

# The place of Laparoscopic tubal sterilisation in Malaysia

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## INTRODUCTION

For any surgical methods of tubal sterilisation to be widely accepted in a developing country it must not only be safe, simple and effective but preferably it should also have features which would appeal to most women. Of foremost importance are such factors as brief hospitalisation, cosmetically pleasing scars, smooth convalescence and normal resumption of physical activity after operation. Laparoscopic sterilisation, in our view, comes nearest to satisfying these requirements. Other less obvious advantages include:—

- a) good visualisation of pelvic organs and
- b) easier restoration of tubal patency by tubal reconstruction.

Presented here is a review of our experience with our first 142 such operations, performed at the University Hospital, Kuala Lumpur from October 1972 to May 1973.

## INSTRUMENTS & TECHNIQUES

Basically the instruments consist of 1) a Verres needle for introducing carbon dioxide into the peritoneal cavity, 2) a Wolf laparoscope for visualisation of the pelvic organs and 3) a Palmer forceps for coagulation and resection of the tubes. Illumination is very efficiently provided for by a high intensity fibreoptic light system.

Stephens' technique has been used on all 142 patients. Under general anaesthesia, the patient is placed in the supine position with the legs supported at an angle of 45°. The bladder is emptied with a catheter and a tubal insufflation cannula inserted into the uterine cavity to help in manoeuvring the tubes into the field of vision of the laparoscope.

Carbon dioxide is introduced into the peritoneal cavity at a rate of 1 litre/minute via the Verres needle inserted through a small incision at the inferior border of the umbilicus. No more than 3 litres of carbon dioxide are needed. The carbon dioxide pressure should not exceed 20 mmHg. After the Verres needle is withdrawn, the laparoscope is inserted through a trocar over the same incision. The Palmer forceps is then inserted through a separate incision in the right iliac fossa. Under direct vision, each tube is identified, grasped with the Palmer forceps at about 1 cm. from the cornu, coagulated and resected. Before withdrawing the Palmer forceps, it is important to ascertain that there is no bleeding near the cut ends of the tube. The abdomen is deflated and the incisions are closed either with skin clips or subcuticular sutures.

## RESULTS

### Ethnic Groups

Almost all 142 women were from the neigh-

bouring rubber and palm oil estates. 69% were Indians, 23.3% Chinese and 6.3% Malays. The ethnic bias towards the Indians probably only reflects the ethnic pattern of the estates' labour force.

Ethnic Groups

	Number	Percentage
Indians	98	69
Chinese	33	23.3
Malays	9	6.3
Others	2	1.4

#### Age Distribution

Quite obviously the demand for sterilisation is greatest in our patients between the age of 25 and 34 years. Even so, a significant percentage (13.4) of relatively young women (20 to 24 years) were also sterilised. No one under the age of 20 years, however, was recorded in this study.

Age Distribution

Age	Percentage
Less than 20 years	0
20 - 24	13.4
25 - 29	37.6
30 - 34	29.6
35 - 39	16.9
40 years and over	2.5

#### Age of Marriage

Except for 6 women, all were married by 25 years of age. 60% were married between the age of 15 and 20 years, while 15.4% even did so below the age of 15 years. Early marriage probably has contributed to the high parity pattern amongst these women.

Age of Marriage

Age	Percentage
Less than 15 years	15.4
15 - 20	60.0
21 - 25	20.4
26 years and over	4.2

#### Parity Distribution

84.1% had 4 more children (maximum 11), 13.4% had 3 and only 2.5% had 2 children. The parity distribution in these women might well reflect the parity trend of most of the estate workers in West Malaysia.

Parity Distribution

Parity	Number	Percentage
2	4	2.5
3	19	13.4
4	119	84.1

#### Previous Contraception

Only 33% of the women have had some form of birth control measures for a year or more. The lack of contraceptive practice amongst these women is probably an important cause of their high parity.

Previous Contraception

Duration	Percentage
Nil	67
1 year	13
2 years and over	20

#### COMPLICATIONS OF LAPAROSCOPIC STERILISATION

Ten out of 142 patients developed complications. Difficulty with intraperitoneal insufflation of carbon dioxide was met with in 2 obese patients. In both cases laparoscopic sterilisation was abandoned.

Two cases of skin burns at the site of insertion of the trocar in the right ilias fossa were recorded. This can happen when the coagulation forceps comes in contact with the metal cannula, causing a short circuit at the skin level. It may be avoided by using fibreglass cannula.

The uterus was perforated by the insufflator in 2 patients. Fortunately, bleeding promptly stopped after the cannula was withdrawn.

3 cases of bleeding were encountered. Bleeding from the mesosalpinx was seen in 1 patient. This may be avoided by careful use of the coagulation forceps. In the second case bleeding from the trocar wound in the right iliac fossa was noted. This may be avoided by inspecting the peritoneum through the laparoscope before closing the incision. A third patient developed haemorrhagic shock 4 hours after the operation as a result of bleeding from a torn right inferior epigastric artery. Injury to the vessels may be avoided by trans illumination before inserting the trocar. One patient developed general peritonitis on the second day after operation. However she recovered promptly with antibiotic therapy.

## DISCUSSION AND CONCLUSION

Laparoscopic tubal sterilisation is a relatively simple procedure. Complications are uncommon, varying from less than 1% to about 7%.<sup>1.2.3.5.6</sup> Bleeding, uterine perforation, skin burns and bowel injury are the 4 most frequently quoted complications, but insufflation difficulties are probably under-reported. Bearing in mind our relative inexperience with the technique, 10 complications out of 142 cases performed by us may be accepted as within the normal limits.

Although an evaluation of the long term success or failure of our cases will not be possible for some time, nevertheless we have reasons to be optimistic. Larsen<sup>4</sup> (1972) in a literature review of 3658 cases has found only 5 true failures. Even so, the success and safety of the procedure depend not only on the skill and training of the surgeon but also the availability of general anaesthesia, the maintenance of surgical asepsis and the proper selection of patients. In our

view, the operation should only be done in a hospital with facilities for immediate laparotomy in case of complications.

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