

# Complications in 8 509 laparoscopic Falope ring sterilizations performed under local anaesthesia

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## Summary

During the 3-year period 1 January 1980 - 31 December 1982, 8 509 laparoscopic Falope ring sterilizations were performed under local anaesthesia in rural areas of the Cape Province by the Sterilization Service of Tygerberg Hospital. Despite the fact that 476 of the patients had undergone previous lower abdominal surgery, major complications (anaphylactic shock after injection of lignocaine and inadvertent perforation of the bladder by the trocar) occurred in only 2 cases. It was not possible to complete the sterilization under local anaesthesia in 98 cases, resulting in a technical failure rate of 1,15%.

A prospective study of the minor complications encountered among the 193 patients sterilized during November 1982 showed that torn tubes occurred in 3,1% and uterine perforation in 2,1%. This can be partially explained by the fact that evidence of previous pelvic infection was seen during laparoscopy in 9,3% of cases.

The pregnancy rate after sterilization was 0,28% for the group as a whole.

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recorded on an evaluation sheet. More details were recorded in cases of technical failure (inability to perform the sterilization through the laparoscope with the patient under local anaesthesia), enabling accurate determination of the occurrence rate. All previous operations undergone by the patients were also recorded.

However, during the bulk of the 3-year period minor complications, i.e. those not necessitating abandonment of the procedure or those not considered to be life-threatening, were not routinely fully recorded. For this reason a prospective study was performed during November 1982 by two of the authors (R.P. and A.N.) in order to determine the incidence of minor complications, special note also being taken of other pelvic lesions present (Table I).

TABLE I. MINOR COMPLICATIONS IN 193 PATIENTS DURING NOVEMBER 1982

	No.	%
Torn tubes	6	3,1
Uterine perforation	4	2,1
Abdominal wall emphysema	1	0,5

Pregnancies occurring after sterilization are reported to the team by the district nurses responsible for the patient involved. Since these nurses are also responsible for antenatal care and since most people would report a pregnancy occurring after sterilization, we believe that most pregnancies were reported.

## Results

During November 1982, 193 patients were sterilized. The incidence of minor complications is shown in Table I.

Twenty of the 193 patients had pelvic lesions. In 18 (9,3%) adhesions and thickened tubes, indicating previous pelvic infections, were present; all 6 patients with torn tubes came from this group. An ovarian cyst was seen in one patient and an unruptured ectopic pregnancy in another. Fourteen patients had previously undergone lower abdominal surgery (8 caesarean section, 6 appendectomy), and adhesions were seen in 3 of these patients. However, there were no complications in this subgroup.

## Major complications and technical failures

Two patients had major complications during the 3-year period. One patient experienced anaphylactic shock after injection of lignocaine, and in another the trocar was inadvertently inserted into the bladder. This patient underwent immediate laparotomy and the bladder was repaired without any sequelae. There were no bowel, omental or vascular injuries despite the fact that 476 of the 8 509 patients (5,6%) had undergone previous lower abdominal surgery (mainly caesarean section and appendectomy).

The technical failures are listed in Table II. Of the 16 technical failures in obese patients 5 were due to emphysema of the abdominal wall.

Since mid-1979 laparoscopic Falope ring sterilizations have been performed under local anaesthesia in rural areas of the Cape Province by the Sterilization Service of Tygerberg Hospital. This study was undertaken to determine the associated complication rate, whether this was acceptable, and whether the procedure itself was safe and effective.

## Methods

Between 1 January 1980 and 31 December 1982, 8 509 sterilizations were performed by the service (a feasibility study was completed in 1979 and is not included in our analysis).<sup>1</sup>

A retrospective analysis of the complications occurring during these 3 years was made, with the emphasis on major complications, i.e. complications necessitating immediate laparotomy or threatening the life of the patient. The details of each case were

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TABLE II. TECHNICAL FAILURES IN 8 509 PATIENTS

Reason	No.	%
Adhesions	56	0,66
Thickened tubes and hydrosalpinx	15	0,18
Obesity	16	0,19
Lack of co-operation	8	0,09
Epileptic convulsion	2	0,02
Machine failure	1	0,01
<b>Total</b>	<b>98</b>	<b>1,15</b>

## Pregnancies

Twenty-four pregnancies from the group of 8 509 patients have been reported so far, 4 of them possibly being luteal phase pregnancies. The failure rate to date is 0,28%. In 2 of the 24 patients who later became pregnant problems had been encountered during the sterilization procedure.

## Discussion

During the 3-year period 8 509 laparoscopic Falope ring sterilizations were carried out under local anaesthesia. Despite the fact that 476 of the patients had previously undergone lower abdominal surgery, only 2 major complications occurred; this compares favourably with the results found in other larger reported series.<sup>2,3</sup> The relative paucity of problems in patients who had previously undergone lower abdominal surgery indicates that this is not a contraindication to laparoscopic sterilization under local anaesthesia.

A relatively high number of minor complications were encountered among the 193 patients in the prospective study. The 3,1% incidence of torn tubes is higher than those previously reported,<sup>2,3</sup> but may partially be explained by the fact that

evidence of previous pelvic infections was seen during laparoscopy in 9,3% of cases. The incidence of torn tubes can be reduced by using the 'milking' technique described by Yoon.<sup>4</sup> The incidence of uterine perforation (2,1%) compares with that seen by Mehta.<sup>3</sup> This could be reduced by careful vaginal examination before insertion of the Hulka forceps to determine the position of the uterus. Most perforations are associated with a retroverted uterus. Abdominal wall emphysema, which occurs mainly in obese patients, can be avoided if the Verres needle is inserted close to the umbilicus, where the fat is reduced and the peritoneum is tightly adherent to the umbilicus.

The post-sterilization pregnancy rate is also acceptably low. However, the follow-up period so far is only 1-3 years and more pregnancies may possibly occur.

## Conclusion

Laparoscopic Falope ring sterilization under local anaesthesia is a safe and effective means of performing sterilization in the rural setting. However, since unexpected complications necessitating general anaesthesia may occur, the necessary arrangements should be made with a local general practitioner so that he may be available in such an event.

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# Nuus en Kommentaar/News and Comment

## Consequences of easy abortion

Throughout the countries of the Western world, including this one, there is a constant, relentless pressure to widen the scope of existing abortion legislation to accommodate even wider indications for therapeutic abortion, the most common one being for failed contraception. In other words, there is a strong lobby for the use of abortion as a means of family planning.

A letter to the *Canadian Medical Association Journal* by Del Campo points out some of the social consequences of liberal abortion laws (*Can Med Assoc J* 1983; **129**: 12). Since these laws were liberalized in 1969 an average of 60 000 abortions have been performed in Canada annually, a figure which if included among other causes of death would make abortion the second most frequent cause of death. If the present age distribution trends of the Canadian population are projected forward to the year 2000,

a significant trend showing an increasingly aged population and a marked diminution in those of working age emerges. Similar changes have occurred in the USA, and in the Montreal General Hospital the obstetrics unit has been closed but the pregnancy termination unit remains open.

Interestingly enough this trend has also been noticed in the USSR, and in 1981 a package of measures relating to social security payments and maternity leave were introduced in response to widespread concern about the low birth rate and rates of natural increase in the European republics of the USSR (*Br Med J* 1981; **283**: 1378-1379).

From these examples and from the example of what happened to the population of Rumania following the introduction of abortion on demand, it would seem that the demographics of the situation needed to be very carefully evaluated before the present indications for abortion are extended.