

## TUBAL PATHOLOGY AND ITS RELATION WITH SUCCESSFUL STERILISATION REVERSAL (SR) OPERATION

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### SUMMARY

Analysis of 158 SR operations done in RCOE shows the success rate of 55%, which is far from satisfactory in comparison with those of Western workers (80%). The comparatively low success rate in our series has been correlated by histological examination of the Fallopian tube taken from the sites of tubectomy before performing SR operation. The successful cases showed normal tubal epithelium and musculature. When the tubectomy was done in the institutions, whereas those with inflammatory changes and fibrosis in tubal wall were done in camps and showed poor result. Thus it may be concluded that tubectomy operation must be done in the institution, and not in the camp, with proper asepsis and after proper training so that we can achieve success after SR operation, other conditions remaining constant.

### INTRODUCTION

After establishment of Regional Centre of Excellence (RCOE) at R. G. Kar Medical College, Calcutta in September, 1989, we have started Sterilisation Reversal (SR)

operation by operating microscope. We have performed 158 cases of SR operation upto June, 1993. These SR requests came from different categories : (a) Post minilap; (b) Post Lap. T. ligation; (c) Associated with other operation, e.g. caesarean section, hysterotomy, vaginal tubectomy, etc.

Biopsy was taken from the tubes at

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the tubectomy sites (both medial and lateral end) during SR operation.

After critical analysis of the successful outcome of the operation performed during the 3½ years period, the result has been found to be unsatisfactory, as only 55% cases showed successful pregnancy in comparison to 80% found by Western workers. (Rock et al, 1982).

The reasons for this low success rate was searched mainly in the pathological conditions of the tubes before performing SR operation as the operation technique adopted remains the same.

The reports of histopathological examination of the tubal biopsies were analysed in relation to the source of these cases and outcome of pregnancy. The results have been compared to arrive at a conclusion.

#### MATERIAL AND METHODS

From September, 1989 till June, 1993,

we have performed 158 SR operations. They are of following categories :

- (i) Post Minilap ... 102
- (ii) Post Lap. TL ... 48
- (iii) PFR Vaginal tubectomy ... 2
- (iv) Post C. S., Hysterotomy, etc. ... 6

In most of the above described cases catgut ligature and Falope rings were used. Electocoagulation technique for the purpose of tubal occlusion was not present in our series.

Biopsy was taken from both ends of ligated tubes in each case. Sections from the biopsied tubes were stained by H & E stain in the Deptt. of Pathology and results are reported.

#### RESULTS

Histological sections from the biopsied tubes showed four types of picture, which are designated as Grade-I, II, III and IV as shown in table-I.

**Table I**  
**GRADING OF HISTOPATHOLOGICAL CHANGES IN TUBES**

Grade-I	:	Normal tubal lumen lined by papillary projections of epithelia with normal surrounding muscle coat.
Grade-II	:	Narrowed tubal lumen lined mostly by flattened epithelial cells with surrounding hypertrophied muscle coat.
Grade-III	:	Dilated tubal lumen lined by flattened epithelial cells with atrophied and fibrotic surrounding muscle coat, showing lymphocytic infiltration (sometimes extensive).
Grade-IV	:	Presence of foreign body giant-cells surrounding some fibre-like foreign body within the fibrosed muscle coat (in one case), where the tubal lumen was found to be narrowed and lined by atrophied epithelia. The finding is contrary to the popular belief that Falope ring is non-reacting to the tissue.

The above histopathological grading are correlated with tubectomy operations by Minilap and Lap. TL., either in camps or institutions and the pregnancy outcome. The results are shown in table-II and table-III.

The above table shows that tubal pathology of grade-II and III are more common in Minilap operation, but outcome of pregnancy is much better when the operation were performed in institution by trained person.

