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9

A STUDY OF ECTOPIC PREGNANCY AT TERTIARY CARE HOSPITAL

Dr. Kartavya Y Shihora: 2nd Year Resident Doctor, Department of Obstetrics and Gynaecology, Smt SCL Municipal General Hospital, Smt NHLMMC.
Dr. Meera B Vaghasiya: 2nd Year Resident Doctor, Department of Obstetrics and Gynaecology, Smt SCL Municipal General Hospital, Smt NHLMMC.
Dr. Vaishali P Panchal: Assosiate professor, Department of Obstetrics and Gynaecology, Smt SCL Municipal General Hospital, Smt NHLMMC.

ABSTRACT:

Introduction:

The word ectopic is originated from a Greek word; 'EKTOPOS' meaning "out of the the place". The term "Ectopic Gestation" is applied to pregnancy where fertilized ovum becomes implanted at the site other than endometrial lining of the normal uterine cavity. Ectopic pregnancy is the leading cause of maternal morbidity in first trimester. The incidence of ectopic pregnancy is approximately 1.5-2% worldwide. Increased use of the intrauterine devices for contraception and use of assisted reproductive technologies (ART) are responsible factors for the ectopic pregnancy. Due to advance in modern technology like diagnostic laparoscopy, radioimmunoassay of HCG and ultrasonography diagnosis has become less difficult.

Material and methods:

This prospective study of ectopic pregnancy was carried out at Obstetrics & Gynaecology department of our institute from November 2022 to September 2023.All diagnosed cases of ectopic pregnancy were enrolled in the study. Information was collected in a pretested proforma and analyzed.

Result:

In this study incidence of ectopic pregnancy is 2.4/1000 live births. Out of 25 patients, 72% patients were between the age group of 21-30 years. In our study nulligarvida (36%) were found to be more prone to have an ectopic pregnancy.
Amenorrhea with lower abdominal pain (90%) is the most common presenting symptom. Tubal ectopic pregnancy (96%) was the commonest site of ectopic pregnancy. Conservative medical management was done in 1patients. Multi-dose methotrexate regimen was used inpatient and were treated successfully. Laparoscopic management was done in 16%of cases. Laparotomy was done in 80%of patients.

Conclusion:

It has been observed that ectopic pregnancy remains the most lethal and morbid gynaecological emergency in child bearing age. Early identification of underlying risk factors, diagnosis with the essential aids like trans vaginal ultrasound and beta hCG and timely intervention in the form of medical or surgical treatment will definitely help in reducing the morbidity and mortality associated with ectopic pregnancy & improve the future reproduction outcome.

Keywords: ectopic pregnancy, triad (pain, amenorrhoea, bleeding), obstetrics emergency

Introduction

The word ectopic is originated from a Greek word; 'EKTOPOS' meaning "out of the the place". The term "Ectopic Gestation" is applied to pregnancy where fertilized ovum becomes implanted at the site other than endometrial lining of the normal uterine cavity.

Ectopic gestation is unmitigated disaster of human reproduction. Ectopic pregnancy is the leading cause of maternal morbidity in first trimester and is a major cause of reduced childbearing potential. The incidence of ectopic pregnancy is approximately 1.5-2% worldwide. Rates for recurrent ectopic pregnancy varied between 4.2% and 5%.

There is an overall increase in incidence of ectopic tubal pregnancy (ETP) and this is probably due to increased awareness, advanced diagnostic tools like transvaginal ultrasonography and estimation of Beta subunit of human chorionic gonadotrophin (β-hCG) in serum.

Some associated risk factors are considered to be partially responsible for rise in incidence of ectopic pregnancy to its epidemic proportions in western world. Increased use of the intrauterine devices for contraception and use of assisted reproductive technologies (ART) are responsible factors for the ectopic pregnancy. (3-7) Incidence after conceiving by use of ART is 2-2.5%.

Till today ectopic pregnancy has always challenged ingenuity of the Obstetrician and Gynaecologist by its bizarre clinical picture. If it is not attended in time, it may lead to maternal morbidity and mortality. It is one, which can mimic practically each and every gynaecological disorder as well as many surgical catastrophes.

