

## RISK FACTORS FOR ECTOPIC PREGNANCY — A REVIEW OF 106 CASES

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### SUMMARY

Recognition of high risk factors for ectopic pregnancy enables the clinician to identify a suspect case. This study of 106 patients with ectopic pregnancy showed that 26 (24.5%) had a history of abortion (MTP-21, spontaneous abortion-5), 24 (22.6%) had history of infertility (Primary-17, Secondary-7), 12 (11.3%) had pelvic inflammatory disease. Another 6 (5.7) had genital Koch's. Thirteen cases of ectopic pregnancy (12.5%) had used an intrauterine contraceptive device in 4 (3.9%) it was in situ, while 9 (8.4%) had previously used it. Twelve patients (11.3%) had history of previous tubal surgery which included ligation (8.4%), recanalization (1.8%) and salpingolysis (0.9%). Previous history of ectopic pregnancy on the contralateral tube and partial salpingectomy was found in 5 patients (4.6%).

Awareness of these factors helps early diagnosis and appropriate management in an individual case.

### Introduction

Despite several diagnostic advances made during recent years, Ectopic Pregnancy (EP) still remains a dramatic surgical emergency in clinical practice. During recent years E.P. is reported to be on the increase. In the developing countries it is considered a major public health problem with its resultant varying maternal mortality and morbidity rates.

Though the definitive etiology of EP is still obscure, various factors have been

found to be associated with the condition. Awareness of these factors will make the clinician keep in mind the probability of an EP in a suspect case.

The aim of this study is to recognise and analyse the various risk factors for ectopic pregnancy, so as to identify the high risk group of women.

### Material and Methods

A detailed history was taken in 106 cases of ectopic pregnancy managed at the Department of Obstetrics and Gynaecology, AIIMS. The patients were interviewed regarding the history of use of contraceptive methods such as intrauterine contra-

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ceptive device and oral pills at present or in the past and the duration of use. Any surgery of the tubes such as ligation, recanalization, tubal surgery of E.P. were noted. History of Medical Termination of Pregnancy, spontaneous abortion was also taken. A history of primary or secondary infertility, duration and treatment, with special attention to use of ovulation induction agents was also noted. A history of pelvic inflammatory disease, sexually transmitted disease, number of attacks, was looked for. History of tuberculosis in the patient or in the family was asked for. All the patients underwent laparotomy. At surgery genital tuberculosis, tubal adhesions suggestive of pelvic inflammation were specifically looked for. Any other positive findings associated with the ectopic pregnancy were also noted. The risk factors were then tabulated so as to calculate their incidence and relative risk.

### Results and Observations

They are enumerated in Table I.

### Discussion

This study suggests that M.T.P. P.I.D., Infertility and genital tubercular infection were more often associated with E.P., besides many other factors like use of IUCD, Sterilization and tubal surgery.

### IUCD and PID Related Factors

In this study (3.9%) patients had EP with IUCD in situ, while 9(8.4%) had history of recent use showing an overall 12.5% as IUCD related E.P. Ory (1981) however found no difference in incidence of E.P. among IUCD users and non-users : but Lippes as early as in 1965, found a 17% rate of EP among 23 loop failures. Lawless and Vessey (1984) observed that 5% women conceiving with an IUCD would have an EP.

PID was found in 12 cases (11.3%) and another 6 had genital Koch's while 8 more had a history of pulmonary Koch's. Two patients with PID had a history of MTP, 1 had CuT in situ and 1 had history

