

## REVERSAL OF FEMALE STERILISATION

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### SUMMARY

A prospective study of 70 cases of reversal of sterilisation with reference to demographic details, route and method of sterilisation, type and method of plastic surgical procedure required for reversal, difficulties encountered, and follow-up including success rate, etc is presented.

Falope ring group had the highest pregnancy rate followed by Pomeroy's technique. Vaginal sterilisation had no success. All the pregnancies were from the "end to end anastomosis" group.

### INTRODUCTION

The majority of plastic surgery on the fallopian tubes in India is for the purpose of reversal of sterilisation. The great increase in the demand for and the liberalisation of regulations governing female sterilisation procedures have created the problem of reversal. In majority the reason for requesting reversal of sterilisation is death of the male child.

We are presenting here a prospective study of 70 cases of reversal of sterilisation with special reference to demographic details, route and method of plastic surgical procedure required for reversal, difficulty encountered, overall and individual success rate and outcome of pregnancy.

### MATERIAL & METHODS

The present study was conducted at L.T.M.M. College and L.T.M.G. Hospital, Sion

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Bombay - 22, India over a period of 10 years from Jan. 1980 to Dec. 1989. The plastic surgical procedure was performed by the senior authors themselves and patients were personally followed up in the OPD for a period varying from 2-5 years.

The most important criteria for patient selection included age. As far as possible, the surgery was restricted to women less than 35 years. The complete examination of the husband including semen examination was done before investigating the woman. Unless all facts relating to previous sterilisation operation are reliably established, hysterosalpingography and pelvic endoscopy are always performed.

The operation is always performed during proliferative phase of the cycle.

**OBSERVATIONS & DISCUSSIONS****AGE AND PARITY**

As shown in table I, the maximum number of patients (42.9%) were from the age group of 20-25 years. This reflected a younger age of marriage in Indian women and early completion of the family. Majority were of para 3 and above (61.4%). Three were of para I: They had undergone sterilisation without proper knowledge and understanding about the nature of the operation.

In the majority of the patients, the reason for requesting reversal of sterilisation is death of children, especially the male child.

Maximum number of patients who asked for reversal of sterilisation belong to lower socio-economic strata of the society. The reason for this might be still high perinatal mortality in this group. But at the same time they are aware of the availability of reversal procedure.

**ROUTE AND METHOD OF PREVIOUS STERILISATION (TABLE II)**

Out of 70 cases, 31 (44.2%) had undergone sterilisation via laparotomy by Pomeroy's or Madlener's method, 14 each; while 3 underwent lateral salpingectomy. 23 had undergone laparoscopic sterilisation by band (20) or clip (3). Nine had undergone vaginal sterilisation.

Route and method of sterilisation had important bearing on the success rate following reversal. Tubotubal anastomosis was possible in most of the cases of laparoscopic sterilisation. The vaginal sterilisations were associated with adhesions between tubes, ovaries and pouch of Douglas.

In 4 cases of previous sterilisation by laparotomy where site of the sterilisation was too close to the cornu, required cornual implantation of the tubes reducing the success of the reversal.

In cases where previous terminal salpingectomy (Fimbriectomy) was performed as a method of sterilisation, reversal was difficult.

These cases were operated by Cuff Salpingostomy.

**TYPE & METHOD OF REVERSAL PROCEDURE (TABLE III)**

Plastic surgical procedure was performed by macrosurgery in most of the cases (58). Magnifying loupe or lens is used in 12 cases. The type of reversal procedure depends upon the state of the tube, site of the previous sterilisation, presence of adhesion etc.

Adhesiolysis was required in 28 cases (40%). Adhesions were thick and dense in most of the vaginal sterilisations especially M.T.P. with vaginal tubal ligation (4). In puerperal sterilisations, adhesions were common as compared to intervals. Adhesions were very few or absent in most of the laparoscopic sterilisation.

End to end anastomosis was possible in 63(90%). In 4 cases, where site of sterilisation as too close to the cornu, we had to resort to cornual implantation of the tube on one or both sides. One should bear this fact in mind while doing sterilisation. In 3 cases, where previous sterilisation is by lateral salpingectomy or when there is terminal hydrosalpinx, the obvious choice of plastic surgical procedure was cuff salpingostomy.

