



Study the role of different infective factors associated with Ectopic pregnancies in patients attending a tertiary care hospital in Tripura, India

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ABSTRACT

Ectopic pregnancy refers to implantation of a fertilized ovum outside the normal uterine cavity. Ectopic pregnancy presents a major health problem for women of childbearing age. Without timely diagnosis and treatment it become a life threatening situation. The numbers of patients in ectopic pregnancy attending this tertiary care hospital was very high, hence this study is carried out. This hospital based case control study was undertaken to provide a better understanding of Ectopic pregnancy, its clinical presentation and find out various risk factors associated with this condition. 50 cases and 50 controls were studied during 1.5 years of study period and the incidence of Ectopic pregnancy in this institute during study period was 1.69%. Major associated risk factors observed in this study groups are past history of Pelvic inflammatory disease (32% cases), Bacterial vaginosis (52% cases) and Chlamydia infection (2% cases). These conditions are easily preventable and treatable. It is therefore paramount important to take action in early detection and treatment of these conditions.

Keywords: Ectopic, Vaginosis, Chlamydia, Pelvic Inflammatory Disease.

1. INTRODUCTION

In the 21st century, the Ectopic Pregnancies are diagnosed earlier in their natural history due to transvaginal ultrasound & serial estimation of beta hCG level. It is still the leading cause of pregnancy related morbidity & mortality in first trimester.

The cause of Ectopic pregnancy is tubal damage or altered motility that results in the blastocyst being improperly transported & abnormally implanted. Different causes of risk factors are pelvic inflammatory disease (PID), use of Intra Uterine Devices, Smoking, Assisted Reproductive Technology like IVF (In Vitro Fertilization), ZIFT (Zygote Intra Fallopian Tube Transfer), Tubal Surgery, Salpingitis Isthmic Nodosa, Oral Contraceptive Pills containing Progesterone, Elderly lady > 35 years, Ovulation Induction drugs like Clomiphane citrate & Gonadotrophin, Tubal surgery or tubal damage for other surgeries, previous history of multiple abortion, Endometriosis of fallopian tube, developmental error in fallopian tube such as hypoplasia, undue tortuosity, undue length, diverticula, accessory lumen, other factors like Racial, Over production of ovum & external migration, multiple sex partners, exposure to Diethyl stilbesterol may play role in causation of Ectopic pregnancy.

In 50% of cases the cause of Ectopic pregnancy is Pelvic Inflammatory Diseases. Infection of fallopian tubes is seen as the commonest cause of preceding Ectopic pregnancy and histopathological evidence of salpingitis is identified.

In Agartala Government Medical College (AGMC) & G .B. Pant Hospital 2012 & 2013 total Ectopic pregnancy cases were 142. In 2014 & 2015 total ectopic pregnancy cases were 174 the number of patients in ectopic pregnancy attending this hospital was very high, hence the exact cause of these ectopic pregnancies need to be established. So, this study is designed to identify infective causes of the ectopic pregnancies in this group of subjects.

2. OBJECTIVES

- Isolation & Identification of Infective agents among study subjects.

- Determination of factors associated with various types of infection in ectopic pregnancy.

3. MATERIALS AND METHODS

SOURCE OF DATA

This study is conducted in the Department Of Obstetrics & Gynaecology Agartala Government Medical College & GBP Hospital From January 2016 to June 2017.

STUDY DESIGN- Hospital Based, Case Control Study.

SELECTION OF CASES- All the Ectopic Pregnancy Cases Attended OPD, Referred Or Directly Admitted To Dept. Of Obstetrics & Gynaecology In AGMC & GBPH. Whoever on duty was sensitized how to collect the sample & fill the Performa after taking informed consent. The cases were reviewed & followed up regularly.

INCLUSION CRITERIA

All Ectopic Pregnancy Cases attended directly or referred in Obstetrics & Gynaecology Of AGMC & GBP Hospital

EXCLUSION CRITERIA-

Non consenting subjects.

Subjects who undergone per vaginal examination before collection of sample.

STATISTICAL ANALYSIS-

Data analysis was done manually as well as in SPSS Version 15. Data were expressed in frequency percentage & statistical analysis was performed using Pearson Chi square test & Fisher's Exact test & odds ratio was calculated. p value based on 95% confidence interval is considered significant, i.e. p value <0.05 is considered significant.

