PROBLEMS OF FEMALE STERILIZATION BY VAGINAL APPROACH

by

Shail Dube*

Devinder Sharma**

and

C. L. N. Sharma***

Female Sterilisation by vaginal route is a well established procedure and has many advantages over the abdominal operation such as easy acceptance by the patients, quickness and safety of the procedure, low postoperative complications and short hospital stay (Population Report, 1973). Colpotomy ligation can be carried out on outdoor basis and it can be combined with first trimester abortions and repair of uterovaginal prolapse in non-pregnant patients. However the choice of the patient is very important in these cases. Patients with fixed anteverted uterus, adnexal mass, pelvic adhesions, obesity, genital tract infection and narrow deep vagina are not suitable for this procedure (Population Report, 1973). But sometimes unexpected problems are encountered in apparently well selected cases. It is our endeavour to present in this paper the results of an investigation conducted to find out the nature of the problems, their causes and probable solution.

Materials and Method

This investigation was conducted on 1100 patients who were selected for vaginal tube ligation from the Post Partum Outpatient Clinic of the Institute of Medical Sciences and S.S. Hospital, B.H.U. from April 1974 to Sept. 1976. The patients were divided into two groups as shown in Table 1.

Nine hundred and eleven patients were operated under spinal anaesthesia, 144 under general anaesthesia, 9 had both spinal and general and 36 were operated under local anaesthesia.

TABLE I

Patients Selected for Vaginal Tube Ligation

Group—I				Group—II	
Interval cases				Cases with early pregnancy	
With normal pelvis		With genital prolapse			
No.	%	No.	%	No.	%
680	61.8	13	1.18	407	37

Observations

The results of the survey in respect of

Reader in Obstetrics & Gynaecology, Institute of Medical Sciences, B.H.U., Varanasi-5.

***Prof. & Head of the Dept. of Obst. & Gynec., Institute of Medical Sciences, B.H.U.*

****Medical Officer, Post Partum Programme, Institute of Medical Sciences, B.H.U., Varanasi.*

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TABLE II

Difficulties Encountered During Operation for Vaginal Ligation

Nature of the problem		No.	%
1. **Difficulty in opening the Pouch of Douglas**			
Non-pregnant	6	11	1
Pregnant	5		
2. **Inaccessible fallopian tubes**			
One side	9	12	1.09
Both sides	3		
3. **Excessive haemorrage**			
Non-pregnant	4	23	2.09
Pregnant	19		
4. **Avulsion of the fallopian tube**			
Non-pregnant	1	1	0.1
Pregnant	0		
5. **Rectal injury**			
Non-pregnant	2	4	0.36
Pregnant	2		
6. **Injury to ovary and broad ligament**			
Non-pregnant	2	2	0.18
Pregnant	0		
7. **Failure to complete the operation vaginally**			
Non-pregnant	6	10	0.9
Pregnant	4		

TABLE III

Postoperative Complication Within 10 Days

Complications	No.	%
Reactionary haemorrhage	3	0.27
Secondary haemorrhage	5	0.45
Retention of urine	2	0.18
Febrile morbidity	7	0.63
Parametritis and pelvic abscess	1	0.01
Total	18	1.63

TABLE IV

Complications Observed at the Follow-up Examination After 6 Weeks in 681 Cases

Nature of Complications	No.	%
No complications	612	89.86
Vaginal discharge (Due to granulation tissue)	17	2.50
Tubo-ovarian mass	2	0.30
Chronic pelvic infection	29	4.25
Functional uterine haemorrhage	21	3.08

observed problems were grouped into immediate, within 10 days and at follow up examination as shown in the following Tables. Besides these difficulties there were added complications of the Medical Termination of Pregnancy which have been excluded from the list. The complications occurring as a result of anaesthesia have also been excluded. Out of 693 interval cases including 13 cases of prolapse repair, in 681 vaginal tubectomy was carried out without any difficulty. Similarly 380 cases with termination of pregnancy proved to be easy. The aver-

TABLE V
Complications at Follow-up Examination After 6 Months in 109 Cases

Nature of complications	No.	%
No complications	88	80.22
Menorrhagia	11	10.00
Dyspareunia	8	7.35
Vaginal discharge (due to granulation tissue)	2	1.83
Total	109	100.00

age time taken from incision to closure was 12 minutes only. But in others some problems were experienced during the procedure or later on.

Discussion

Although vaginal tube ligation has proved to be a easy safe and quick method of female sterilisation in well selected cases (Purandare, 1973), we have observed certain difficulties from time to time in apparently fit cases. Table VI shows the causewise distribution of the problems encountered in this series.

The difficulty experienced in opening the pouch of Douglas was observed in those cases who had more than average physical bulk, or had hypertrophied and vascular parametrium. Narrow pouch of Douglas resulting from previous parametritis and fibrosis posed a problem even in average and thin built patients. Thus, although some of the patients who were neither obese nor had apparently other abnormality proved to be difficult.

