



EARLY PUERPERAL LAPAROSCOPIC STERILISATION – AN EVALUATION

Gynaecology

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ABSTRACT

Laparoscopic sterilization is an effective means of permanent contraception. This would boost our family planning programme. Operative laparoscopy is a very effective tool for laparoscopic sterilization.

KEYWORDS

Laparoscopic sterilization, laparoscopy, family planning, puerperal sterilization

INTRODUCTION

In a country with more than a billion population, laparoscopic sterilization is already an effective means of permanent contraception in interval cases. However, laparoscopic sterilization can also be done just after delivery safely. This would boost our Family Planning Programme. The uterus remains large and easily palpable for upto 10 days following delivery. A small subumbilical incision is adequate for sterilization, but takes more time and involves greater handling of tissues including intraperitoneal structures. Operative laparoscopy offers a cosmetic scar, rapidity of procedure and minimal handling of tissues. It also eliminates the risk of incisional hernia.⁽¹⁾

OBJECTIVE

To evaluate the safety and efficacy of early puerperal laparoscopic sterilization with falope rings, when performed within 72 hours of a normal vaginal delivery.

STUDY DESIGN

- The study was conducted in Red Cross Hospital Jaipur, in the Department of Obstetrics and Gynaecology.
- A total of 177 cases of post partum sterilizations were studied.
- The time taken for the operation,
- Complications,
- Conversion to open procedure,
- Average hospital stay, and failures
- were studied and compared between the control group and the study group. The control group included 125 cases of puerperal sterilization done conventionally by open tubal ligation.
- The study group included 52 cases of early puerperal laparoscopic sterilization. Laparoscopic sterilization was done within 72 hours of a normal vaginal delivery.
- Past history was taken.

Exclusion criteria for postpartum laparoscopic sterilization were:

- Cardio-pulmonary disease
- Renal disease
- Hepato-splenomegaly
- Previous caesarean scar
- Abdominal hernia

Inclusion criteria for conventional puerperal sterilization were:

- Cardio-pulmonary disease
- Hepato-splenomegaly
- Previous caesarean scar.

INVESTIGATIONS

- All the patients were investigated for:
- Haemoglobin,
- Urine for albumin and sugar, and
- Electrocardiogram
- Patients with haemoglobin less than 9gms were excluded.

METHODS

- All the 177 patients for post partum sterilization were kept nil by mouth.
- All patients were given general anaesthesia.
- Injection pentothal sodium was given according to the body weight.
- Conventional puerperal sterilization was done by modified

polmeroy's method.

- For puerperal laparoscopic sterilization:
- An additional consent for open tubal ligation was also taken.
- Instruments used for post partum L.S were:
- Medium sized verres needle,
- 1cm bore Trocar and cannula,
- A single puncture Laparocator,
- Falope (yoon) rings, and
- Gas insufflator apparatus
- The aim was:
- To avoid injury to uterine fundus by needle and trocar at the time of entry.
- Also to make the tubes more accessible as they run backwards and are difficult to catch.

Procedure for puerperal lap sterilization:

- The anterior and posterior lips of cervix were held with sponge holding forceps.
- The abdominal wall is lax in early puerperium and it can be pulled up vertically upwards by almost 5cms.
- At the time of entry of verres needle or trocar, injury to the enlarged puerperal uterus is avoided by pulling the cervix down and at the same time pulling the abdominal wall upwards.
- For pneumoperitoneum, 3 litres of carbon dioxide is used instead of 1.5 litres.
- Initially, in the first six cases, two rings were applied on each tube, but as confidence was gained with each case, only one ring was applied on each tube.

OBSERVATIONS

Number of children after which puerperal sterilization done:

Number of children	Number of puerperal sterilizations (177)	Percentage
2	24	13.5%
3	55	31.0%
4	78	44.0%
5	20	11.2%

Average age at which puerperal sterilizations done

Age in Years	No. of Cases (177)	Percentage
20-25	49	27.6
26-30	54	30.5
31-35	47	26.5
36-40	21	11.8
>40	06	3.38

Average time taken for the procedure

Puerperal lap sterilisation

TIME (in Mins)	Cases
5-6	15
7-8	26
>8	11

Conventional puerperal sterilisation

TIME (in Mins)	Cases 125
10-12	95
13-15	14
More than 15	16

Conventional puerperal sterilisation with associated risk factors

Number of cases with associated risk factors	
Cardiac	----
Pulmonary	8
Hypertention	5

COMPLICATIONS

There was no anaesthesia related problem in either group. Intraoperative complications in L.S. can occur during-

- creation of pneumo peritoneum while inserting verres needle.
- during insertion of trocar
- during application of falope rings.