SAMPLE SIZE:-

This Study is done in women admitted as a case of Ectopic Pregnancy In AGMC & GBPH, Agartala, Tripura during study period.

CASE:

Diagnosed cases of Ectopic Pregnancy during the study period. The approximate number of cases are 50.

CONTROL:

Controls were early normal pregnancy in the ratio of 1:1. The approximate number of controls are 50. So, sample size including cases and controls in the ratio of 1:1, total 100.

STUDY METHODS:

1) Detail History

2) Clinical Examination

3) Radiological Investigations like -Trans Abdominal Sonography.

4) Laboratory Investigations

A) Clinical Path-Hb%, TLC, DLC, Peripheral Blood Smear

B) Urine Pregnancy Test

C) Culture of High Vaginal Swab/cervicovaginal Lavage Fluid / Endocervical Brushing Material.

D) Microbiological Investigations

Vaginal PH

Gram Stain

KOH Preparation

Culture for Isolation & Identification of Bacteria & Fungi

Antigen Detection for Chlamydia,

Antibody Detection for HBV, HCV, HIV

Nucleic Acid Detection By PCR for Chlamydia,HSV,HPV,TB

4. RESULTS

INCIDENCE

In this study the incidence of Ectopic pregnancy is 1.69% during the study period. Center of Disease Control & Prevention (CDC) in 1995 estimated number of Ectopic pregnancy is 2% of reported pregnancies in USA.

AGE

In the present Study majority of the study participants were 20-25 years for both Cases (34%) & Controls (40%). Study conducted by Rose et al. 2000 shows 43% cases of study population were within 21-30 years age group. USA based different demographic data shows age risk of Ectopic is 3 fold greater in women of 35-44 years. Ectopic pregnancy may occur at any time from menarche to menopause.

PARITY

In this study the maximum incidence of Ectopic Pregnancy occurred in Para 1. But in study conducted by Rose et al shows as parity increases there is a decreased in the incidence of Ectopic pregnancy. Munro Kerr & Eastman are of the opinion that there is no specific relation between parity & Ectopic.

AETIOLOGICAL FACTORS:-

INFERTILITY

In this study period of infertility varied from 2 to 5 years giving an incidence of 16%. It is stated that Ectopic pregnancy follows a period of infertility. Significant incidence of prolonged infertility & its causal relationship to Ectopic pregnancy has been observed by several authors such as Eastman (1997) Greenhill (1965). According to March (1998), Rose (2002), Arora et al (1998) a positive history of infertility was present in 2.9%, 15.1%, 11.2% respectively.

PELVIC INFLAMMATORY DISEASE (PID) & OTHER INFECTIONS

PID	Case	Control	Total
Present	17	4	21
Absent	33	48	79
Total	50	50	100

Pearson Chi-square test value=10.0187

P value=0.001 (significant), Odds ratio=5.92.

In the present study significant association found in 17 patients who gave history of PID which contributes 34%. Literature shows PID is an important factor predisposing to the development of Ectopic Pregnancy. Savitha Devi (2000) & Rose et al (2002) shows the incidence of PID as a risk factor in 25% & 34.4% cases respectively. PID following Gonococcal, Chlamydia & other bacterial infection causes 3.3-6 fold increased risk of Ectopic pregnancy. Relative risk based upon ICMR Multicentric case control study (1990) was 6.4%. In this study Chlamydia infection is seen in only 2% cases. Diquelou JY et al (1998) shows chlamydia trachomatis positivity in culture which ranges from 7-30% cases of tubal pregnancy. In the present study significant association found with Bacterial vaginosis.

PREVIOUS ABORTION

Patients who aborted & underwent surgical evacuation was obtained 14% of the patient. Rose et al (2002) reported previous abortion as a risk factor in 25.8%. Berek & Novaks mentions with spontaneous abortion the risk may be increased up to 4 times.

PREVIOUS ECTOPIC PREGNANCY

In the present study 4% cases had been operated for previous Ectopic pregnancy, which is in concurrence with R. Narayanan et al (1983) who reported 3.2% of repeat Ectopic pregnancy.

