

Risk Factors for Ectopic Pregnancy at Lahore General Hospital Lahore

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ABSTRACT

Objective: To determine risk factors for ectopic pregnancy in patients presenting in Lahore General Hospital, Lahore.

Design: Descriptive study

Place and duration of study: Department of Obstetrics & Gynaecology, Lahore General Hospital, Lahore from 01.08.2009 to 01.08.2010.

Patients and methods: 56 patients with ectopic pregnancy from emergency and out patient department who were managed surgically, during study period were included. Risk factors were asked in history and intra operative findings were recorded on proforma after obtaining informed consent from patients.

Result: Maximum numbers of patients were between 20 – 29 years of age that is 60%. The commonest site of ectopic pregnancy was Ampulla of fallopian tube (78.5%). 57% patients were multigravida (P2 or >). Common risk factors were pelvic inflammatory disease (25%) previous ectopic pregnancy (10.7%), previous surgery (10.7%) and smoking (21.4%) h/o infertility and use of IUCD was found in 12.5% and 7.1% alternatively. 53.6% patients were having single factor but 28.6% were having double risk factors. Intra operative findings in patients with H/O PID, previous surgery and previous ectopic pregnancy showed that in 61.5% patient other tube was healthy while 23% patients were having salpinx and 15.3% tubo ovarian masses.

Conclusion: Ectopic pregnancy is a life threatening condition in early pregnancy. The increased awareness and knowledge of risk factors will help in an early and accurate diagnosis of ectopic pregnancy. In this study pelvic inflammatory disease, previous ectopic pregnancy. Previous pelvic surgery and smoking were major risk factors for ectopic pregnancy. Further more, other factors found to be associated with ectopic pregnancy, such as history of infertility, use of intrauterine contraceptive device, previous induced abortion were also responsible due to their affect on pelvic anatomy and tubal health because of infections.

Key words: EP- Ectopic Pregnancy, PID – Pelvic inflammatory Disease, IUCD – Intrauterine Contraceptive Device

INTRODUCTION

Ectopic pregnancy is defined as a pregnancy that is implanted outside the uterine cavity i.e., at a site that by nature is not designed anatomically and physiologically to accept the conception or to permit its growth and development¹.

Over the past 30 years the incidence of ectopic pregnancy has dramatically increased in most industrialized countries. The reported annual incidence rates vary between 100 and 175 per 100,000 women age between 15 and 44². Ectopic pregnancy remains an important cause of maternal mortality world wide. 97% of ectopic pregnancies occur in fallopian tube, while 3% of them can be in cervix, uterine cornie, ovary and abdominal cavity^{3,4}.

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Important risk factors for ectopic pregnancy are previous tubal pregnancy, previous tubal surgery, early age of intercourse, increased maternal age, pelvic inflammatory disease, current intrauterine contraceptive devise user, abortion, assisted conception, smoking, H/O infertility and exposure to diethyl still boestrol^{1,5}.

Ectopic pregnancy usually presents with amenorrhoea, symptom of pregnancy, lower abdominal pain, vaginal bleeding, adenexal mass⁶ or the patient may be in a state of shock in case of ruptured ectopic pregnancy⁷. Diagnosis can be made with the help of detailed history, examination, urine for pregnancy test, quantitative measurement of serum Beta HCG, trnsabdominal USG⁸, transvaginal scan, and in doubtful cases laparoscopy⁹.

Medical and surgical treatment options are available but selection of treatment depends upon standard criteria's.

This study was done to determine the risk factor of ectopic pregnancy in our population so that high risk patients can be counseled about their risk of ectopic pregnancy and thus early presentation, after missing the period to medical personal can help to detect ectopic pregnancy at an early stage. Early detection can cure the patient with medical treatment and surgical trauma can be avoided.

PATIENTS AND METHOD

This hospital based, descriptive study was carried out in Gynae Unit I Lahore General Hospital Lahore from Aug, 2009 to Aug, 2010. A comprehensive Performa was designed to enter detailed history of patients diagnosed as having ectopic pregnancy with special emphasis on risk factors and intraoperative findings were also recorded. Informed consent was taken from all the patients. All the patients who were presented in emergency department of Obstetrics & Gynaecology Unit I with complaints of amenorrhoea. P/V bleeding and abdominal pain and later on confirmed of having EP were included in the study All the patients who presented in out patient department and diagnosed on USG as having ectopic pregnancy but with no symptoms were also included in the study. All the patients were manage surgically. So intraoperative finding recorded. Patient without confirm diagnosis and later on managed expectantly were not included in this study. Intraoperative finding were needed in every patient, to confirm the effect of risk factors and to see the states of other tube for future fertility.

