

## ECTOPIC PREGNANCY - A CASE CONTROL STUDY RELATED TO SOME DEMOGRAPHIC ASPECTS AND FAMILY PLANNING PRACTICES

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### SUMMARY

A prospective case control study of 85 cases of ectopic pregnancy comparing age, gravidity, use of contraception and MTP is presented.

### INTRODUCTION

The occurrence of ectopic pregnancies varies with the occurrence of salpingitis, whether specific, post abortal, puerperal or appendiceal, so its incidence varies geographically and culturally (Hallot 1976). The incidence of ectopic pregnancies in relation to normal pregnancies is believed to be varying from 1 in 45 (Weinstien 1983) to 1 to 315 deliveries (Subramaniam 1986).

The reported recent increase in the occurrence of ectopic pregnancies may be attributable to unprecedented increase in the frequency of induced abortions (Panayotou 1972) or mass sterilization programme. Studies indicate that about

one in six pregnancies occurring after tubal sterilization are ectopic (Destefano 1982). It may be as a result of mass tubal ligation programme with a definite risk of pelvic inflammatory disease or may also be due to the reunion of the cut ends of the fallopian tubes (Jayaraman 1987). It has also been noted that few if any ectopic pregnancies occur beyond 3 years after tubal sterilization (Jayaraman 1987).

Further recent data on the association between duration of IUD use and the risk of ectopic pregnancy, give conflicting results. Vessey et al (1979) in the U.K. have reported no increased risk of ectopic pregnancy with increasing duration of IUD use. The ectopic rate was fairly constant with duration of IUD use at about 1.2 ectopics per 1000 women per

year. Present case control study deals with some observations related to age, parity and contraceptive practices in patients of ectopic pregnancy.

#### MATERIAL & METHODS:

Prospective study was done and 85 cases of ectopic pregnancy were studied in the department of Obstetrics and Gynaecology of Mahatma Gandhi Institute of Medical Sciences Sevagram in Central India. One case of intrauterine pregnancy who got admitted just before admission of ectopic gestation and another immediately after the case with extrauterine pregnancy were taken as controls to study the demographic differences between the two groups of women. So control cases of intra uterine pregnancies were double the cases of ectopic pregnancy.

#### OBSERVATIONS:

We found that there was no case below the age of 19 years in study

**TABLE I**  
Age Distribution of Study and Control Groups

Age in years	Ectopic		Control	
	No	%	No	%
15-19	1	1.31	15	9.14
20-24	30	35.29	87	51.17
25-29	21	24.70	53	31.17
30-34	21	25.60	11	6.70
35-39	10	12.19	3	1.82
40	2	2.43	1	0.60
Total :	85	100.00	170	100.00

**TABLE II**

Gravidity of Study and Control Groups

Gravidity	Ectopic		Control	
	No	%	No	%
1	15	17.64	71	43.29
2	21	25.60	47	27.64
3	21	24.70	32	18.82
4	14	17.07	11	6.70
5	7	8.53	6	3.65
6	7	8.53	2	1.21
7	0	0	0	0
8	0	0	1	0.60
Total :	85	100.00	170	100.00

**TABLE III**

MTP and Contraception in Ectopic and Control Groups

MTP and Contraception	Ectopic		Control	
	No	%	No	%
IUCD	5	6.09	0	0
Sterilization	17	20.00	2	1.21
MTP	4	4.87	4	2.35
Nil	59	69.41	164	96.47
Total :	85	100.00	170	100.00

group. Similarly, while only 8.82% women were 30 years and beyond in normal pregnancy group (study), 38.82% women were of this age group in ectopic pregnancy group (control) and this was statistically highly significant difference ( $p < 0.001$ ) (Table I). In the control group, primigravida were significantly high; second and third

gravidae were equally distributed. After third pregnancy there was statistically significant difference ( $p < 0.01$ ) (Table II). 4.87% women had past history of pregnancy termination and 20.00% had been sterilized in the study group while these figures were 2.35% and 1.21% in the control cases (Table III).

#### **DISCUSSION:**

Ectopic pregnancy seems to be increasingly common problem all over the globe and its immediate and delayed sequelae must not be underestimated. Although Westrom et al (1981) did not have information on life style or sexual activity, STD etc. the relative risk of ectopic significantly increased in women who had symptoms suggestive of pelvic inflammatory disease (PID) (RR 6.4) which is in conformity with prospective studies in Sweden (Westrom et al 1981). Since induced abortion has the potential to introduce salpingitis due to organisms from contaminated instruments or because of organisms already present in the vagina in fallopian tubes scar tissue formation is more common. Our figures also tally with the statement that anything helps in scarring in fallopian tubes may be helping ectopic pregnancy. In our case control study it was found that there were more elderly women in ectopic group and also more women with more than three parity. Similarly there were statistically significantly more women with previous pregnancy termination and sterilization in ectopic group.

50% of ectopic pregnancies may be the result of previous PID. Women who have had PID are believed to have a seven fold to ten fold increased risk of ectopic

pregnancy (Westrom 1980). It is believed that among women who have had one ectopic pregnancy 10.20% will have another and 20-40% will be unable to conceive again (Mueller 1987). D.Mello et al (1988) reported that 19.2% of their cases were primigravida and 31.1% multipara. Shiela & Mahanambal (1991) reported that 6% of their ectopic pregnancy cases had previous MTP in 1975 group and 20% in 1985 group. In their study D.Mello et al (1988) have reported that 7% of their cases were with past history of termination of pregnancy (MTP). This figure was 12.56% in Kamala Khera's series (Khera 1988). In Shiela et al's series in 1975 (Shiela & Mahanambal 1991) 12.2% women were IUD users where as 6.6% of D. Mello et al (1988) and 5% Khera's (1988) series were IUD users (D'Mello et al 1988, Khera 1988).

In our own series, 6.09% women had history of IUD use. Some believe that there is no evidence to demonstrate that IUD causes ectopic (Edelman 1979). But a number of reports have shown that IUD users are at about a three fold to five fold increased risk of PID compared to nonusers of IUD (Edelman 1979). Since post infection damage to the tubes may increase the risk of ectopic pregnancy nine fold or more one may expect some increase in ectopic pregnancy rates among IUD users with increasing duration of IUD use (Edelman 1979). Further available data suggest that copper bearing IUD's are associated with a lower rate of ectopic pregnancy. It is being believed that the incidence of ectopic pregnancy following sterilization is on an increase and occurs more commonly in the distal segment.

The incidence is believed to be higher following puerperal sterilization (Prabhu & Rajeshwari 1990).

The rate of ectopic pregnancies per 100 reported pregnancies in the United States more than tripled between 1970 and 1993 (in 1983 at 14 per 1000 reported pregnancies). A large urban centre confirmed these trends and showed a 3.7 fold increase during this period with a rate of 16.9 per 1000 reported pregnancies (Doyle et al 1991). Westrom (1981) reports that in Sweden the rate of pregnancy had doubled itself over the last 2 decades. The incidence in Khera's study in India was 1:241 pregnancies (Khera 1988). We have found an incidence of 1:120. Our institution is a referral centre and pools most of abnormal cases of villages and townships around. This may explain the high incidence.

#### CONCLUSIONS:

Although ectopic pregnancies will never be completely prevented, but incidence can be reduced and much of the morbidity and the mortalities can be minimised by prevention and efficacious diagnostic and interventional strategies aimed primarily at those women at highest risk for the condition and taking precautions that women who are likely to become high risk are handled in such a way that the number of these high risk women is reduced.

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