

## CULDOSCOPIC TUBAL LIGATION

by

K. M. GUN,\* M.O. (Cal), F.R.C.S. (Edin), M.R.C.O.G.

and

D. L. PODDAR,\*\* F.R.C.S. (Edin), F.R.C.O.G., F.A.C.S.

Sterilisation operation in the female is an accepted procedure for family planning in our country where majority of people are ignorant or reluctant to use contraceptive measures like condoms or pills. Intrauterine contraceptive device also has receded into the background because of complications in a certain number of cases. For those couples who have the desired number of children, sterilisation of the male or the female partner is the most suitable method of family planning for the majority of couples in our country.

All these years sterilisation operation was being performed by the abdominal route. Moreover, immediate puerperium was considered the most suitable time for the operation. Several workers have shown during the last few years that abdominal sterilisation carried with it risks of incisional hernia, wound sepsis, etc. (Bisney *et al*, 1967; Sikand *et al*, 1968; Rebello *et al*, 1968; Gun, 1971). Patients can resume only light household activities within a month of operation. They have to stay in hospital for 5-6 days, thereby reducing the total output of operation per bed. Moreover, complications like pelvic sepsis giving rise to tubo-ovarian masses, hydrosalpinx or pyosalpinx is more common after puerperal sterili-

sation (Adatia, 1966; Chakraborty, 1966; Bisney *et al*, 1967; Dawn *et al*, 1968; Seth and Batliwala, 1968; Gun 1971). Unexplained pelvic pain is also more common after puerperal sterilisation.

In order to minimise these drawbacks associated with abdominal sterilisation, operation by the vaginal route has been advocated by several workers (Puran-dare, 1970; Gutierrez, 1971; Poddar, 1972; Engineer, 1972; John and Dunster, 1972; Dawn, 1972, Roy Chowdhury, 1972).

Vaginal sterilisation can be performed by ordinary incisional method after opening the pouch of Douglas or by means of culdoscope after puncture of the pouch of Douglas, as advocated by Gutierrez (1971) and Clyman (1968).

### *Material and Method*

During the period between 1st July 1971 and 30th September, 1972, 105 culdoscopic ligations were performed in the Department of Obstetrics and Gynaecology, Nilratan Sircar Medical College, Calcutta.

The cases were selected from eligible women attending the Family Planning Clinic of Nilratan Sircar Medical College Hospital. Many women who requested puerperal sterilisation were persuaded to come back 6-8 weeks after delivery for vaginal sterilisation. Approximately, 1 out of 4 cases applying for interval sterilisation were selected for culdoscopic technique. The remaining 3 were selected

\*Assistant Professor.

\*\*Professor-Director.

Department of Obstetrics and Gynaecology,  
Nilratan Sircar Medical College, Calcutta.

for ordinary vaginal sterilisation; these cases will form part of another communication. For vaginal sterilisation the uterus must be freely mobile and there should not be any pelvic mass. Cases having a previous lower abdominal operation were not usually selected for culdoscopic technique.

The patients were admitted the day before the operation. An enema was given at night. On the morning of the operation vaginal douche was given with 5 per cent dettol solution.

#### *Premedication*

Injection pethidine 50 mg., promethazine 25 mg. and atropine gr. 1/100 is administered half-an-hour before the operation. The patient is asked to empty her bladder before she is put on the operation table. An intravenous drip of 5 per cent dextrose solution is started. An intravenous injection of 50 mg. pethidine hydrochloride together with 25 mg. of chlorpromazine is given through the tubing 5 minutes prior to positioning of the patient in genupectoral position for culdoscopic procedure. This method of analgesia was used in the first 50 cases. But, as it was found to keep most of the patients heavily sedated for 8-10 hours after the operation and as it gives rise to hypotension in some cases, in the later cases general anaesthesia with intratracheal intubation was used. With this technique patients come round within a few minutes of the completion of the operation. But, as the muscles are completely relaxed, it is sometimes difficult to keep the patient in proper position, particularly if she is obese.