TABLE - I  
RISK FACTORS FOR ECTOPIC PREGNANCY

Factors	Nos.	Percentage
1. M.T.P.	21	26
D&C/VA for spontaneous abortion	5	
2. Primary Infertility	17	
Secondary Infertility	7	24
3. Pelvic Inflammatory Disease (PID)		12
4. Tuberculosis : Genital		6
5. Tuberculosis : Pulmonary		8
Tuberculosis : Neck		1
6. IUCD (a) in situ	13 (12.5%)	4
(b) previous use		9
7. Tubal Surgery		
(a) ligation		9
(b) Recanalization	12	2
(c) Tuboplasty	(11.3)	1
8. Previous E.P.		5
Oral Contraceptive Pill		2

of use of CuT. On laparotomy, adhesions were seen in 6 cases. Women with PID and STD have a 10 fold risk of an EP and it was observed to increase 7 fold after an episode of acute salpingitis as compared to 1.2% of the controls (Erkolla, 1977). Damage to the tubal mucosa, adhesions between plical folds, cause blind pockets in which the fertilized egg may be trapped. The increased use of IUCD cause 2 to 9 fold incidence of PID (Westrom, 1980). The increased use of IUCD accounts for a substantial portion of the increase of PID and EP (Ory, 1981). Previous chlamydia trachomatis salpingitis may be a major etiologic factor in E.P. (Svensson, 1985).

#### **M.T.P.**

Our study showed 21 cases having a history of MTP and 5 having D&C/VA for spontaneous abortion, total 26 cases (24.5%); 2 patients had pelvic information after the MTP. Park and Whang (1982) reported 61.5% women with EP having previous MTP. Such a relation may exist if infection or trauma occurs after or during the MTP as was observed by Houge (1982).

#### **Tubal Sterilization**

Relationship of tubal sterilization failures with EP is well established and a 15-20% EP are reported by various authors. (Park, 1982; Choudhury, 1982). The latter reports suggested a higher risk with laparoscopic coagulation techniques since it produces more tissue damage and cause tubo-peritoneal fistula formation. Faulty technique and re-union of the Cut ends of the fallopian tubes were thought to increase the risk of EP. Again Hughes (1980) suggested a greater risk if the ligation is done post-partum or post-abortal. This study suggests such relationship in 8.4%. It was seen both in Yoon's ring ligation (6

cases) and in mini-laparotomy Pomeroy's method (3 cases).

#### **Therapeutic Tubal Surgery**

2 recanalization and 1 tuboplasty patient had EP in our study. Hallat (1986) reported that incidence of EP doubles after tubal surgery.

#### **Infertility**

An infertile woman who conceives is at increased risk of having an EP (Weikstein, 1987). Marchbanks (1985) found an increased incidence of 7.7 times in women with history of infertility and 10 times per conception cycle when clomiphene citrate was used.

In our study, 24 patients (22.6%) had history of infertility 17 patients had primary and 7 had secondary infertility. None received clomiphene or underwent IVF.

#### **References**

1. Choudhary S.K., Ray M.: *J. Ind. Med. Asso.* 78:50, 1982.
2. Erkola R, Luikko P.: *Contraception* 16:569, 1977.
3. Hallatt J.G.: *A. J. of Obstet. Gynec.* 154:1216, 1986.
4. Hogue C.T.: *Epidemiol. Rev.* 4:66, 1982.
5. Hughes G.J.: *Med. J. of Aus.* 1:275, 1980.
6. Lawless M., Vessey M.: *Brit. Med. J.* 288:1919, 1984
7. Lippes J.: *Am. J. Obstet. Gynec.* 193:1024, 1965.
8. Marchbanks D.A., Goulam C.B., Annegers F.: *Clin. Obstet. Gynec.* 30:236, 1987.
9. Ory H.W.: *Obstet. Gynec.* 157:137, 1981.
10. Park C.M., Whang Z.W.: *National Conference on Voluntary Sterilization, 3rd Seoul, Korea, 1982.*
11. Svensson L., Mardh P.A., Ahlgren M., Nordenskjold F.: *Fertil. Steril.* 44:313, 1985.
12. Weikstein L.N.: *Clin. Obstet. Gynec.* 30:236, 1987.
13. Westrom L.: *Am. J. of Obstet. Gynec.* 138:880, 1980.