PREVIOUS OPERATIONS

Out of 50 cases there were 11 cases of previous caesarean section & 1 case of laparotomy. 4% cases had previous tubal surgery. Jeffcoate's mentions that previous tubal surgery increased risk of Ectopic pregnancy by 5.8%.

IUCD

In this study 10% patients were IUCD user. March Bank (1998) , Savitha Devi (2000) shows incidence of Ectopic in IUCD users are 11.9% & 7.69%.

CLINICAL SYMPTOMS

No specific sign or symptoms can be said to be pathognomonic of Ectopic pregnancy, but combination of various findings may be lightly suggestive. In this study classical triad of Amenorrhea, Pain Abdomen & vaginal bleeding was present in 42% cases. Literature states this 3 symptom group is present in about 50% cases. Almost all the symptoms & signs produced by tubal pregnancy are caused by ultimate rupture of tubal wall or abortion with resultant haemorrhage into peritoneal cavity. Manifestations of an unruptured Ectopic pregnancy are not characteristic. Hence, undisturbed ectopic pregnancy is likely to be missed.

GENERAL PHYSICAL EXAMINATION

In this study on general examination, pallor was seen commonly in 84% cases. 42% cases came in a state of shock – which echoing with similar findings in other studies. **ABDOMINAL EXAMINATION**

ABDOMINAL FINDINGS

Abdominal findings	Rose (2002)	Pendse(1981)	Present study
Tenderness	83.9%	89%	74%
Guarding	-	5.4%	22%
Distension	49.5%	16.3%	38%

PER VAGINAL EXAMINATION

Per vaginal examination	Rose (2002)	Pendse(1981)	Present study
Cervical motion tenderness	55.9%	86.3%	66%
Fullness in pouch of douglas	46.2%	54.5%	36% /

DIAGNOSIS & MANAGEMENT

Urine pregnancy test was absent in 2 cases, 1 in tubal abortion & 1 in chronic ectopic pregnancy. Ultrasound reported 66% of them as ruptured. Ultrasound could not be done in 10% cases. Most of the patients were referred from outside with diagnosis of ruptured ectopic pregnancy with haemoperitoneum, so our treatment modality was mainly surgical.

INTRA & POST OPERATIVE FINDINGS

Condition of the tube	Wills & Mohanambal(1998)	Savitha Devi (2000)	Present study
Ruptured	66%	30.77%	70
Unruptured	34%	69.23%	18
Tubal Aortion			12

In this study 62% cases ectopic gestation were found in right side which goes with as stated by different literature.

Out 50 patients 1 patient had salpingoophorectomy with contralateral tubectomy, 3 cases of sapingoophorectomy, 15 case had bilateral salpingectomy & 31 patients had unilateral salpingectomy. Blood transfusion was given in 46 out of 50 patients. 2 patients had stormy immediate postoperative period which was improved with conservative treatment. All patients were discharged in stable condition & had normal follow up visit later on.

