

COMPARATIVE STUDY OF ECTOPIC PREGNANCY IN REVERSAL OF STERILIZATION AND IN GYNAEC POPULATION

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SUMMARY

Among 281 women after reversal surgery during 1989 to 1993 there were 11 ectopic pregnancies in 10 patients, 3 ectopic pregnancies were on the contralateral side of recanalised tube and one patient had recurrent ectopic. 8 Ectopic pregnancies occurred on the side of recanalised tubes. The overall ectopic pregnancy rate is 3.2%. Out of 66 cases of ectopics in gynaec population seen during the same period only 21 cases had contributing factors like previous H/o sterilization (16.6%) H/o abortion (4.5%) H/o IUD (7.5%) and H/o PID (3%). 3.1% of ectopics in gynaec population were diagnosed as unruptured ectopic gestation probably due to early reporting and early diagnosis. Ampulla was the commonest site of ectopic (about 70%) in both groups. 50% of ectopics occurred following isthmo-ampullary anastomosis and 50% of women had ectopics within 1 year of reversal of surgery.

INTRODUCTION

Recent technological advances in the diagnosis of ectopic pregnancy have ushered in a new age of conservative surgical therapy. Because of such changes in diagnosis and surgical approach profound epidemiological changes have been seen, the mortality

rate has declined yet the incidence has increased.

Introduction of microsurgical reconstructive techniques in gynaecological surgery has resulted in increased intrauterine pregnancy rate. But it has also been implicated in increasing the incidence of extrauterine gestation. In a comparison between microscopic and macrosurgical anastomosis for reconstructive procedures, those who

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had an isthmo-isthmic anastomosis had an ectopic pregnancy rate of 4% versus 8% respectively. It is essential to understand that even though an opening for the fertilised ovum to travel has been created, it does not necessarily imply a successful journey to the uterus.

In view of these developments, this study was undertaken at Microsurgery department of Kilpauk Medical College Hospital, Madras, over a period of 5 years from January 1989 to December 1993.

The objectives of this study were

(1) To identify and compare the factors influencing the incidence of ectopic pregnancy in reversal of sterilization and in gynaec. population.

(2) To compare outcomes in both groups

and

(3) To evolve better microsurgical techniques which might help to decrease the ectopic pregnancy rate in recanalised patients.

Table I gives the incidence in our series

Table II shows that 43.9% of patients in gynaec population and 70% in recanalisation belong to the age group 25-29 years.

Table III : shows that 60.6% of ectopics in gynaec population were Para I and II whereas 90% were Para I & II in recanalisation group.

Table IV : shows that 60.6% of ectopic cases in gynaec population were married for more than 5 years compared to 90% in recanalisation group.

Table I
Incidence

Total No.of deliveries	-	30487
Ectopic	-	66
Incidence (0.2%)		
Total No. of recanalisation	-	281
No.of ectopic pregnancies	-	10 (3.2%).

Table-II
AGE

Age in years	In gynaec population		Following TRA	
	No.of cases n=66	%	No.of cases n=10	%
Below 20 yrs	5	7.5	-	-
21 - 24 yrs	12	18.2	1	10
25 - 29 yrs	29	43.9	7	70
30 - 34 yrs	13	19.7	1	10
35 - 39 yrs	7	10.6	1	10

Table III
Parity

Parity	In gynae population		Following TRA	
	No. of cases n=66	%	No. of cases n=10	%
Para 0	16	14.2	-	-
I	20	30.3	5	50
II	20	30.3	4	40
III	10	15.2	1	10

Table IV
MARITAL STATUS

Married in years	In gynae population		Following TRA	
	No. of cases n=66	%	No. of cases n=10	%
Below 2 yrs	10	15.2	-	-
2 - 5 yrs	16	24.2	1	10
5 yrs above	40	60.6	9	90

Table V
CONTRIBUTING FACTORS IN GYNAEC POPULATION

Factors	No. of cases n-66	%
Sterilisation	11	16.6
IUD	5	7.5
Abortion	3	4.5
PID	2	3

Table V : shows that in gynae population, out of 66 cases of ectopics only 21 had positive history of predisposing factors like H/o abortion in 4.5%, H/o

pelvic infection in 3% and H/o use of IUD in 7.5%. In all these cases the major cause is damage to the mucosal surface of the fallopian tube altering embryo transpor-

tation. Ory et al found that patients who had used an IUD for more than 25 months had 3 times the risk of ectopic pregnancy than patients who had used an IUD for a shorter period. There was H/O sterilization in 16.6%. Among the different methods of tubal ligation procedures, Mc

Causland (1980) found that laparoscopic tubal ligation with electrocautery increased the rate of ectopic pregnancies because of the extensive tissue destruction with subsequent uteroperitoneal fistulae.

Table VI shows the type of ectopic in both groups. In gynae population 3.1%

Table VI
TYPE OF ECTOPIC

Type	In gynae population		Following TRA	
	No. of cases n=66	%	No. of cases n=10	%
Unruptured	2	3.1	3	30
Ruptured	48	72.7	5	50
Tubal abortion	16	25	2	20

Table VII
SITES OF ECTOPIC

Sites	In gynae population		Following TRA	
	No. of cases	%	No. of cases	%
Cornue	5	8	-	-
Isthmus	10	16	3	30
Ampulla	49	74	7	70
Rudimentary horn	2	3.2	-	-

Table VIII
TYPE OF REANASTOMOSIS AND ECTOPIC

TYPE	No. of cases n-10	%
Isthmo-Isthmic	1	10
Isthmo-ampullary	5	50
Ampullo-ampullary	4	40
Cuff Salpingostomy	-	-