RESULTS

According to inclusion criteria of our study 56 patients were diagnosed as cases of EP in Gynae Unit I Lahore General Hospital Lahore from August 2009 to August 2010.

In this study 4% patients were of less than 20 years of age, 32% patients were between 20-24 years of age 28% patients were 25-29 years of age, only 8% patients were between 30-34 years of age group. While 20% patients were between 35-39 years of age, only 8% patients were near than 40 years of age.

Regarding intraoperative findings in patients with history of PID, previous ectopic pregnancy and previous pelvic surgery status of other tube was found healthy in 61.5% of patients while in 23% patients hydrosalpinx and 15.3% tube ovarian masses were detected. 19.2% were having severe pelvic adhesions leading to obliteration of pouch of Douglas while in 80.8% mild friable adhesions were found.

Table 1 Distribution of cases according to site of EP (n=56)

Site of Ectopic Pregnancy	=n	%age
1. Fallopian Tube	54	96.92
Ampullary	44	78.5
Isthmic	4	7.1
Fimbrial	5	8.9
Cornual & interstitial	1	1.7
2. Ovarian	1	1.7
3. Abdominal	1	1.7
4. Heterotopic Pregnancy	0	0
Total	56	100

Table 2 Distribution of cases according to parity (n=56)

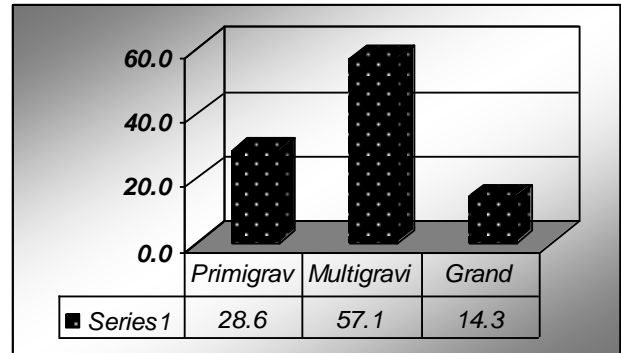
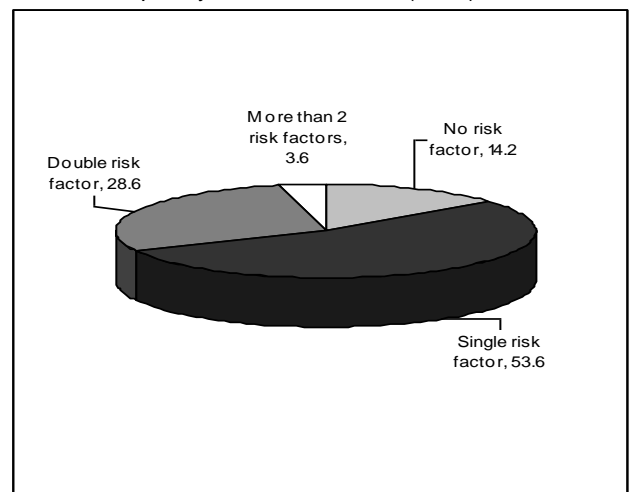


Table 3: Distribution of cases according to risk factors.

Risk Factors	n-	%age
H/O pelvic inflammatory disease	14	25
Previous Ecropic Pregnancy	6	10.7
Previous surgery (including sterilization)	6	10.7
Previous or current user if IUCD	4	7.1
Smoking	12	21.4
Previous induced abortion	3	5.3
H/O infertility	7	12.5
H/O Endometriosis	2	3.5
H/O Tuberculosis	1	1.7
No Risk Factor	8	14.2

Table 4 Frequency of Risk Factors (n=56)



DISCUSSION

Ectopic pregnancy is one of the major health problems for women of child bearing age. The commonest aetiological theory of ectopic pregnancy is delay in ovum transport probably due to some physiological dysfunction of tubes are due to some pathological defect in tubal structure.

Previously reported incidence of ectopic pregnancy ranges between 0.25% and 1.5% of all pregnancies¹. In our study total number of pregnancies were 3752 from Aug, 2009- Aug, 2010, out of which ectopic pregnancies were 56 therefore rate in this study is 1.6%. True incidence in our population can be lower than this as most of the deliveries are conducted at home and private clinic, only major Gynaecological emergencies are referred to our tertiary hospital.

Regarding age group maximum number of patient were between 20-24 yrs of age that is 32% and between 25-29 yrs of age that is 28%, which is consistent with results of a study conducted by Pall et al in India with maximum incidence of ectopic pregnancy in age group of 21-35 yrs¹⁰.