Intra Operative Complications

Injury to Cervix	L.S	Open T.L.
Uterine Fundus	-----	-----
Mesosalphinx , Tubes	1	-----
(Intestines, Bladder, Vessels e.t.c)	-----	3

Post-Op Complications

	Puerperal LS (52 cases)	Open TL (125 cases)
Immediate pain	10 (19.2%)	12 (9.6%)
Infection	2 (3.8%)	25 (20%)

For post operative pain, Inj Diclofenac sodium 75 mgs was given to every patient. However in some patients, in addition, an inj. of Tramadol was given in the drip. Only those patients are mentioned here.

Average Hospital stay

	Open TL (125)	Puerperal LS (52)
Discharged on the Same day	-	49
Day -2	-	1
Day-3	79	-
Day-4	34	-
Day-5	12	2

CONVERSION OF L.S. TO OPEN TUBALLIGATION

- In 2 patients of puerperal L.S, open tubal ligation had to be done.
- In the first patient, the enlarged puerperal uterus presented difficulty in visualization of tubes, as they were running backwards.
- In the second case, the tubes were thickened, hence, open T.L. was done

FAILURE

There was no failure (in the form of pregnancies) in either group in our study of 177 cases of puerperal sterilization.

DISCUSSION

The average number of children after which post partum sterilization is adopted by couples as a permanent method of contraception is 4. But now, couples with even 2 children are willing for sterilization.

The average age at which post-partum sterilization is adopted is 31-35. About 27% had completed their family by 25 years of age, as in Rajasthan, child marriages are still prevalent.

If done in experienced hands, puerperal L.S. can be done safely. In my study, the best time to do puerperal L.S. is between 36-72 hours after delivery. This is because after 36 hours the puerperal uterus involutes sufficiently and the tubes can be accessed without difficulty.

In conventional P.S. the hospital stay is 5 days or more after delivery, where as in Puerperal L.S. cases, the patient can be discharged on the same day of L.S. In addition, in conventional P.S., morbidity is more as compared to puerperal L.S. Lowering the height of uterus by cervical traction combined with the use of Hulka's uterine manipulator offers a simple, rapid and effective method of performing laparoscopic sterilization in a recently delivered woman. It eliminates complex laparoscopic manoeuvres and handling of intraperitoneal structures and leaves a cosmetic scar. Traction on the cervix for 6 minutes is too brief to cause any permanent weakening of uterine supports and predispose to prolapse of the uterus in future.

Failure rates at 12 months poststerilization and major morbidity are rare.^[2] A common reason for sterilization failure is ligation of the wrong structure, typically the round ligament. Therefore, careful identification and isolation of the fallopian tube before ligation is necessary. Furthermore, if a tubal segment is excised, pathologic confirmation is an important step, when available.

Failure rates should be discussed with any patient considering postpartum tubal sterilization. One third of tubal failures will be ectopic pregnancies. Of all female sterilization procedures, postpartum partial salpingectomy has the lowest cumulative pregnancy rates: 6.3 per 1000 procedures at 5 years and 7.5 per 1000 at 10 years.^[3,4]

Despite early reports of increased menstrual abnormalities in women after tubal ligation, later analysis failed to show a significant difference in menstrual patterns in sterilized women relative to nonsterilized women.^[5]

RESULTS

- Results were analyzed on the basis of time taken for the operation, complications; conversion to the open procedure, average hospital stay and any failures in the form of pregnancies.
- The average time taken for Puerperal LS was 7 minutes as compared to 12 minutes for the open tubal ligation.
- In 2 cases of Puerperal LS, minilap had to be done due to reduced visual field caused by enlarged uterus.
- In one case of Puerperal LS, minilap was done due to thickened tubes.
- Average hospital stay for open TL was 3 days as compared to puerperal LS patients who were discharged on the same day.
- No pregnancies occurred during an observation period of 15 months in either group.

CONCLUSION

The falope ring technique is recommended as a quick, safe and easy method of early puerperal laparoscopic sterilization in experienced hands. Also, it can enhance our National Family Planning Programme as there is reduced hospital stay and less morbidity.

References

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