The next problem that was encountered in this series was the difficulty in bringing the tube down. This was common in case with acutely anteverted uterus, obesity, deep pelvis, pelvic adhesion, enlarged uterus, gaseous distension of the bowels and inadequate anaesthesia. Experience alone can help in the correct assessment of the case. But even experienced surgeons have to face problems if there are adhesions inside the pelvis which cannot be detected by simple vaginal examination. Difficulty can also be encountered if the uterus is much tilted to one side of the pelvis and uterus is either enlarged or pelvis deep. Inadequate anaesthesia can lead to great chaos during any operation. It was very interesting to observe in this series that while we were

TABLE VI
Causes of Difficulty

1. **Difficulty in opening the Pouch of Douglas**
   - (i) Marked obesity
   - (ii) Hypertrophied and vascular Parametrium
   - (iii) Enterocele
   - (iv) Fibrosis of the P.O.D. on account of previous infection
   - (v) Inexperienced surgeon.
2. **Inaccessibility of the fallopian tubes**
   - (i) Acutely anteverted uterus
   - (ii) Obese patient
   - (iii) Deep Pelvis
   - (iv) Adhesions in the pelvis
   - (v) Enlarged uterus on account of pregnancy
   - (vi) Tilted uterus
   - (vii) Gaseous distension of the bowels
   - (viii) Inadequate anaesthesia.
3. **Complications during operations**
   - (i) Pregnant patient
   - (ii) Narrow pouch of Douglas
   - (iii) Friable tissues
   - (iv) Inexperienced surgeon.
4. **Complications in the immediate Postoperative period**
   - (i) Technical inefficiency
   - (ii) Surgical accidents (rectal injury)
   - (iii) Inadequate surgical arrangements (Lack of enough light etc.)
5. **Delayed complications**
   - (i) Early discharge from the hospital
   - (ii) Dirty habit of the patients
   - (iii) Tender Vaginal Scar
   - (iv) Infection
   - (v) Psychological disturbance.

operating under local anaesthesia with exactly same regime all patients did not behave in the same way. Some needed no support, few needed only little 'vocal' reassurance, while others required from intravenous diazepam to full general anaesthesia. Therefore, a fully equipped trained anaesthetist is essential in the operating room whenever the operations are being carried out under local infiltration anaesthesia.

The complications observed during operation are indicated in Table II. Excessive bleeding was mostly observed in pregnant women who had termination of pregnancy along with sterilisation. Excessive bleeding was also recorded in pre and paramenstrual cases. Other complications such as bowel injury, injury to ovary and broad ligament was either due to very narrow pouch of Douglas, increased vascularity, friable tissues or inexperienced surgeon. The tubes were avulsed in one case on account of friability of the tubes. The failures to complete the operation vaginally was mostly on account of wrong selection of the cases or lack of experience on the part of the surgeon or due to other causes as discussed above.

The immediate postoperative complications such as reactionary haemorrhage and severe pain was found in those cases which were operated by Junior colleagues or those cases who had some accidents like injury to bowel, ovary and broad ligament.

The complications like parametritis and abscess formation occurred in cases who were either very dirty by habit (having habit of inserting dirty cloth inside vagina or using dirty pads) or the cases who were operated without adequate surgical arrangements. Lack of experience on the part of the operator may cause excessive tissue trauma. Sometimes this may lead to postoperative pain, infection and delayed healing.

In 10% of the patients menorrhagia was a disturbing symptom. On pelvic examination, chronic pelvic infection was observed in half of the cases. But in the rest functional reasons were found to be responsible for menorrhagia. In one case complaining of deep dyspareunia, tender scar was found to be responsible. In 6 cases both menorrhagia and dyspareunia were present.

The review of the present series indicates that vaginal tubectomy is a quick and safe procedure in well selected cases. The complications observed in the present series were mainly due to the wrong choice of the patient, lack of experience on the part of the surgeon or functional reasons which may also be responsible for similar complications in case of sterilisation through the abdominal route. But rate of infection was certainly high in our series. The reason is natural to a great extent. The presence of the urethra and anus in the vicinity of the operating area is greatly responsible for the high incidence of infection and although vagina has a self-sterilising mechanism, the operated area can easily be infected as it is an open passage and it can not be sealed.

Another reason for infection is little postoperative discomfort and lack of visible wound. The patients may become careless and indulge in sex earlier than desired. Some infected patients have given a history of taking bath in a pond in the first postoperative week. This was, of course, mostly observed in village folks who have neither bathrooms nor hygienic living at home. Therefore, vaginal ligation should be carried out only on patients with clean habits and the patients should be discharged only after full instructions and not too early. A higher rate of infec-

tion has also been published by the Population Report (1976). However the popularity of the operation in our area speaks for itself.

Summary

A review of the 1100 sterilisation cases performed by vaginal route has been presented in this paper and the possible causes of the complications and their solution has been discussed.

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