Catgut was used in maximum number of cases as vicryl or Prolene are available only in recent years. Ventral suspension by plicating round ligaments and plication of utero-ovarian ligament was performed in all. In our view, it helps in ovum pick up and prevents adhesions. Hydrotubation was not performed.

**OVERALL AND SPECIFIC SUCCESS RATE (TABLE IV)**

As shown in Table IV, the full term pregnancy rate is 32.8%. There were abortions and ectopic pregnancy in 3(4.3%) and 2(2.4%) cases respectively. Thus, the total conception rate was 40% comparable with the best [Chakravarty -

**TABLE I**  
**AGE AND PARITY DISTRIBUTION**

Age (Years)	No.	Parity			
		1	2	3	4
Less than 20	5(7.1%)	2	1	2	—
20-25	30(42.9%)	—	18	10	2
25-30	26(37.1%)	1	4	20	1
30-35	9(12.8%)	—	1	8	—
<b>Total</b>	<b>70</b>	<b>3</b>	<b>24</b>	<b>40</b>	<b>3</b>
	(100%)	(4.3%)	(34.2%)	(57.1%)	(4.3%)

**TABLE II**  
**ROUTE AND METHOD OF PREVIOUS STERILISATION**

Method	No.	Route			
		Lap. Mini	Lap	L.Scoppy	Vaginal
Pomeroy	24(34.2%)	14	5	—	5
Madlener	20(28.5%)	14	2	—	4
Band	20(28.5%)	—	—	20	—
Clip	3(4.3%)	—	—	3	—
Other	3(4.3%)	3	—	—	—
<b>Total</b>	<b>70(100%)</b>	<b>31(44.2%)</b>	<b>7(10%)</b>	<b>23(32.8%)</b>	<b>9(12.8%)</b>

**TABLE III**  
**TYPE AND METHOD OF REVERSAL PROCEDURE**

Macrosurgery - 58, Use of Loupes/Lens-12

1.	Adhesiolysis	28(40%)
2.	End to End Anas	63(90%)
3.	Tubo Cornual Implantation	4(5.7%)
4.	Cuff salpingostomy	3(4.3%)

N.B. : 28 cases required adhesiolysis in addition to tuboplasty procedure.

**TABLE IV**  
**OVERALL AND SPECIFIC SUCCESS RATE**

(5 years is the Longest follow-up)		
		No.
1.	Patency	57(81.4%)
2.	Conception	28(40%)
3.	Abortion	3(4.3%)
4.	Ectopic	2(2.9%)
5.	Full-Term	23(32.8%)

TABLE V

## INCIDENCE OF PREGNANCY IN RELATION TO TYPE OF OPERATION

Type of Operation	No.	Intra uterine Pregnancy Rate
Pomeroy's (abd:)	20	9(45%)
Madlener's (abd)	17	5 (29.4%)
Band/Clip	24	12 (50%)
Vaginal	9	-
Total	70	26

1982 (25%), Winston and Morgara - 1980 (30%), Gomel - 1980(35%), Seiler - 1983 (25%) etc.]

Table V shows the relation of route and method of sterilisation and pregnancy rate. Falope ring or clip method has the highest success rates followed by Pomeroy's & Madlener's.

## CONCLUSION

In our country due to demographic compulsion, there is liberalisation of regulations governing female sterilisation. Female sterilisations are often resorted to at a younger age group as compared to Western Countries. Sterilisation are often performed on a camp basis without proper infrastructure as regards anaesthesia, asepsis, etc. This causes reduction in the quality of the procedure. High perinatal mortality and quest for the male child is a major reason for requesting reversal of sterilisation.

We have presented here a prospective study of 70 cases of reversal of sterilisation over a period of 10 years. Demographic details of the cases clearly show that majority were of young age of 20-25 years. This is in contrast to Western Studies where patients are older and 90% of the reasons were for remarriage and only 6% were

for loss of children. (Arthur L. 1983). Hysterosalpingography and Laparoscopy formed an important part of evaluation of the tubes. While the most important criteria for case selection was age of the patient and husbands semen report.

Route and method of previous sterilisations has utmost bearing on the success rate. Vaginal sterilisation had no success at all while laparoscopic sterilisation had the best results (50%) (Table V). Similarly, tubotubal anastomosis had the best results (90%) (Table III). Practically, all the pregnancies were from this group.

There was no appreciable difference between conventional macrosurgery and use of loupe or lens for reversal. We have not done micro surgery due to non-availability of operating microscope at our institution.

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