**ORIGINAL ARTICLE**

# Clinical Presentation of Ectopic Pregnancy in Sir Ganga Ram Hospital Lahore

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## ABSTRACT

The journey from conception to the birth of the baby is not always smooth. One of these encumbrances is Ectopic Pregnancy. Ectopic Pregnancy is the implantation of embryo at a site other than the uterine endometrium[1]. The incidence of Ectopic pregnancy is approximately 1-2 percent pregnancies, with 96% of Ectopic pregnancies are implanted in fallopian tube[2]. However, ectopic pregnancies may be tubal, interstitial, cornual, cervical, caesarean scar, ovarian, abdominal and heterotopic pregnancies. Caesarean scar account for 1: 2500 ectopic pregnancies and present with diagnostic and management difficulties. Approximately 10 percent of all maternal mortality is due to Ectopic pregnancy[3] in the twentieth century. Various factors contribute to ectopic pregnancies, the most common being previous pelvic surgery and infection[4]. Ectopic pregnancy is being diagnosed more frequently in women who conceive after infertility treatment[5].

**Keywords**: Ectopic pregnancy, PID, previous pregnancy loss and surgery, ovulation induction, Conservative management.

## INTRODUCTION

In normal pregnancy the fertilized egg implants in the uterus after fertilization in the fallopian tube. In ectopic pregnancy the embryo implants in the fallopian tube in 90% of the cases. The ectopic pregnancy may also implant in the ovary, abdominal cavity and in the caesarean section scar in 1:2500 cases. The incidence of ectopic is 1:80 and 15% chance of recurrent ectopic[6,1].

The fallopian tube or other ectopic sites cannot accommodate a growing fetus. The fallopian tube may rupture causing fatal haemorrhage. This happens between 5-14 weeks of pregnancy. The symptoms of ectopic pregnancy vary from asymptomatic diagnosis on early pregnancy ultrasound to haemorrhagic shock. The patient may also complain of one sided abdominal pain, vaginal bleeding and even bowel pain and diarrhea and vomiting.

There are many risk factors in ectopic pregnancy.

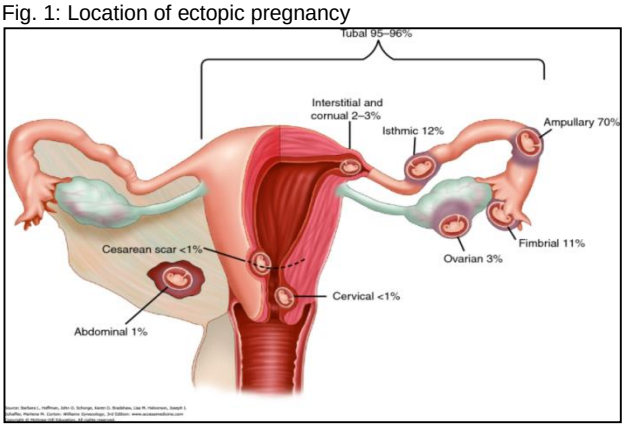
1. Damage of fallopian tube due to previous pelvic infection or surgery. The fallopian tube is 10cm long. It is lined by cilia which move the embryo towards the uterus. Damage to cilia due to infection or scarring from previous surgery may cause a delay in the transport of fertilized egg or embryo which implants in the fallopian tube and causes ectopic pregnancy.
2. Progesterone and IUCD may also disturb the motility of fallopian tube causing ectopic pregnancy. Other factors causing ectopic pregnancy are ovulation induction drugs, older age and previous ectopic pregnancy; 15% risk of recurrent ectopic.

However, many women having EP do not have any risk factor and the cause is unknown, pregnancy of unknown location[14].

This study was carried out on a total of 168 ectopic pregnancy cases which were presented to Sir Ganga Ram Hospital during one year &six months (i.e., 1st January 2016 to 30th June 2017). The study focuses on the following objectives:

- To find out the frequency of ectopic pregnancy and its relation to the age and parity of the patients.
- To know associations of ectopic pregnancy with ovulation induction.
- To identify risk factors associated with ectopic pregnancy.