Table IX
TIME INTERVAL BETWEEN REANASTOMOSIS AND ECTOPIC

Duration	No. of cases n=10	%
Below 6 months	3	30
6-12 months	2	20
13-24 month	4	40
above 36 months	1	10

Table X
MANAGEMENT OF ECTOPIC

Surgery	In gynacc population		Following TRA	
	No. of cases n=66	%	No. of cases n=10	%
1. Partial /Total salpingectomy	42	63.6	3	30
2. Salpingo-oophorectomy	15	22.7	2	20
3. Linear salpingotomy	2	3	3	30
4. Milking	3	4.5	1	10
5. Resection and end-to-end anastomosis.	-	-	1	10
6. Suturing of ectopic site (cornue)	2	3	-	-
7. Resection of rudimentary horn	1	1.5	-	-
8. Total abdominal hysterectomy	1	1.5	-	-

were diagnosed before rupture. In recanalisation 30% were diagnosed as unruptured ectopic gestation probably due to early reporting and diagnosis.

Table VII shows that both in gynacc population and in recanalised patients empulla was the commonest site for pregnancy. 74% in gynacc and 70% in recanalisation group.

Table VIII gives the type of anastomosis in ectopic pregnancies; 50% had ectopic pregnancies following Isthmo ampullary anastomosis. Luminal disparity may be the cause. 40% had ectopic pregnancies following Ampullo ampullary anastomosis.

Table IX analyses the time interval between reanastomosis and ectopic. 50% of ectopics occurred within 1 year of reversal surgery and 40% occurred within 1-2 years.

Table X shows the management in gynaec population 86.3% had radical treatment like partial/total salpingectomy and salpingo oophorectomy while only 7.5% had conservative line of management. In recanalisation group 50% had conservative line of management like linear salpingostomy, milking and resection and end to end anastomosis.

DISCUSSION

Rock & Parmley (1982) reported that age and parity did not influence the pregnancy success in cases of reversal of sterilization. In our study, both in gynaec population and in recanalised patients, age and parity had no influence on the incidence of ectopic pregnancy rate.

Wallah et al 1983 reported 50% term pregnancy rate in 18 cases of tubal reanastomosis and a 11.1% ectopic pregnancy rate. Hulka & Halare 1988 reported 16 ectopic pregnancies in 79 women after reversal giving a high incidence of 20.3%. He reported highest ectopic pregnancy rate in ampullo-ampullary anastomosis i.e. 2 per 6 procedures and all ectopic pregnancies were in tubes less than 7 cm.

In our study among 281 women after reversal there were 11 ectopic pregnancies

in 10 patients, 3 ectopic pregnancies were on the contralateral side of recanalised tube and one patient had recurrent ectopic. Eight ectopic pregnancies occurred on the side of recanalised tubes. In our series during surgery in some cases the total length of the sterilised tube being very short i.e. (total less than 5 cm) recanalisation was not attempted on that side. The overall ectopic pregnancy rate is 3.2%. Severe constriction of the tubal lumen, microclots in the lumen, luminal disparity, postoperative peritubal adhesions and shortening of the tube after reconstructive surgery may be the reasons for ectopic pregnancy following reversal.

Maguiness & Dyahanbakhah 1991 suggested the usefulness of tuboscopy in assessment of previously sterilized women requesting reversal. If intratubal adhesions with disruption of the tubal folds are present, after anastomosis the ectopic pregnancy rate will be high.

Three ectopic pregnancies were on the contralateral side of the recanalised tube and in 2 such cases length of the reconstructed tubes were 5 cm and 5-1/2 cm. Transmigration of fertilized ovum must be the reason for ectopic pregnancy in opposite tube.

Salpingectomy remains the standard surgical treatment of ectopic pregnancy. The determining factors are the patient's vital signs, desire for future fertility, age, previous history of fertility and tubal status. Care must be taken not to damage the vascular supply of the ovary.

Linear salpingostomy is the recommended conservative line of management in ampullary unruptured ectopic pregnancies with a size of 4 cms. Decherney et al 1983 observed the viable pregnancy rate of 50% after linear

salpingostomy and recurrent ectopic pregnancy rate of 15%. In our study one patient had linear salpingostomy. Subsequently she had normal intra uterine pregnancy and she developed recurrent ectopic pregnancy on the opposite side later.

CONCLUSION

In our study the incidence of ectopic pregnancy in recanalised patients is higher than in gynaec population as expected. The incidence of ectopic is lowest with isthmo-isthmic anastomosis. To reduce the incidence of ectopic pregnancy rate following reversal of sterilisation we should adhere to standards of sterilisation i.e. 2 cm. from the cornua, at the isthmic region without

clamping or crushing of the tube. Not more than 1 cm. of the tube should be excised so that adequate length of the undamaged tube after reversal is obtained.

REFERENCE

1. Decherney Alan H., Mezer Howard C., Naffolin Frederick : *Fertili Sterili* : 618; 39; 1983.
2. Wallach Edward E., Manara Louis R., Elsenberg Esther : *Fertili Sterili* : 39; 609; 1983.
3. Hulke Jaroslav F., Halme Jouko : *Obs. Gyn.* 159; 769; 1988.
4. Maguiness S.D., Dyahanbakhch O. : *Br J. Obst. Gynaec.* 98; 326; 1991.
5. Mc Canstand A. : *Am. J. Obstet. Gynec.* 136; 97; 1980.
6. Ory S.J., Villaneuva A.L., Sand P.K., Tamura R., *Am. J. Obstet & Gynec.* 154:1299, 1986.
7. Rock J.A. and Parmley T.H. : *Fertil. Steril.* : 35; 16; 1981.