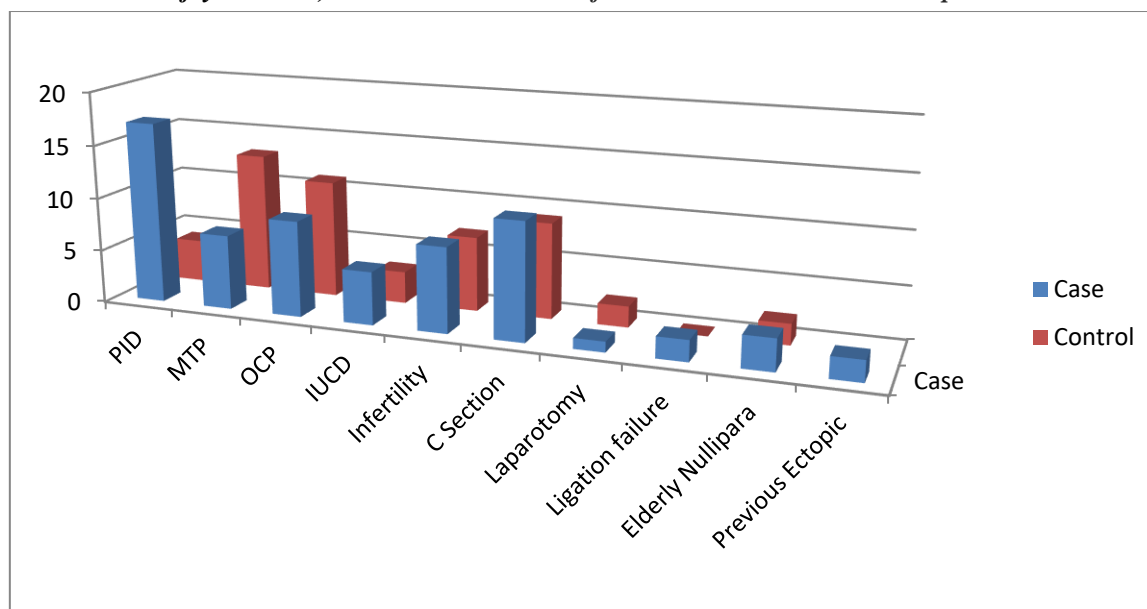


Figure showing risk factor association in cases and controls

5. SUMMARY

This hospital based Case Control study was undertaken to provide a better understanding of Ectopic Pregnancy, its clinical presentation & find out association of various risk factors associated with this condition. 50 cases & 50 controls were studied during 1.5 years study period between January 2015 to June 2016 at AGMC & GBPH, Agartala. The incidence of Ectopic pregnancy in this institute during study period was 1.69%. The incidence of PID in Ectopic gestation was 32% & shows significant association (Odds Ratio = 5.92). Bacterial Vaginosis was present in 52% of cases & shows strong association with Ectopic Pregnancy (Odds Ratio = 6.39). Chlamydia infection was found in 2% cases only. Maximum incidence of tubal gestation occurred between the age group of 20-25 years (34%). Greater incidence was noted in primipara women accounting for 38% that is 16 out of 50 cases. History of infertility was seen in 16% cases. Other risk factors seen were tubectomy (4%), D& E (14%), previous history of Ectopic pregnancy (4%), use of IUCD (10%). The typical triad of amenorrhoea, pain abdomen & bleeding was observed in 42% cases. 21 out of 50 patients were brought in shock. Tenderness on cervical motion was seen in 33 cases (66%). Mass & fullness of the fornix was observed in 36% cases. Urine pregnancy test was positive in 96% cases. 2 patients who had negative urine pregnancy test were 1 tubal abortion & 1 chronic Ectopic. The commonest site of tubal pregnancy was in the ampullary region 54%, Isthmal in 26%, fimbrial 2%. 4% had corneal, 2% had ovarian & 12% cases had tubal abortion. Out of the 50 patients 31 had unilateral salpingectomy, 15 had bilateral salpingectomy, 3 had unilateral salpingo-oophorectomy & 1 had salpingo-oophorectomy with contralateral tubectomy. 92% of the cases had blood transfusion. 2 patients had immediate postoperative morbidity but all patients were discharged in stable condition & had normal follow up visit.

6. LIMITATIONS

Most of the patients were referred from outside with diagnosis of ruptured ectopic pregnancy with haemoperitoneum, so our treatment modality was mainly surgical.

10% cases ultrasound was not done as patients were in shock & immediately underwent emergency laparotomy.

7. CONCLUSION

Ectopic pregnancy presents a major health problem for women of childbearing age. Without timely diagnosis & treatment, Ectopic pregnancy can become a life threatening situation. Major associated risk factors observed in this study group are past history of pelvic inflammatory disease & bacterial vaginosis. Both of these conditions are easily preventable & treatable. So, it is important to take action in early detection & treatment of these conditions. The treatment modalities also has evolved from radical to conservative surgery & even to medical & expectant management. But the paradox noted in this institute is that even though the early diagnostic tools were available, most of the patients were managed as surgical emergencies as they brought late with established diagnosis of ruptured Ectopic pregnancy with haemoperitoneum.

It is therefore paramount important that all physician should keep Ectopic pregnancy as a differential diagnosis while treating a women in reproductive age group with lower abdominal pain irrespective of her period of amenorrhoea, marital status & history of tubal sterilization surgery.

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