Fig. 1: Location of ectopic pregnancy




## MATERIALS AND METHODS

**Study Design:** Case Controlled Study

**Settings:** Department of Obstetrics and Gynecology, Unit 4, Sir Ganga Ram Hospital, Lahore

**Duration of Study:** 1st January 2016 to 30th June 2017(i.e. 1 year and 6 months; and it's still an ongoing study)

**Sample Size:** 168 Cases+/- SD

**Study Technique:** We studied all women presenting with symptoms of ectopic pregnancy (EP) in the Emergency department (E.R.) of Sir Ganga Ram Hospital Lahore, Pakistan.

**Sample Collection:** In order to build a sample space, the major demographic characteristics which were recorded are maternal age, parity, gestational age at presentation & past history of pregnancy losses. A detailed medical history was also taken and reason of referral was evaluated. Further, hospital records, registers and operation theatre information were also compiled to create the sample space for the case study.

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**Inclusion and exclusion criteria** subject to the below mentioned aspects was applied to all the 168 cases in the sample space:

a) History
b) Clinical Presentation
c) Investigation
d) Treatment

## RESULTS

After compiling and thoroughly analyzing the sample space the following results were concluded:

- Figure 2 below shows that 72% of the total patients, which were diagnosed with ectopic pregnancy, were in the age group of 20 to 29 years
- Figure 3 below shows that 62% of the total cases were ruptured ectopic and required an emergency surgery
- Furthermore, Figure 4 shows that 69% of the total patients were either Multiparous or Gravida-2 and above

Table 1 shows that 33.92% women had previous pregnancy losses, 23.21% had previous abortions and 19.64 % were those taking ovulation induction treatments

Table 1: Risk factors of ectopic pregnancy in 168 cases.

| Risk Factors | n | %age |
|---|---|---|
| Previous Pelvic surgery | 57 | 33.92 |
| Previous Abortions | 39 | 23.21 |
| Infertility Treatment | 33 | 19.64 |
| IUCD in situ | 19 | 11.30 |
| Fibroid uterus | 11 | 6.54 |
| Recurrent Ectopic | 09 | 5.35 |

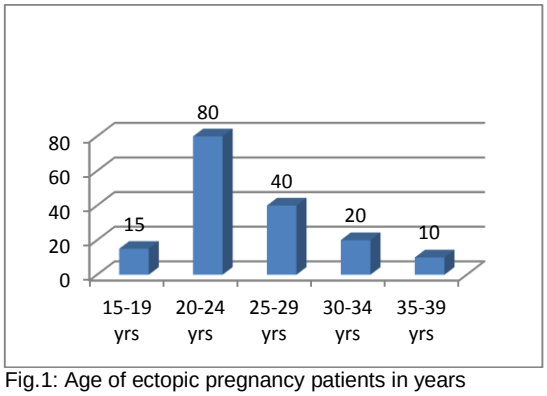


Fig.1: Age of ectopic pregnancy patients in years

Fig. 2: Comparison of condition of tube

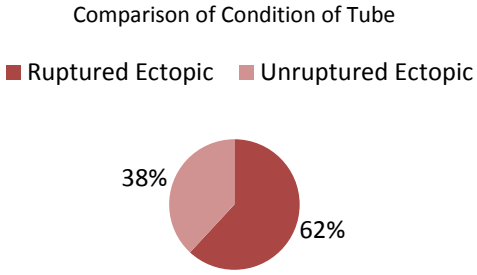


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Fig. 3: Parity of patients with ectopic pregnancy

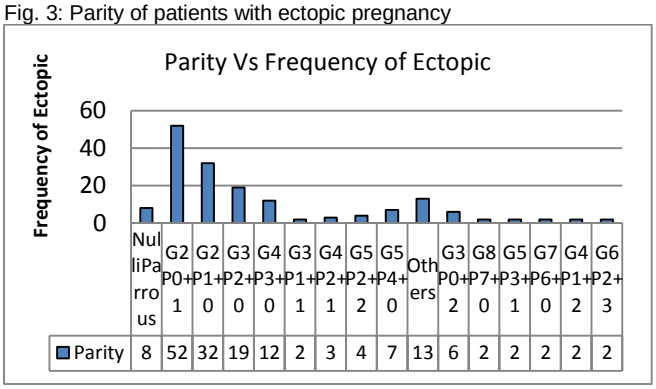
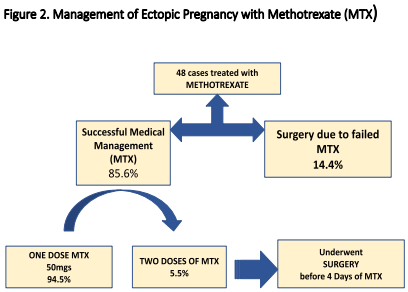



Fig. 4: Mangement of ectopic pregnancy.