Same finding are shown in study conducted by Ayesha Imarn et al in CMH Lahore¹¹. Incidence of ectopic pregnancy was lower for adolescents than adults (9.7% vs 21.7%)¹². Similarly in our study only 4% patients were less than 20 yrs of age.

Theoretically all sexually active women are at risk of experiencing an ectopic pregnancy, how ever woman of reproductive age who are associated with one or more of the risk factors have a much higher risk. In our study more patients were multiparous (P₂ or more) that is 53.5%, Primigravida were 32% and grand multipara were 14.2%. In a Nigerian study parity socioeconomic status were not significant factors¹³. However frequency of risk factors is important because more risk factors will make the patient more prone to ectopic pregnancy. In our study 30 patients were having single identifiable risk factor on history and examination while 16 patients were having double risk factor and 2 patients were having multiple risk factors 8 patients were having no identifiable risk factor.

97% of ectopic pregnancies are usually found in fallopian tube while 3% may be found in ovary, cervix, broadligament, uterine cornu and abdominal cavity. Ampullary ectopics present 70% of all tubal pregnancies (13). In our study 96% pregnancies were tubal and out of these 78.5% are ampullary while there was only one case of ovarian and one case of abdominal pregnancy.

The tubes serves a complex function in the process of fertilization and transport of the oocyte. At ovulation the fimbriated end of the fallopian tube

picks up the expelled oocyte. Conduction of egg towards the uterus is thought to be affected primarily by the negative tubal intraluminal pressure generated by muscular contractions, with a secondary contribution from ciliary beating. Impaired muscular contraction as in perimenopausal women, loss ciliary action (prior infection, surgery, previous ectopic pregnancy) or physical blocked (Tubaligation) can therefore subsequently increase one's risk of future EP^{15,16}.

The main risk factors for EP were prior EP (adjusted odds ratio:13.1) and history of PID (AOR :6.8)¹⁹. In our study the commonest risk factors was pelvic inflammatory disease seen in 25% of cases, same finding was observed in an other study conducted in Pakistan (18). Previous EP and surgery (including appendectomy and tubaligation) were the second most common factor in our study that is 22%.

A French study found that risk of EP was significantly higher in women who smoke¹⁷. We also found smoking as significant factor in 12 patients; however in most of the patient it was associated with some other risk factors as well.

Although any form of contraception decreases the over all risk of pregnancy including EP, when contraceptive failure occurs in women using an IUCD or following tubal sterilization, risk of EP is elevated. With copper T approximately 6% failures represent ectopic implantation (20,21). In our study 7% patients were using copper IUCD presented with EP (as incidence of EP is between 0.25 – 1.5% so it is higher in users of IUCD) in a study by Khadija Waheed and Sara Ejaz 13% cases with EP have used IUCD (18). Other factors in the history which may be associated with risk of EP include H/O infertility, previous induced abortions and assisted conception⁷. In our study 12.5% patients were having infertility while it was up to 24% in our other study conducted by Ayesha Imran at CMH Lahore¹¹.

Data from two French case control studies suggest that induced abortion may be a risk factor for EP from women with no history of EP¹. In our study 3 patients were having history of previous induced abortion. H/O endometriosis and tuberculosis was also found in 3.5% and 1.7% patients probably their affect on tubal structure and due to pelvic adhesions as seen in the intraoperative findings.

Regarding intraoperative findings in patients with previous EP, history of PID and previous surgery, pelvic adhesions of variable severity were common. However in about 50% of the patients other fallopian tube was grossly healthy looking. But possibility of damage of ciliated epithelium and intraluminal adhesions cannot be ruled out As incidence of tubal obstruction increases with subsequent episodes of

PID, 13% after one episode, 35% after two episode and 79% after three²². So in patients with Hydrosalpinx and tubo ovarian mass recurrent EP will be a threat. Similarly ratio of ectopic to intrauterine pregnancy is higher after sterilization, in our study one patient had EP after tubal ligation.

CONCLUSION

Ectopic pregnancy is one of the commonest Gynaecological emergency with significant maternal morbidity and mortality. PID, previous ectopic, previous surgery and smoking are important risk factors. Identification of risk factors in patient of reproductive age presenting to Gynaecological out patient department is very important to counsel the patient for her future risk of ectopic pregnancy. So that early presentation in the start of pregnancy can help to diagnose ectopic pregnancy at a stage when medical management can help the patient and surgical trauma can be avoided.

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