

EVALUATION OF SIMPLIFIED TECHNIQUES OF TUBECTOMY BY TITANIUM CLIPS AND YOON RINGS. A PRELIMINARY REPORT.

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Abstract

Evaluation of tubal occlusion by titanium toothed clips (Filshe Clip mark 4) was undertaken in a randomized trial in 100 women by comparing this method with Pomeroy technique in postpartum women and in women on whom tubal occlusions were done alongwith hysterotomy procedures. Efficacy of the method, time taken for the procedure, immediate and delayed complications and symptomatology were studied in both the groups. These results were further compared with data obtained in an earlier study on tubal occlusions done by 'Yoon Ring' technique. The results of this clip technique with regard to duration of operation and postoperative symptomatology appear to be slightly better than Pomeroy and are comparable to 'Yoon Ring' technique. The titanium clip technique has a further advantage of minimal trauma to the tube, as only 3 mm area of the tube is sacrificed in this method. This carries an advantage of higher success rate for recanalization procedure should that be subsequently indicated. Thus tubectomy by this simplified technique may become a more

acceptable contraceptive method even in younger women with fewer children.

Introduction

Sterilization is one of the oldest fertility control methods which was mentioned by Hippocrates. The search for newer and improved techniques still continues. No single method of sterilization is probably suitable for all women.

Electrocoagulation of tubes through laparoscope with or without division is one of the techniques providing tubal occlusion. In that there is potential danger of diathermy burns. In order to provide safer and simpler method mechanical techniques of tubal occlusion have been developed. Silastic band technique (Yoon *et al* 1974) is one and another one is of occlusive clips (Casey, 1978 and Filshie *et al* 1977).

Surgical sterilization is getting to be increasingly popular even in younger women with less than 3 children. Therefore, a method which has higher success of reversibility would be desirable. A clip technique which destroys only 3 mm of the tube could be an improvement over standard Pomeroy or even 'Yoon Ring' technique where more than 1 cm. of tube is sacrificed. In quest for a method where minimal amount of tube is lost,

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titanium clip technique has been developed. The present paper is a preliminary report on the evaluation of this simplified technique. Also a comparison is made of clip technique with Yoon Ring method which was reported earlier (Dhaniram *et al* 1979).

Material and Methods

One hundred patients were included in this series. Fifty-six patients had postpartum sterilization and 44 had hysterotomy with tubal sterilization. Filshie clip techniques and Pomeroy's techniques were used on alternate patients in each group. In the earlier study 'Yoon Ring' technique was used in 54 patients who had postpartum sterilization.

Filshie Clip Technique

Filshie clip mark—IV is a titanium-silastic clip weighing less than 0.5 gm. and occupying only 3 mm of tubal length. Clip is applied with the help of an applicator (Fig. 2) which is a simple device which flattens it over the tube. Clip is applied 2.5 cms. from the cornual end of the tube. Clip acts by producing avascular necrosis at the site of application. Both titanium as well as silastic are excellent implant materials.

Modified Pomeroy Technique

A knuckle of tube was held in Babcock's forceps, base of knuckle was crushed with artery forceps. Tube was ligated with chromic catgut 'O' beyond crushed points and segment of tube between crushed points was cut off.

Patients in both these groups ranged between the ages of 23-25 years. All patients had 3 or more living children at the time of sterilization; these patients have been followed up for a varying period upto one year.

Observations

The analysis of data regarding the time taken during Filshie clip technique and modified Pomeroy's technique is shown in Table I. Mean time taken for post-

TABLE I
Time Taken for Filshie Clip, and Hysterotomy Cases and Pomeroy Technique

Type of Technique	Time in Minutes			
	Post Partum Ligation		Hysterotomy-Ligation	
	Mean	Range	Mean	Range
A. Filshie Clip	12	(7-35)	45	(28-70)
B. Modified Pomeroy	16	(10-32)	50	(30-90)

partum ligation by Filshie clip was 12 minutes and by modified Pomeroy's technique it was 16 minutes.

Further analysis of data regarding incidence of postoperative fever, wound infection and analgesics used is shown in Table II. Incidence of postoperative

TABLE II
Postoperative Fever, Wound Infection and Pain Requiring Analgesics in the Two Groups

Symptoms	Technique Used			
	Filshie Clip (50 patients)		Pomeroy's (50 patients)	
	No.	Percentage	No.	Percentage
1. Post-operative Fever	2	4	10	20
2. Wound Infection	12	24	8	16
3. Pain Requiring analgesics	8	16	5	10

fever was 4% with Filshie clip technique as compared to 20% with modified

Pomeroy's series. Analgesics were required for 16% patients in Filshie clip series compared to 10% in modified Pomeroy's group.

Discussion

Pomeroy's technique remains the most popular technique all over the world. It has a disadvantage of destruction of more than 1 cm. of tubal length and leaving behind two stumps with varying diameter. Thus success rate at re-anastomosis is not high. Yoon ring technique was used in a separate study where it was also compared with Pomeroy's technique, (Dhaniram *et al* 1979). Yoon ring technique was associated with few postoperative symptoms as compared to Pomeroy's technique. This was so as the applicator was delivered to the tube instead of tube being pulled out. This necessitated a smaller skin incision. In addition, no cutting of the tube was required and therefore there was no bleeding and no raw edges of tube were left. Because of this, there were relatively fewer side effects. However, in both Yoon ring technique and Pomeroy's technique more than 1 cm. of tubal length was lost.

In Filshie clip technique, as compared to Pomeroy technique, time taken was less, skin incision was as small as in Yoon ring technique. But significant fact remains that Filshie clip application involves destruction of only 3 mm of tubal length. So far no failure has been observed in this series. The patients have been followed up upto one year.

Keeping in view the changing socioeconomic pattern, Filshie clip technique may find greater acceptability even in younger women, as rate of recanalization operation will be higher with this method, should the same be required at later date.

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See Figs on Art Paper I