

## A STUDY OF 221 CASES OF RECANALISATION AND PREGNANCY OUTCOME IN 4 YEARS

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### SUMMARY

A comparative study on pregnancy outcome in recanalisation following both types of sterilisation is done over a period of 4 years. At surgery site and type of sterilisation was noted and length of tube after surgery measured. Time interval between sterilisation and recanalisation and between recanalisation and pregnancy was noted.

Of the total of 221 cases of recanalisation 72.85% were Pomeroy's type of sterilisation and of these 70.1% were puerperal. The pregnancy rate in recanalisation following both types of sterilisation is 29.4%. In laparoscopic sterilisation 58.3% were interval sterilisation. In 161 recanalisation cases following Pomeroy's the pregnancy rate is 18.6%. Out of 60 cases of recanalisation following laparoscopic sterilisation 58.3% became pregnant.

The incidence of pregnancy is most when the recanalisation is in the isthmo isthmic region in both types of sterilisation. 50% in Pomeroy's and 90.9% in laparoscopic types of sterilisation. Also the minimum length of the tube should be more than 6 cm. after recanalisation for pregnancy to occur.

The time interval between sterilisation and recanalisation is immaterial. However maximum pregnancies occur within 6 months of surgery and continue to occur even more than 24 months.

### INTRODUCTION

Since the inception of the Centre of

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Excellence in Sterilisation and Recanalisation, Southern Region at Kilpauk Medical College, Madras, we have been engaged in doing recanalisation following

both the types of sterilisation i.e., Laparoscopic and Pomeroy's technique. The laparoscopic sterilisation has been either interval sterilisation or concurrently with medical termination of pregnancy and the Pomeroy's technique has been in puerperal sterilisation, interval sterilisation or along with medical termination of pregnancy.

#### MATERIALS AND METHODS

Over a period of 4 years from January 1989 to December 1992, 221 cases of recanalisation were done. They were analysed for pregnancy outcome. These cases had follow up for a varying period of 6 months to 4½ years.

A careful history was elicited to determine the time interval between sterilisation and recanalisation. At the time of surgery the site and type of sterilisation was carefully noted. The tubes were meticulously measured both before and after the recanalisation. The time interval between recanalisation and occurrence of pregnancy was also scrupulously noted. Abnormalities like ectopic gestation and incidence of abortion was noted in

the follow up.

#### RESULTS AND DISCUSSION

The results were tabulated, analysed and inferences drawn taking into consideration all the above points.

Of the total 221 cases of recanalisation 72.85% were Pomeroy's type of sterilisation and 27.1% were laparoscopic type of sterilisation and in our study the majority of the sterilisations done are of the Pomeroy's type. The pregnancy rate in recanalisation following both types of sterilisation is 29.4%.

Table II  
Pomeroy Technique

	Number	Percentage
Puerperal St.	113	70.1
TAT	14	8.8
MTP/TAT	34	21.1
	161 cases	100

Table I  
Analysis of Recanalisation

	No. of cases	Percentage
Recanalisation following Pomeroy	161	72.85
Recanalisation following Laparoscopic sterilisation	60	27.1
Total No. of cases	221 cases	
Total pregnancies	65	29.4

**Table III**  
**Laparoscopic Sterilisation by Fallope Ring**

	Number	Percentage
Interval	35	58.3
MTP/Laparoscopy	25	41.7
60 cases		

On scrutinising the Pomeroy's type of sterilisation we found 70.1% were puerperal 8.8% were interval and 21.1% were following medical termination of pregnancy with concurrent sterilisation.

Analysing the laparoscopic sterilisation by using the fallope ring (This is the only type of laparoscopic sterilisation we found in our series) 58.3% were

interval laparoscopic sterilisation and 41.7% were medical termination of pregnancy with concurrent sterilisation.

In the group of 161 recanalisation cases following Pomeroy's technique, the pregnancy rate has been 18.6%. In the group of 60 recanalisation cases following laparoscopic sterilisation 58.3% became pregnant.

On analysis of the pregnancies term pregnancies was maximum in both types with slightly higher incidence in the laparoscopic group. The abortion rate is almost similar in both groups but there is a higher rate of ectopic i.e., 13.3% in recanalisation following Pomeroy's type of sterilisation, whereas it was 2.9% in recanalisation cases following laparoscopic sterilisation.

Next we analysed the type of anastomosis.

**Table IV**  
**Recanalisation**

	Total No. of cases	Pregnancies	Percentage
Pomeroy technique	161	30	18.6
Laparoscopic sterilisation	60	35	58.3

**Table V**  
**Recanalisation**

	Pomeroy		Lap. Sterilisation	
	No. of cases	Percentage	No. of cases	Percentage
Term pregnancies	21	70	29	82.9
Abortion	5	10.7	5	14.2
Ectopic	4	13.31	1	2.9

