to implant before arrival in the uterus. Increased smooth muscle activity, muscular tone in the isthmus of the fallopian tube, due to high estrogen, may facilitate the retention of a fertilized ovum in the ampullary portion of the tube for a few days. High levels of progesterone too reduce smooth muscle activity, decreasing tubal peristalsis and thus favoring ectopic pregnancy. Therefore, the transport of the fertilized ovum through the fallopian tube and implantation within the endometrial cavity may require an optimum ratio of estrogen and progesterone.

The increase in incidence is because of increase in STD rates, cesarean rates and increasing ART pregnancies. On the other hand, availability of ultrasound and other diagnostic modalities and improvement in health facilities has helped to reduce the maternal morbidity and mortality. [14-16] Absence of identifiable risk factors, varied clinical presentation, and non-availability of ultrasound may cause delay in diagnosis.

Delayed diagnosis or late referral resulting in ruptured ectopic pregnancy may increase the maternal morbidity and mortality. Early diagnosis can make medical management and conservative surgery feasible. This can have a huge impact on the future fertility of the affected women. The aim of the present study was to determine the incidence, risk factors, clinical features, diagnosis, management and outcome of ectopic pregnancies.

Materials and Methods

This prospective observational study was carried out among 100 cases were diagnosed with ectopic pregnancy in the Department of Obstetrics and Gynaecology, Netaji Subhas Medical College and Hospital, Bihta, Patna, Bihar, India for two years

The details of history including age, parity, presenting symptoms, past obstetric history, past history of surgeries or medical disorders, use of contraception and history of infertility. Sexual history was taken in detail to note any high risk for STD/PID. A detailed general physical examination, abdominal and bimanual examination was done. All the patients were subjected to urine pregnancy tests and ultrasound. Culdocentesis was done in few patients. Routine blood and urine investigations were done. All the patients underwent laparotomy or laparoscopy. All 120 patients underwent surgical treatment. Intra operative findings, surgical procedure, blood requirement, post-operative morbidity and outcome were recorded. Prophylactic antibiotics were given to all patients at the time of

induction of anaesthesia. Patients were followed up in the post-operative period with special attention to the development of fever, abdominal pain, and distension of the abdomen and wound sepsis. Patients were discharged with an advice to come for follow up after a week.

Statistical Analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2010) and then exported to data editor page of SPSS version 19 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages.

Results

Table 1: Patient details

Variables	N	%
Age groups in years		
20-25	50	50
26-30	30	30
31-35	15	15
Above 35	5	5
Socio-economic status		
Low	65	65
Medium	25	25
High	10	10
Parity		
Nullipara	15	15
Primipara	10	10
Multipara	75	75

50% of the patients belonged to 20-25 age group followed by 26-30 (30%) and 31-35 age group (15%). According to socio-economic status, 65% belonged to low status followed by low 25%. According to parity, 75% were multipara followed by 15% nullipara.

Table 2: Distribution of cases according to site of ectopic pregnancy

Site of ectopic pregnancy	N	%
Fallopian Tube N=90		
Ampullary	78	78
Isthmic	7	7
Fimbrial	5	5
Cornual	2	2
Ovarian	5	5
Abdominal	1	1
Heterotopic Pregnancy	4	4

In the present study, 90% ectopic pregnancy was due to fallopian tube. 78% cases had ampullary fallopian tube ectopic pregnancy.

Table 3: Distribution of cases according to risk factors

Risk factors	N	%
No obvious risk factor	20	20
H/o pelvic inflammatory disease	45	45
Previous Ectopic Pregnancy	2	2
H/o abdominopelvic surgeries	12	12
Tubectomy/Tubal surgery	5	5
LSCS	7	7

Others (e.g. Appendicectomy)	0	0
H/O IUCD usage	14	14
H/O Oral contraceptive pill usage	7	7
H/O Previous abortion	22	22
H/O infertility	12	12
H/O Endometriosis	2	2
Abdominal pain	85	85
Bleeding or spotting per vaginum	65	65

The leading risk factors were previous abdominal/pelvic surgery, H/O Infertility, H/O PID, H/O suction evacuation, MTP Pill intake.

