

STUDY OF STERILISATION OPERATIONS

by

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The operation of sterilisation was first recorded in literature in 1836, when Blundell advised section of the tubes to prevent conception in cases with anticipated difficulties in delivery. The first authentic report about a tubal sterilisation performed with caesarean section came from Tolado, Ohio, in 1880.

This paper deals with the study of 1025 cases of sterilisation done at the Obstetric and Gynaecological Department of the King Edward VII Memorial Hospital, Bombay, from February 1960 to January 1963. Nine hundred and twenty-three operations were performed by the abdominal route in the obstetric department, and 102 were done vaginally in the gynaecological department. Out of the 1025 cases, 406 turned up for follow-up study.

It was noticed that 71.8% of the cases were in the age group 21 to 30 years, the majority being between 26 to 30 years. Most of the patients

undergoing sterilisation were 4th parae and above. The vast majority of the patients had 4 or more living children.

The index of poverty in these patients attending the general hospital can be realised by the fact that 85.7% of the patients had an income of less than Rs. 200 per month, 13.2% had between Rs. 201 and Rs. 300 per month, while only 1.1% had an income of more than Rs. 300 per month.

Indications

Indications in this series have been divided into three major groups:

- (i) Socio-economic
- (ii) Obstetric
- (iii) Medical.

(i) *Socio-economic*: This forms the largest group; 984 patients (96%) agreed to sterilisation on advice or came entirely on their own because of the low socio-economic status. This is easily confirmed by the fact that 98.9% of the patients had a monthly income of less than Rs. 300. Most of these patients were in the age group of 21 to 30 years and had 5 or more living children at the time of sterilisation.

From: K. E. M. Hospital, Parel, Bombay 12.

Paper read at the 13th All-India Obstetric & Gynaecology Congress held at Fatna in January 1966.

(ii) *Obstetric*: There were 18 cases of sterilisation along with caesarean section. Eight were willing to have sterilisation prior to the decision for caesarean section, while 4 consented because of the caesarean section. Six patients were apprehensive of their obstetric career because of difficult labour and repeat caesarean sections; hence, they were most willing to have sterilisation.

(iii) *Medical*: In this series 23 patients underwent sterilisation because of medical indications. Eight patients had heart disease, 7 had tuberculosis, 5 had nephritis and 3 had chronic hypertension. Thus, 2.2% sterilisations were because of medical indications.

Operation

Except for 102 vaginal sterilisations, all were performed in early puerperium from the 2nd to the 5th day. In a few patients with medical disorders, 7 to 8 days lapsed before operation.

Anaesthesia

The commonest anaesthesia used was spinal in 93.8%. This had one great disadvantage of post-operative severe headache in about 30% to 40% of patients. Local anaesthesia was used in 4.1% to start with and 2.1% more required it after the spinal anaesthesia had failed. Local anaesthesia has the great advantage of avoiding all the complications of spinal and general anaesthesia, though it may cause discomfort to the patient if not premedicated well.

Transverse incision on the abdominal wall is better as it gives more strength to the resulting scar. As

regards the method of occluding fallopian tubes, there are several operations. All are equally efficacious and all have almost equal incidence of failure rate in the best of hands. The one which is efficacious should also give least morbidity in future. For this purpose, we feel that Madlener's method has proved best as it needs no cutting of tubes and is simple to perform. It is modified by crushing at two sites on the loop instead of one and tying at both sites. In the present series, 49.7% were sterilised by modified Madlener's method, 35.3% by Pomeroy's, 14.4% by lateral salpingectomy and 0.6% by Irwing's method. The time taken for this operation varied with different operators from 5 to 30 minutes. Post-operatively patients stayed in hospital for 5 to 8 days, except in a few cases (3%) which had partial wound gaping.

The vaginal route is very efficacious and safe any time after puerperium with normal sized and mobile uterus. Madlener's method is the obvious choice in this route. Post-operative period is very smooth and morbidity is much less than after the abdominal route.

Complications

Post-operative complications were slight temperature—99° to 100°F. for a day or maximum 2 days in 23.3% cases, abdominal distension in 0.5%, stitch abscess in 6.7% and partial wound gaping in 3%. However, the commonest cause for concern and discomfort was post-spinal headache which occurred in 32.5% of these patients. It was quite severe in many cases (15%). There is one

important observation, i.e. headache as a rule was absent when spinal anaesthesia was used at the time of caesarean section. This has been our regular experience on a large number of caesarean sections.

Follow-up

This study comprises detailed history and clinical examination. Complaints were analysed to correlate them with the operation. The patient's attitude towards the operation was noted and discussed personally with her and her husband. Despite writing repeated post-cards to 1025 patients, only 406 responded. Thus, 39.6% of the operated patients were followed up. Of these 406 patients, 46% had no complaints whatsoever as against to 54% with some sort of complaint.

TABLE I
Complaints on follow-up study

Complaints	Per cent	
	No. of cases	(out of 406 cases)
Menstrual disturbances—		
Oligomenorrhoea and hypomenorrhoea	19	4.7
Menorrhagia	73	18.0
Irregular periods	24	6.0
Polymenorrhoea	56	13.8
Dysmenorrhoea	12	3.0
Backache		
	85	20.9
Leucorrhoea		
	34	8.4
Obesity		
	11	2.7
Dyspareunia		
	8	2.0
Loss of libido		
	2	0.5
Mental disturbances—		
Irritability	12	3.0
Psychosis	1	0.24

Table I indicates that the vast majority of the patients complained of menstrual irregularities, while backache was the next common complaint on the list.