#### *Operation*

The operation was performed in genupectoral position with fibre-optic culdo-

scope. In 75 cases tentallum haemoclip was used for occlusion of the fallopian tubes, by means of a special clip application forceps (Gutierrez, 1971). In the remaining 30 cases after bringing out a loop of the fallopian tube into the vagina, partial salpingectomy and ligation was performed using a silk ligature.

#### *Observations*

More than 60 per cent of the cases were from urban areas, as our hospital is situated in Calcutta. Most of the patients were from poor families; this is not surprising as patients belonging to upper social classes usually adopt other contraceptive measures in preference to tubal ligation. About one third of the patients had no basic education at all.

#### *Duration of Anaesthesia and Operation*

When the culdoscopic technique was first introduced here about 15-20 minutes were required for the operation. But, later on the operation could be completed in 8-10 minutes time with tentallum clips. For ligation and excision 2-3 minutes extra time was necessary for completion of the operation.

#### *Difficulties During Operation*

The operation was found difficult in those cases who had a Lippes loop introduced inside the uterus, because of variable amount of adhesions in the pouch of Douglas and consequent difficulty in opening the cul-de-sac. In these cases the tubes were found swollen because of a low grade inflammation. In 3 such cases of the present author laparotomy was required to complete the operation.

In 325 comparable cases of simple vaginal ligation through the posterior fornix in lithotomy position, no laparotomy was required though the operation took a little more time.

*Follow up*

Ninety per cent of the patients came for the first follow up after 15 days, but only 50 per cent turned up for the second follow up examination after 3 months. About 50 per cent of the cases had air-colic for 12-24 hours after operation. The patients were fit to move about in 18-48 hours time. Most of the patients were discharged from the hospital within 48-72 hours of the operation. The patients could return to household duties within a week after the operation.

Two cases had a temperature of 100°F the day after the operation with slight rigidity of lower abdomen. The temperature and the pelvic peritonitis were controlled with antibiotics. These two cases were kept in the hospital for 6 days.

During the first follow up visit, about 25 per cent of the cases had slight thickening and tenderness of the vaginal vault. During the second follow up visit after 3 months no case complained of dyspareunia.

Twenty-two cases were followed up for more than a year; one case complained of menorrhagia, which was under control with progestogen-oestrogen pills.

*Pregnancy*

Of the 75 cases who had culdoscopic clipping, there were 2 cases of pregnancy. Conception in both cases occurred about a year after the operation. In one of the cases who had abdominal hysterotomy by one of the authors, the clip appeared to have cut through the fallopian tube and then the continuity of the tube was restored. This is also the observation of Lahiry (1972), working in another teaching hospital in Calcutta. Hoskins (1972) from Baltimore, Maryland, reported 11 per cent failure from tubal clipping in 100 puerperial abdominal operations;

there were also 3 failures in 250 interval vaginal tubal clippings.

Thirty cases who had partial salpingectomy by Pomeroy's technique through the culdoscope, did not have any failure so far. Similarly, 325 cases who had vaginal sterilisation by Pomeroy's technique in this Institution by different surgeons after opening the pouch of Douglas by posterior colpotomy, did not have any failure so far. These cases will be published separately.

*Summary and Conclusion*

One hundred and five cases of culdoscopic tubal ligation have been described; 75 of these cases had tentallum clips applied with 2 pregnancies resulting. Thirty cases who had partial salpingectomy had no failure.

Vaginal ligation has definite advantages over abdominal sterilisation. Hospital stay is much shorter and the patients can return to household duties very early. For mass sterilisation in camps, abdominal method is still the method of choice as it has not yet been possible to train many young gynaecologists in the vaginal technique.

Culdoscopic tubal sterilisation has one disadvantage over incisional vaginal sterilisation in that it requires a costly sophisticated imported instrument and large number of cases cannot be operated in a single day with only one set of instrument.

*Acknowledgement*

The authors are grateful to the Principal and Superintendent, Nilratan Sircar Medical College, Calcutta, for his kind permission to use the hospital records.

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Department of Obstetrics and Gynecology  
 Government Medical College Hospital  
 Bangalore  
 Karnataka  
 India  
 1972