Discussion

Motherhood is a dream of every woman but this dream is not always pleasant and one may have some nightmares through this journey. Ectopic pregnancy is one such nightmare and life threatening condition that every practicing obstetrician and gynecologist encounters in his or her practice. Ectopic pregnancy (EP) is an acute emergency and may be an important cause of maternal mortality and morbidity in the first trimester if not diagnosed and treated timely. [17]

50% of the patients belonged to 20-25 age group followed by 26-30 (30%) and 31-35 age group (15%). According to socio-economic status, 65% belonged to low status followed by low 25%. According to parity, 75% were multipara followed by 15% nullipara. Shobeiri et al. [18] conducted a study of 872 women with ectopic pregnancy in Iran during 2000 to 2010. They found that the incidence of ectopic pregnancy increased from 1.5 per 1000 pregnancy in 2000 to 4.8 per 1000 pregnancy in 2010. In the present study, the commonest site for ectopic pregnancy was tubal 90 (90%). Among the tubal pregnancies, ampulla was the commonest site 95 (79.16%). Ampullary pregnancy was seen in 53.84% to 80% of the ectopic pregnancies in other studies. [19,20]

In the present study, 90% ectopic pregnancy was due to fallopian tube. 78% cases had ampullary fallopian tube ectopic pregnancy. Jophy et al. [14], Yadav A et al [19], Shiva Kumar et al.21 and Yadav ST et al. [22] also found H/O PID as the major risk factor for ectopic pregnancy. Moini et al. reported a strong association between prior PID and ectopic pregnancy. [23]

Past history of previous abortion with or without D&C was found to be an important risk factor in most studies including the present study, [14,19] This is probably because of tubal damage following post abortal infections. Although any form of contraception decreases the overall risk of pregnancy including ectopic Pregnancy, when contraceptive failure occurs in women using an IUCD or following tubal sterilization, risk of ectopic Pregnancy is elevated. In our study, we found that IUCD or oral contraceptive pill usage predisposed to ectopic pregnancy. A higher incidence of ectopic pregnancy among IUCD users was noted in most studies.[14,19] Parashi et al. found that usage of IUCD increases the risk of ectopic pregnancy significantly whereas oral contraceptive pills prevent ectopic pregnancy. [24]

Ragab et al. [25] conducted a univariate and multivariate analyses of various risk factors for ectopic pregnancy and demographic characteristics. Univariate analyses showed that H/o previous abortion, H/o abdominal surgery, PID, H/o previous D&C and IVF were associated significantly with increased risk of ectopic pregnancy. Multivariate analyses showed that past abdominal surgery, IVF, H/o PID were the only significant risk factors in nulliparous women. The present study and other comparative studies show that PID,

previous abortions, abdominopelvic surgeries contribute to the risk of subsequent ectopic pregnancy. These risk factors are modifiable. Early diagnosis and adequate treatment of PID, performing D& C under strict aseptic conditions, ensuring adequate haemostasis during surgeries, employing methods to reduce post op adhesions during surgery and adequate antibiotic cover may help in reducing the incidence of ectopic pregnancy.

Treatment modality for ectopic pregnancy depends on site of pregnancy, ruptured or unruptured pregnancy, availability of laparoscopy, surgical expertise, need to retain fertility and choice of patient. There was no maternal mortality in our study as reported by many other studies. [14-16] This shows that early diagnosis, timely and prompt management of ectopic pregnancy, availability of adequate blood and blood components improves the outcome of ectopic pregnancies. Delay in seeking healthcare, accessibility to expert health facilities, initial misdiagnosis and delayed referral are important deterrents to prompt management of ectopic pregnancy. [26,27]

Conclusion

Ectopic pregnancy is one of the commonest gynaecological emergencies with significant maternal morbidity and mortality. The incidence of ectopic pregnancy is on the rise. The incidence of ruptured ectopic pregnancy is high in developing countries due to late diagnosis and delayed referral. In developing countries, PID and post abortal sepsis continue to be the most important risk factor for ectopic pregnancy. Since many patients may not have identifiable risk factors, a high index of suspicion is vital for early diagnosis. Women at high risk for ectopic pregnancy must be counselled about the possibility for future ectopic pregnancy. They should be emphasised to report to their doctor as soon as they miss their periods for early diagnosis. Avoiding unnecessary pregnancies, safe sex practices, using barrier contraceptives, prompt treatment of PID/STDs can bring down the incidence of ectopic pregnancies. Early diagnosis, timely referral, aggressive management, improvement of blood bank facilities can reduce the maternal morbidity and mortality associated with ectopic pregnancy.

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