Due to advance in modern technology like diagnostic laparoscopy, radioimmunoassay of HCG and ultrasonography diagnosis has become less difficult. Yet each method is having its own limitation. An accurate history and physical examination and its correlation to the modern diagnostic technology are believed to be the most important in the diagnosis.

Modern anaesthesia, blood transfusion facilities, transport facilities, immediate resuscitation as well as adequate and proper surgery are the keystone of success in reducing the maternal morbidity.

High resolution ultra-sonography and serum β-hCG level are useful for early detection of ectopic pregnancy in un ruptured state.Early diagnosis allows options for treatment by minimally invasive surgery or medical treatment under care of skilled personnel.

In the last decade, management options have shifted towards conservative surgical and non-surgical treatment of un ruptured ectopic pregnancy. Consequently, there has been improvement in fertility rate after a previous ectopic pregnancy.

Rapidly changing diagnostic and therapeutic approaches makes ectopic pregnancy an exciting and dynamic field for study.

The subject of Ectopic Pregnancy management is selected with following aims and objectives to study different modes of clinical presentation of patient, role of different diagnostic modalities, different modalities of management and its success rate in ectopic pregnancy.

CLINICAL ASPECT OF ECTOPIC PREGNANCY

INCIDENCE:

-The rate of ectopic pregnancy has continued to rise from 1970 to 1992 in United States.) In India, there is four-fold rise in the incidence of ectopic pregnancy.

Increasing ectopic rate is due to:

- Earlier diagnosis of ectopic pregnancy otherwise destined to resolve spontaneously (Ong and Wingfield, 1999).

- Prevalence of sexually transmitted tubal infections and damage (Brunham and Associates,1992).
- Increased use of contraception that predisposes failures as an ectopic pregnancy.
- Increased use of tubal surgery including tubal sterilisation, tuboplasty for infertility and salpingotomy for tubal pregnancy.
- Increased use of assisted reproductive techniques (ART) :use of ovulation induction drugs e.g. clomiphene citrate, human menopausal gonadotrophins and multiple embryo transfer.

MORTALITY:
According to World Health Organisation (WHO), ectopic pregnancy is responsible for almost 5% of maternal deaths in developed countries. It is the most common cause of maternal mortality in the first trimester of pregnancy.

MORBIDITY:
Morbidity has been greatly reduced due to better health care facilities, recent advances in surgical techniques, anaesthesia, availability of blood and broad spectrum antibiotics.

ETIOLOGY

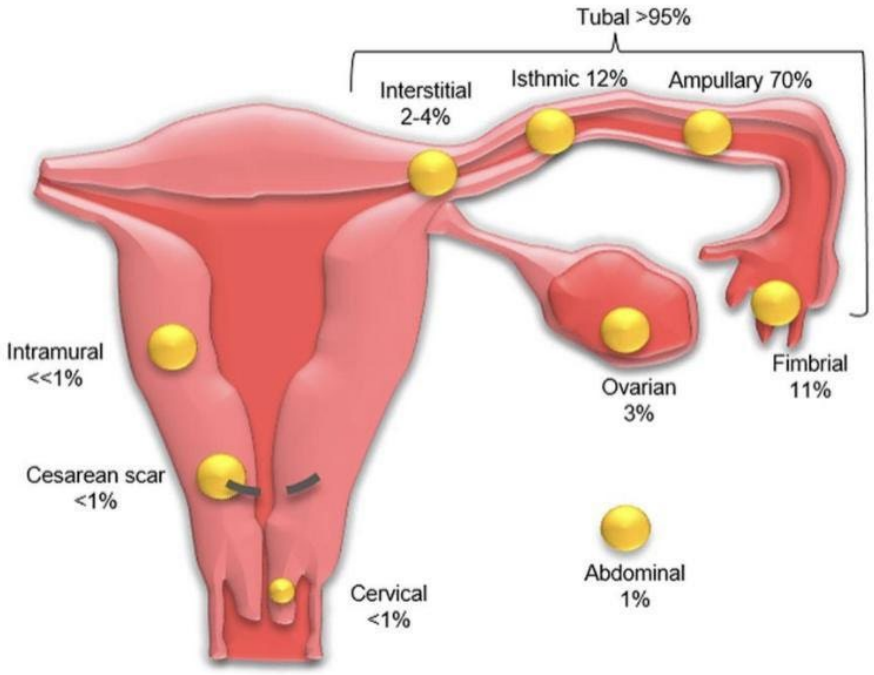
1.Tubal damage secondary to inflammation
2.Contraceptive devices
3.Oral contraceptives
4.Prior tubal surgery
5.Assisted Reproductive Technologies (ART)
6.Prior history of abortions
7.Developmental anomalies