**Table VI**  
**Type of Anastomosis and Pregnancies**

Type of anastomosis	Recanalisation following					
	Pomeroy			Lap. sterilisation		
	Total No. of cases	Number Pregnancies	Percentage	Total No. of cases	Number Pregnancies	Percentage
Isthmo ampullary	52	12	23.1	32	12	37.5
Isthmo isthmic	2	1	50.0	22	20	90.9
Ampullo ampullary	92	17	18.4	2	-	-
Isthmo cornual	-	-	-	4	3	75.0
Ampullo cornual	1	-	-	-	-	-
Cuff salpingostomy	14	-	-	-	-	-
	161			60		

**Table VII**  
**Length of Tube and Pregnancies**

Length of tube in cm.	Recanalisation following					
	Pomeroy			Lap. sterilisation		
	Total No. of cases	Number Pregnancies	Percentage	Total No. of cases	Number Pregnancies	Percentage
Below 4	8	-	-	-	-	-
4 - 6	80	2	2.5	11	1	9.1
6 - 8	65	26	40.0	37	28	75.7
above 8 cm.	8	2	25.0	12	6	50.0
	161			60		

In the recanalisation following Pomeroy's type of sterilisation we found a 50% incidence of pregnancy in the isthmo-isthmic type of anastomosis with a lower incidence in the isthmo-ampullary i.e. 23.1% and 18.4% in the ampullo

Table VIII

## Interval between Sterilisation and Recanalisation

Interval between sterilisation and recanalisation	Recanalisation following					
	Pomeroy			Lap. sterilisation		
	Total No. of cases	Number	Percentage	Total No. of cases	Number	Percentage
Upto 2 yrs.	24	6	25	14	7	50
2 - 5 yrs.	77	12	15.6	33	20	60.6
5 years and above	60	12	20	13	8	61.5
	161			60		

Table IX

## Time Interval Between Recanalisation and Pregnancy

Conception in months of recanalisation	Recanalisation following			
	Pomeroy		Lap. sterilisation	
	Number	Percentage	Number	Percentage
Upto 6 months	16	53.3	22	61.1
6 - 12 months	6	20	8	22.9
12 - 24 months	4	13.3	3	8.6
24 months and above	4	13.3	2	7.7
	30		35	

ampullary type of anastomosis.

On the other hand in recanalisation following laparoscopic sterilisation we found the best results again in the isthmo-isthmic i.e., 90.9% followed by the isthmo-cornual (75%) and isthmo ampullary (37.5%).

This indicates that if sterilisation is

done as per the standards of sterilisation a very good results can be expected.

On measuring the tubes at the end of surgery we found the length to vary from below 4 to above 8 cm. In the recanalisation following Pomeroy's and laparoscopic type of sterilisation the maximum pregnancies occurred when the tube

was more than 6 cm. in length. A few pregnancies occurred when the length was between 4-6 cm. and there were no pregnancies when the tube was less than 4 cm. in length after surgery.

On considering the interval between sterilisation and recanalisation we had reasonable success in the recanalisation following Pomeroy's type of sterilisation and a much better success rate in the recanalisation following laparoscopic sterilisation. The inference from this is that the time interval between sterilisation and recanalisation is immaterial.

Taking into consideration the time interval between recanalisation and onset of pregnancy, we found that more than 50% of pregnancies in both the groups occurred before 6 months and the next largest incidence was within 6-12 months. Surprisingly we have had pregnancies even after 24 months. So the follow up of these cases should be more than 24 months.

### CONCLUSION

(1) In our study, recanalisation following Pomeroy's type of sterilisation is the most commonly done procedure (72.8%) and following Laparoscopic sterilisation in 27.1% of cases.

(2) The success rate is more in recanalisation following laparoscopic sterilisation 58.3%.

(3) The pregnancy rate following Isthmo Isthmic anastomosis carries best results (87.5%).

(4) After recanalisation the length of the reconstructed tube should be more than 6 cm. for better results. The pregnancy rate is 69.3% if the length of

the reconstructed tube is more than 7 cm. following laparoscopic sterilisation and 40% following Pomeroy technique.

(5) Conception after recanalisation occurs most within a period of 12 months although conceptions occur after more than 24 months ago also.

According to Hulka (1988) the common type of sterilisation procedure was Pomeroy. In this study, out of 101 cases of reversal of sterilisation 56 cases were done by Pomeroy method. The success rate following isthmo-isthmic anastomosis was 83%. Laparoscopic sterilisation was done in 37 cases by using unipolar, Bipolar cautery and clip. When the length of the reconstructed tube was more than 7 cm. the success rate is 75% and less fetal wastage. If length of the reconstructed tube was less than 7 cm. success rate was 16% and had more ectopic or abortion. The interval between sterilisation and recanalisation had no place in improving the success rate. Even after 8 years pregnancy rate is 93%.

By comparing the two series the outcome of reversal of sterilisation depends on the previous method of sterilisation and the laparoscopic technique is preferred than Pomeroy technique. In both series Isthmo-isthmic anastomosis gives best success rate because there is less luminal disparity and muscular layer is well developed.

The length of the reconstructed tube should be 7 cm. to get better pregnancy rate. The interval between sterilisation and recanalisation is immaterial.

Vasquez et al proposed epithelial change after 5 years of occlusion would minimise tubal function and affect success

of subsequent reversal. But in this study interval is not a predictor of outcome of surgery.

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**REFERENCE**

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