Menstrual Irregularities

Table I shows the details of this abnormality, 18% of the patients had menorrhagia, 13.8% had polymenorrhoea, 47% had oligomenorrhoea and hypomenorrhoea. Besides this, 3% had dysmenorrhoea. There is a belief that operation causes disturbance to ovarian blood supply, though no proof exists. Other explanations are: (1) dysfunctional bleeding, (2) malnutrition, (3) medical disease contracted recently, (4) may be due to lactation phase. This is possible in short term follow-up cases. There is a growing belief among many obstetricians that operations involving cutting of fallopian tubes certainly have higher incidence of this post-operative complication. Table II shows the

TABLE II
Type of operation done in 73 patients with menorrhagia

Method used	No. of cases	Per cent (out of 73)
Madlener's	27	37
Pomeroy's	35	48
Lateral salpingectomy	10	13.7
Irwing's	1	1.3

methods used in these cases of menorrhagia; 48% of the patients who had menorrhagia were sterilised by Pomeroy's method, while 37% by Madlener's, and surprisingly, partial salpingectomy which involves excision of tubes was the cause in only 10% cases.

Backache: This was present in 20.9% of the followed-up patients. This complaint is so very common that it is difficult to put the blame on the operation. In a small minority, the operation must have caused this, due to adhesions. In the remaining cases, it may be due to other causes.

Leucorrhoea: About 34 patients (8.4%) had this complaint. This was commoner in cases who had vaginal sterilisation as compared to the abdominal route.

Obesity: This appeared in 2.7% of the cases after operation. These cases belong to the age group 31 to 40 years. Even normally, in some women there is a tendency to put on weight at this age. The other explanation is the absence of stress and strain of pregnancy and its complications.

Dyspareunia: This was present in 8 patients (2%), 6 followed abdominal and 2 vaginal sterilisation. The thickening of fornices and cystic ovaries were probably responsible for this.

Psychological disturbances: Out of 406 patients, 13 (3.2%) had some sort of psychic disturbance; 12 had increased mental irritability and 1 had psychosis. Direct questioning revealed that 2 patients had diminished libido. This is an important aspect of the operation. It is not only sufficient to have no failure rate but it should have minimal morbidity and no psychological disturbance. However, it is impossible to anticipate this, because soon after a tiresome and painful labour, patients are very willing to have sterilisation. After having undergone the operation, some patients feel that they

have lost a very important feminine characteristic, capacity to reproduce. This constantly affects the mind adversely and brings about mental disturbance. Illiteracy and ignorance aggravate this fact. This is mainly responsible for increasing mental irritability and resultant psychosis.

No case had ectopic pregnancy, intestinal obstruction or incisional hernia, following this operation.

Failure rate

The failure rate in the present series was 1.2%—5 having failed out of the 406 followed up. Out of these, 3 were done by modified Madlener's method and 2 by Pomeroy's method. This gives the failure rate with both modified Madlener's and Pomeroy's methods as 0.6%.

TABLE III
Clinical findings on follow-up study

Clinical findings	No. of cases	Per cent (out of 406)
Retroverted fixed uterus	66	16.3
Retroverted mobile uterus	73	18.0
Thickening in fornices	36	9.0
Tubo-ovarian masses ..	7	1.7
Fibroids	2	0.5
Cystic ovaries	7	1.7
Erosion cervix	18	4.4
Vaginitis	—	—
N.A.D.	197	48.5

Clinical examination did not reveal any positive findings, except on vaginal examination. This showed that 34.3% had retroverted uterus (16.3% had fixed retroverted uterus), 9% had thickening in fornices, 1.7% had tubo-ovarian masses, 1.7% had cystic ovaries and 0.5% had fibroids in ute-

rus. Speculum examination showed erosion of cervix in 4.4% of the cases. 48.5% did not reveal any abnormality.

Thus, 46% patients had no complaints and 48.5% had no abnormality on clinical examination. Many of these complaints and findings are so very common in our day to day practice that one can hardly point to sterilisation as an aetiological factor.

Conclusions and Summary

(1) A detailed study was made of 1025 cases of sterilisation at the K.E.M. Hospital, Bombay, from February 1960 to January 1963. Follow-up study was made in 406 cases.

(2) Indications are discussed in detail. Low socio-economic status was the commonest indication (96%).

(3) Technique of operation is discussed at length with emphasis on the choice of method.

(4) Post-operative complications occurred in many cases but they were of minor variety. Spinal headache was the commonest in 32.5% and slight pyrexia of 99° to 100° F. for 1 to 2 days in 23.3%.

(5) Four hundred and six cases were followed up; 54% had one or other complaint. The commonest complaint was menstrual disturban-

ce—in 45.5% of the cases. All complaints are discussed under individual headings with special emphasis on the psychological aspect.

(6) 51.5% had one or other abnormal clinical findings, the commonest being retroverted uterus (34.6%) and thickening of fornices (9%).

(7) The failure rate was 1.2%, i.e. 5 failed out of 406 followed up.

(8) 70.2% of the patients were happy with the operation, while 29.8% had minor complaints. There were only 5 patients (1.2%) of 406 who regretted having undergone the operation.

(9) This operation is quite simple and safe and can be performed any time, though the best time is during the puerperium.

Acknowledgement

We thank the Dean, K.E.M. Hospital, Bombay, for permitting us to report the hospital data.

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