PATHOPHYSIOLOGY

According to site of ectopic pregnancy it is broadly divided into:
1.Tubal pregnancy (95%)
- •Ampulla (70%) most common site
- •Isthmus (12%)
- •Infundibulum and fimbria (11%)
- •Interstitial (2%)

2.Other ectopic pregnancy (5%)
- •Ovarian pregnancy
- •Abdominal pregnancy
- •Pregnancy in a rudimentary horn
- •Intra ligamentous pregnancy
- •Hetrotropic pregnancy
- •Intramural ectopic pregnancy
- •Caserean scar pregnancy

DIFFERENT SITE OF ECTOPIC PREGNANCY



CLINICAL PRESENTATION OF ECTOPIC PREGNANCY

Clinical manifestations of ectopic pregnancy usually appear six to eight weeks after the last menstrual period, but it can occur later depending upon the site of ectopic implantation.

The classical triad of ectopic pregnancy are
(1) Abdominal pain (100%)
(2) Amenorrhea (75%)
(3) Vaginal bleeding (70%)

These symptoms can occur in both unruptured and ruptured cases. But unfortunately the classic triad is present only in 50% of cases.
Some cases of intra peritoneal bleeding with pelvic haematocele could present with ‘toilet signs’; which include dysuria, urinary frequency and tenesmus.

MATERIALS AND METHODS

This prospective study of ectopic pregnancy was carried out at Obstetrics & Gynaecology department of our institute from November 2022 to September 2023.
All diagnosed cases of ectopic pregnancy were enrolled in the study. Information was collected in a pretested proforma and analyzed.

OBSERVATION AND DISCUSSION

This prospective study has included 25 cases of ectopic pregnancy admitted in the department of the obstetrics and gynaecology at our tertiary care institute over a period of November 2022 to September 2023.

All the data were collected & analysed as shown below.

Table1: incidence of ectopic pregnancy

Country	Incidence
Present study	2.4
India	6.2
United States	6.4
United Kingdom	11.1
Ghana	27.9

•In this study incidence of ectopic pregnancy is 2.4/1000 live births.
•While the highest incidence of ectopic pregnancy was noted in Ghana.
•Globally it's incidence has been on the rise over the past decades(complicating 0.25-2% of all pregnancies worldwide), decline of mortality may be related to the awareness of the condition as well as improved diagnostic and therapeutic methods.

Table 2: Age wise distribution of patients

Age(Years)	No.of patient	Percentage(%)
<20	2	8
21-25	8	32
26-30	10	40
31-35	4	16
>35	1	4

•Majority of the patients (72%) were in age group of 21-30 years in our study.
•The higher incidence in this age group was due to maximum fertility during 21-30 years of reproductive age.

Table 3: parity wise distribution of ectopic pregnancy

Parity	No.of patient	Percentage(%)
0	9	36
1	7	28
2	5	22
3	3	12
4	1	2

•As per study, 36% patients were nullipara, 28% were primipara, 22%were second para and 12% were third para.
•This suggests that incidence of ectopic pregnancy decrease with increase in parity.

Table 4: period of amenorrhoea (In weeks)

Period of amenorrhoea	No.of patient	Percentage(%)
<6 weeks	2	6
6-8 weeks	17	68
>8 weeks	3	10
Not known	3	14

•Majority (68%) of the patients presented with 6 to8 weeks of amenorrhea representing the time period required for the growing ectopic gestation to distend the tube and cause symptoms.