**Table II**  
**TUBAL HISTOPATHOLOGY AND PREGNANCY OUTCOME IN MINILAP CASES (PERFORMED IN CAMPS & INSTITUTIONS)**

Tubal Histo-pathology	No. of cases in camps	No. of preg.	No. of cases in Inst.	No. of preg.
Grade-I	0	0	53	40
Grade-II	3	0	13	6
Grade-III	11	0	22	0
Grade-IV	0	0	0	0
<b>Total :</b>	<b>14</b>	<b>0</b>	<b>88</b>	<b>46</b>

**Table III**  
**TUBAL HISTOPATHOLOGY AND PREGNANCY OUTCOME IN LAP. TL. CASES PERFORMED IN CAMPS AND INSTITUTIONS**

Tubal histo-pathology	No. of cases in Camps	No. of preg.	No. of cases in Inst.	No. of preg.
Grade-I	10	5	34	33
Grade-II	2	1	1	1
Grade-III	0	0	0	0
Grade-IV	1	0	0	0
<b>Total :</b>	<b>13</b>	<b>6</b>	<b>35</b>	<b>34</b>



The above table shows that outcome of pregnancy is much better in Lap. TL. cases, particularly when done in institution. Besides this grade-II and III tubal pathology is less common than found after Minilap operation. However, grade-IV pathology of the tube due to reaction of Falope ring is only present in Lap. TL. operation.

under ideal condition after the establishment of RCOE, our result of successful "take home baby" rate is far behind to those reported by other workers (Rock et al 1982) which shows 80% success rate. Histological examination of the excised tubal segments revealed extensive fibrosis

**Table IV**  
**TYPE OF TUBECTOMY AND PREGNANCY REPORTED**

Type of tubectomy	No. of cases operated	Pregnancy	Percentage of success
Minilap	102	46	45.9%
Lap tubectomy	48	40	83.3%
Vaginal tubectomy	2	Nil	0.0%
Post Caesarean tubectomy	5	Nil	0.0%
Post hysterotomy tubectomy	1	1	100.0%
<b>Total :</b>	<b>158</b>	<b>87</b>	

Finally the overall pregnancy outcome in individual type of tubectomy operation has been reported in table-IV.

The above table shows that SR operation done on laparoscopic tubectomy shows better result in comparison to those on minilap cases.

#### **DISCUSSION**

From the above study, it is observed that although we are doing the SR operation

and narrowing of tubal lumen along with leucocyte infiltration in the muscle wall in lap tubectomy case (Fig. 1). H.E. also revealed loss of papillary projections and flattening of tubal lining epithelium in fair number of case (Fig. 2) in Minilap tubectomy. Even in one case of laparoscopic tubectomy, we have found a fragment of Falope ring with giant-cell formation in the myosalpinx (Fig. 3). All these changes in the tube may be attributed to inflammation caused



Figure 1  
Shows extensive fibrosis and narrowing of tubal lumen along with leucocyte infiltration in the tubal wall under low power field.

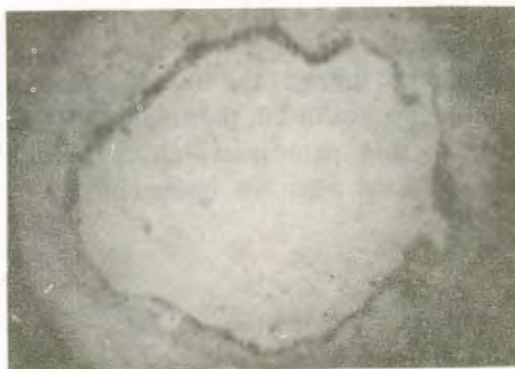


Figure 2  
Shows loss of papillary projections and flattening of tubal lining epithelium under low power field.



Figure 3  
Shows presence of fragment of Falope ring with giant-cell formation in the mesosalpinx under high power field.

by infection introduced during previous tubectomy operation. Such infection is common in minilap tubectomy, when done in the PHC by the most junior doctors with minimum training, the tubes may be inadvertently damaged and at the same time operating theatre facility is far from ideal. It is also evident from the findings that post minilap cases showed

inflammatory changes with mild hydrosalpinx. The pregnancy rate is also low (42%) in these cases. Lap TL done in camp situation also shows inflammatory changes in the tubes, as the surgeon has to do a large number of cases over a stipulated time and the quantity of operation has to be sacrificed at the expense of quality. Thus, the cases done in the institutions either by laparoscopy or by minilap show better result after SR operation.

Mechanical method of sterilisation (ring, clips etc.) are more frequently associated with normal endosalpinx upto the immediate vicinity of occlusion, which is in agreement with a good prognosis in post reversal procedure (Vasquez et al, 1980).

Therefore, we have to stress more on Standard Sterilisation to get better result after SR operation. However, theatre facility should

be improved, number of operations performed by a surgeon by lapparoscope should be limited and the instruments should be sterilised thoroughly. If we follow this principle, better results are expected after SR operation.

#### REFERENCES

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