

Pregnancy after tubal occlusion

A 5-year study

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Summary

During the 5-year period 1976 - 1980 9 430 patients underwent tubal occlusion at Groote Schuur Hospital, Cape Town. Of these patients 24, or 2,5/1 000, became pregnant after the procedure. An analysis of the pregnancy rate for each method of tubal occlusion is reported.

Bilateral tubal occlusion by laparotomy or falope rings has a low failure rate; cauterization has not.

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Although tubal occlusion is considered a permanent form of contraception, patients should be informed that a small percentage may become pregnant after the procedure, irrespective of which method of tubal occlusion is used.

Because of the unacceptably high pregnancy rate after performance of the Madlener procedure,¹ most operators prefer other methods. Even with the popular Pomeroy method a pregnancy rate of 3,3/1 000 has been reported.² Laparoscopic tubal occlusion on a day-case basis has been highly recommended,³ but a pregnancy rate of 19/1 000 was reported when the results of the 1-year follow-up visits were analysed.⁴

During the 5-year period 1976 - 1980 9 430 patients underwent tubal occlusion at Groote Schuur Hospital, Cape Town. Laparotomy (either in the puerperium or as an elective late procedure) was performed on 8 385 patients, and laparoscopy on 1 045 patients. The pregnancy rate associated with these various methods of tubal occlusion has been analysed.

Results

Reported pregnancies

Of the 28 patients who reported that they had become pregnant after tubal occlusion, 2 were already pregnant at the time of the procedure and 2 mistakenly thought that they had been sterilized — one at the time of a salpingectomy for ectopic pregnancy and the other at a repeat caesarean section. The pregnancy rate was therefore 24 out of 9 430 procedures, or 2,5/1 000.

Pregnancy after laparotomy

The majority of tubal occlusions were performed in the early

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puerperium, using either the Pomeroy method or fimbriectomy. There were 6 pregnancies after 6 766 procedures, an incidence of 0,9/1 000. As an interval procedure 1 619 tubal occlusions were performed, with 2 pregnancies — a rate of 1,2/1 000. The pregnancy rate for the laparotomy group as a whole (8 385 patients) was 1/1 000.

Of the 8 women in this group who became pregnant, the Pomeroy method had been used in 5, and fimbriectomy in 3. Histological confirmation that two fallopian tube segments had been excised was obtained in all of the patients who became pregnant.

At repeat tubal occlusion the following was found: in all 3 post-fimbriectomy cases there were macroscopic signs of bilateral fimbriectomy with a terminal patent fistula present in one tube. Of the 5 'post-Pomeroy' patients, 2 had unilateral intact tubes, 1 had a narrowed scarred area with a lumen, 1 had no obvious lumen at the constricted area, and no specimen was available in the 5th.

Pregnancy after laparoscopy

The various methods of laparoscopic tubal occlusion employed and the pregnancy rates are listed in Table I.

TABLE I. LAPAROSCOPIC TUBAL OCCLUSIONS, 1976 - 1980

Method	No.	No. of pregnancies reported	Pregnancy rate/1 000
Falope rings	591	1	1,7
Bipolar cauterization	352	14	39,8
Hulka clips	60	0	0
Filshie clips	42	1	23,8

Repeat tubal occlusion has been performed in 10 of the 16 patients after the pregnancy. In the bipolar cautery group the tubes of 2 patients showed bilateral fibrous bands on macroscopic examination; 3 patients had a short constricted area and a further 3 partly narrowed areas. Both of the patients who became pregnant after application of Filshie clips and Falope rings had one tube totally occluded and the other partially occluded.

Discussion

Tubal occlusions were performed by consultants, registrars and by house surgeons under supervision. The 24 pregnancies occurring during the 5-year period followed tubal occlusions which had been performed by 16 different surgeons. Five of these were consultants, 7 were registrars and 4 were supervised interns.

The overall pregnancy rate of 2,5/1 000 and the rate of 1/1 000 in the laparotomy group are similar to the reported, expected rate.² Furthermore, the pregnancy rate of 1,7/1 000 after Falope ring tubal occlusion is similar to the overall post-laparoscopic rate of 2,5/1 000 reported by Soderstrom and Yuzpe.¹

Of the 16 pregnancies which followed the 1 045 laparoscopic tubal occlusions, 14 occurred after bipolar cauterization. This is considerably higher (39,8/1 000) than the expected rate, and all patients who had undergone bipolar cauterization were therefore contacted by the family planning clinic and advised to use some other form of contraception until they had been checked for occlusion or undergone laparotomy.

It is often difficult to compare pregnancy rates after cauterization because different operators use different techniques as regards area and duration of cauterization and division of the tube after cauterization. Also, it has been found that over 50% of patients who become pregnant do not report back to their original surgeon.¹

In the series reported here, one or two sites per tube were cauterized using bipolar cautery, the tubes were not divided and cauterization was continued until the characteristic 'popping' sound was heard. Bipolar cauterization is considered safer than the unipolar procedure, but because of the low voltage used complete tissue destruction may not occur. It has been recom-

mended¹ that at least 3 cm of tube should be completely destroyed by multiple-point coagulation to avoid this possibility.

Conclusion

Bilateral tubal occlusion by laparotomy or Falope rings has a low failure rate. Bipolar cauterization has been abandoned at this unit.

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