## DISCUSSION

The incidence of Ectopic pregnancy is on a rise though the maternal mortality has declined due to early diagnosis and improved medical facilities[1,6]. On literature review ectopic is encountered in 0.5-1.5% of clinically reported pregnancies. The prevalence in one study conducted at Bahawalpur Pakistan varies 1:124 to 1:130 [2] [7]. In our study the prevalence rate is high 1:133 patients, p value< 0.5. The value is high due to study conducted in a tertiary care center with referral from all over the Punjab. The increase incidence may be contributed to increased early diagnostic facilities freely assessable to the patient and increased awareness of ectopic pregnancy and its presentation.

The average age of patient was between 20-29 years with maximum 42 years and minimum 15 years. 72% of patients with ectopic pregnancy belonged to 20-24 years of age. This age is 5years younger than the age coated in literature [4] [5]. Pakistan being Muslim country there is a culture of early marriage and conception and low contraception rate [6], late marriages and childbirth also leads to EP patients presenting at higher age group.

The majority of women in our study were parous or with previous miscarriage. This is because Pakistan is Muslim country with inclination towards marriage **before** childbirth. Risk factors for ectopic pregnancy include tubal damage following surgery or infection, smoking and in vitro fertilization. However, the majority of women with an ectopic pregnancy have no identifiable risk factor.

The incidence of Pelvic Inflammatory Disease is also on the rise [3] which can be cause of increase presentation of the condition.

Risk factors associated with EP include history of miscarriage in majority of the patients followed by previous pelvic surgery 15% [7] ; this points towards Pelvic Inflammatory Disease underlying majority of the cases.[8] An increased risk of EP associated with miscarriage has been reported in Athens in a case control study.[9]another study reported six fold increase incidence of EP with proven PID [8].

The incidence of EP with in situ IUCD was 3.8% in our study which is comparable with the prevalence quoted in literature. [10] One study reports increased EP rate associated after use of Progesterone only pills [ 8] but Woman Health Study regarding the health risks associated with IUCD negates an increased risk of ectopic with IUCD use [ 9 ].

Ovulation Induction is associated with 11.3% risk of EP. The reported incidence of EP after IVF treatments range from 4-11%[11].[12] As IVF treatments are increasing worldwide these centers come across with problem of EP diagnosis and treatment because IVF is attempted in women with tubal blockage which may be due to PID or previous gynecological surgery. Hence salpingectomy is recommended before IVF treatment in such cases. Previous EP is the most important risk factor increasing the risk tenfold [ 13]

Laparoscopy is gold standard for the diagnosis of EP .Ultrasound appearances of EP are 'Blob' sign in 60% and 'Bagel 'sign in 20% and extra uterine gestational sac in the rest. The ultrasound report is validated by B HCG [12]

Treatment should be tailored to individual needs; in hemodynamically stable patients 'conservative' or 'expectant' management and serial B HCG management until negative.

Management of EP is medical with Methotrexate most of the time but LAPAROTOMY if the patient presents with hemorrhagic shock. Surgery for EP is Salpingectomy [13] laparoscopic where facilities are available.

Majority of the EP patients presenting to Emergency department were ruptured ectopic. Hence laparotomy with salpingectomy being the procedure of choice in 11.3% of our patients.

Methotrexate is folic acid antagonist used as 50mgs single dose in majority of the cases or calculated by weight of the patient. The dose may need to be repeated [14]. Its mechanism of action is [15] Side effects are [16].

## CONCLUSION

Based on the data collected and analyzed over a span of 1.5 years in the emergency department of Sir Ganga Ram hospital, the Ectopic pregnancy is on the rise and is still a major health problem amongst women of reproductive age group. Since the patients present acutely, hemodynamically unstable and unfit for conservative management, Laparotomy is the mainstay of treatment. The prevalence of Ectopic pregnancy is higher in women with previous pregnancy surgeries (33.92%) and previous abortions (23.21); furthermore, the percentage of ectopic pregnancies in patients taking ovulation induction treatments was 19.64%. However, the study's sample space is small and needs to be researched further.

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