Table 5: risk factors associated with ectopic pregnancy

Risk factor	No.of patient	Percentage (%)
PID	5	22
previous abortion	6	24
Previous CS	4	18
Tubual sterilisation	2	8
IUCD insertion	1	4
Unexplained	8	32
H/o infertility	4	16
Previous ectopic	1	2

*some patients have multiple risk factors

•The commonest risk factors were prior abortions, pelvic inflammatory disease, tubal surgeries, infertility, previous Caesarean section after unexplained reasons. Similar risk factors were noted in various other studies.
•The increasing trend in caesarean section was found to be associated with increased risk of ectopic pregnancy.
•Increased risk of ectopic pregnancy after abortion may be due
to post-abortal salpingitis and related damage to cilia, efficacy of antibiotic therapy in preventing total tubal occlusion after an episode of salpingitis are related to increase incidence of ectopic pregnancy, where anatomical patency is there but physical alteration of tubal function takes place.

•Subtle tubal epithelial damage or actual PID episodes are likely responsible for the observed association between IUCD and ectopic pregnancy.

Table 6: clinical presentation

Symptom	No.of patient	Percentage(%)
Abdominal pain	23	92%
Bleeding PV	14	58%
Amenorrhoea	22	90%
Others	2	8%

*patients present with more than one symptom.

•Lower abdominal pain is the most common presenting symptom in 92% of patients. 90% of patients had amenorrhea while in 58% of patients had history of bleeding or spotting per vaginum.
•48% of patients presented with classical triad of abdominal pain, amenorrhea and bleeding per vaginum.
•The clinical picture is dependent on several factors mostly the extent of time taken for disturbance to occur in ectopic gestation. The more extensive and rapid the disturbance, the clearer the clinical picture. Hence, undisturbed ectopic pregnancy is likely to be missed in majority of cases as the clinical features are ambiguous.

Table 7: site of ectopic pregnancy

Site	No.of patient	Percentage (%)
Interstitial	0	0%
Isthmus	2	8%
Ampulla	19	74%
Infundibual	2	10%
Others	2	8%

•The Fallopian tube is the most common site of ectopic pregnancy, accounting for 96% of all ectopic pregnancy in present study.
•1(2%) case of ovarian pregnancy was found in present study and managed by unilateral salpingo-oophorectomy. The diagnosis of ovarian ectopic pregnancy was confirmed after history-pathological examination of sent specimen.

Table 8: Type and treatment of ectopic pregnancy

Type of ectopic pregnancy	No.of patient	Percentage(%)
Unruptured	4	16%
Ruptured	21	84%
Mode of treatment	**No. Of patient**	**Percentage (%)**
Medical (MTX)	1	4
Laparotomy	20	80
Laparoscopy	4	16

•In present study, 84% of patients had tubal rupture, 16% had un-ruptured.
• All the patients of ruptured ectopic pregnancy were managed by laparotomy. Out of 4 patients of un-ruptured ectopic pregnancy 1 was managed by medical management, 3 were managed by laparoscopically.
•1clinically stable patients having un-ruptured ectopic pregnancy and mass of ectopic gestation <4cm were treated with medical treatment.In our study, multi dose regimen of the methotrexate was used. We gave methotrexate injections on alternate days until S.β- hCG level decreases 15% in 48 hours. Then weekly S.β- hCG testing was until it become undetectable.
•Laparoscopic salpingectomy was done in 4 vitally stable patients.
•Emergency laparotomy was done in 80% patients with ectopic pregnancy and vitally unstable.

CONCLUSION

It has been observed that ectopic pregnancy remains the most lethal and morbid gynaecological emergency in child bearing age. As the incidence of ectopic pregnancy increases, ways and means have to be found to reduce the associated morbidity & mortality and to preserve future fertility.
Early identification of underlying risk factors, diagnosis with the essential aids like trans vaginal ultrasound and beta hCG and timely intervention in the form of medical or surgical treatment will definitely help in reducing the morbidity and mortality associated with ectopic pregnancy & improve the future reproduction outcome. Due to increased availability and reliability of serum beta hG values with increased availability of expertise in TVS has made it possible to shift towards medical management in patients with unruptured ectopic pregnancy. Though the recent trend in the management of ectopic pregnancy is the use of a conservative surgical or medical line of management, radical surgery or salpingectomy was the treatment modality which was used in present study. This was mainly because majority of the cases were referred or they came late to the hospital after the ectopic pregnancy had ruptured.

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