POST PARTUM LAPAROSCOPIC STERILIZATION

by

Prof. SHASHI RAMESH,* M.B.,B.S., M.S. (Gynec.)
BEENA BHATNAGAR,** M.B.,B.S., M.S.
and
SUMAN MEHNDIRATTA,*** M.B.,B.S.

Summary

Laparoscopic procedure has undergone rapid modifications in the recent past. The introduction of occlusive methods such as rings and clips has eliminated the use of electrocoagulation with inherent hazards. The Fallop ring has achieved a wide spread popularity due to its simplicity safety and effectiveness. It can also be used in post-partum period.

Present study was conducted on 1000 women, 500 interval cases and 500 post-partum cases. Laparoscopic sterilization was done by Fallop ring by standard technique deviced by Steptoe 1967. Extra precautions were taken in post partum cases.

Laparoscopic sterilization by Fallop ring is a definitely safe and effective method minimum morbidity and mortality if done cautiously and properly in selected group.

Introduction

Laparoscopic procedure have undergone rapid modifications in the recent past the introduction of occlusive methods such as rings and clips has eliminated the use of electrocoagulation with the inherent hazards.

The Fallop ring has achieved a wide spread popularity due to its simplicity, safety and effectiveness, it can also be used in post partum period.

Material and Method

Present study carried on one thousand women, in the Department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur and Laparoscopic Sterilization camps organised by State Government.

Selection of Cases

Out of 1000, 500 cases belonged to interval group and 500 to postpartum group, i.e. Puerperal cases laparoscopic sterilization done from 2nd to 15th day of delivery.

All patients, who come for sterilization voluntarily, has 2 or more living children with atleast one living male child. All patients were examined routinely for medical checkup, vaginal examination was done in each case to rule out Pelvic pathology. Women with cardiac and respiratory diseases were excluded from the study. Routine investigations like Hb and urine was done in each case.

*Professor,
**Lecturer,
***Postgraduate,
Department of Obstetrics and Gynaecology, Medical College, Jaipur.

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Pre-operative preparation and Pre-medication

The patients were kept starving for at least 8 hours preoperatively. Enema was given early morning about 4 hours, in advance or a laxative was given previous night. Just before operation they are made to avoid urine.

Owing to hazards and requirements of time and complicated apparatus for general anaesthesia and non-suitability of conduction anaesthesia for laparoscopy neuroleptanalgesia along with local infiltration was the choice of anaesthesia. The neurolepta-analgesia is a combination of—

Inj. Diazipam 10 mg (Calmpose), Pentozocain Lactate 30 mg (Fortwin); and Atropine 0.6 mg given I.M. half an hour before operation.

Technique

Laparoscopic sterilization was done by Fallop ring using standard technique deviced by Steptoe, 1967.

For postpartum cases, special attention was paid on each step to minimise complications. Ergometrine was intravenously given before starting the laparoscopy so that uterus was well contracted and uterine bleeding thus avoided. It is essential to take precaution while introducing the needle and trocar and cannula last the enlarged uterus is damaged. In these cases it is advisable to introduce the needle and the trocar and cannula pointing not towards the pelvis but directly backwards with a very slight tilt downwards after palpation of the uterus. In early postpartum cases the tube was grasped 2 cm away from the cornual end, taking care to avoid any big vein in the vicinity in the mesosalpinx tubes which are usually oedematous and thickened. Care is taken while picking up the tube and while indrowing it in the inner-cylinder, movement is kept very slow and steady and at the time of slipping the Fallop ring laparoscope is kept against the grasped part of tube. This will reduce the chances of bisection of tube. If tube is bisected during procedure, then two Fallop rings are applied on both cut ends, which will check the bleeding by occluding both ends.

Fallopion tubes were usually behind the uterus and near the lateral abdominal wall and were not easily located in the beginning till practice was achieved. In these cases tubes can be manipulated gently with laparoscope itself and only after identification it should be grasped. Very often it is observed that in early postpartum cases there was a thin layer of omentum in front of the uterus and it did not move with the added Trendelenberg position, but could be moved with the gentle movement of the laparoscope. It is essential to take another precaution while doing vaginal manupulation. Rubin's cannula or uterine manupulator is avoided. Only sponge holding forceps are used to hold the cervix, and here assistance pulled uterus in the Pelvis and kept steady, which will reduce the height of puerperal uterus. Vulsellum was not used as it may tear or injure cervix.

Post-operative Care

It is very essential to administer a dose of long acting penicillin (Penedure LA)$_2$ or Ampicillin 500 mg 6 hourly or Tetracyclin 250 mg 6 hourly for 5 days depending on situation. Postpartum cases are already immunized against tetanus but that are not then they should always be given Inj. Tetvac 15 ml.

The patient must be carefully watched for respiratory depression following the neuroleptanalgesic agents, and pulse B.P. monitered. Patient is discharged after changing the dressing on the same day.

All patients are asked to come back after 4 weeks for post-operative check up.

Observations and Discussion

In Rajasthan usually the women complete their family in earlier age group. 71% of postpartum laparoscopic sterilization were done in the age group of 25-34 years, due to early marriage. Literacy plays an important role in limiting the size of family. It was observed that all couples who were illiterate had more than 4 children. Illiteracy constituted 68.0% of total cases, while in higher education group the number of children was comparatively less. The most peculiar thing noticed was that all women whether illiterate or literate want at least one living male child.

The uterus should be at least 2-3 fingers below the umbieus at the time of operation. Total cases were divided into 5 groups A, B, C, D, E. of 100 cases each so that difficulty and complication encountered during operation could be compared and safest time of postpartum laparoscopic sterilization could be assessed.

Table I reveals correlation between oedema of the fallopian tube and the day of delivery it is observed that oedema of the fallopian tube subsides gradually day by day in puerperium. Among Group A and B (II to VII day) in 17% of cases severely oedematus and thickened tubes were seen, while in Group E, severely oedematus tube were not observed even in single case. Majority of cases (82.5%) had normal tubes after ninth day of delivery. Among Group A normal tubes were seen in only 43% cases of group A and B before 8th day (Steptoe, 1967; Rao, 1978; and Tamasker, 1978).

Table II show correlations of oedematus tubes and their transsection. Majority of transection, 11% were seen among group A and B (before 7th day) constituting 7% to Group A and 4% to Group B;

TABLE I

Correlation Between Oedema of the Fallopian Tube and Day of Delivery

Group	Day of delivery	Normal	Mildly Oedematus	Moderately Oedematus	Severely Oedematus
A	2- 4	41	33	15	11
B	5- 7	45	39	10	6
C	8-10	60	31	7	2
D	11-12	76	16	7	1
E	14-15	89	11	2	—

TABLE II

Correlation Between Oedema of Fallopian Tube and its Transection

Oedema	A Group	B Group	C Group	D Group	E Group
	2-4	5-7	8-10	11-13	14-15
Normal	—	—	—	—	—
Mildly Oedematus	—	—	—	—	—
Moderately Oedematus	2	1	—	—	—
Severely Oedematus	5	3	1	—	—

among Group C only 1% transection of tube occurred while in Group D and E (8th day and onwards) not a single case of tubal transection occurred. The oedema and thickering of fallopian tube is responsible for bisections during early postpartum period (Steptoe, 1967; Tamasker, 1978 and Sodostrone, 1973). This complication can easily be overcome by taking care while applying Fallop ring as at the time of pulling of the tube into the inner cylinder the movements should be gentle and vary slow so that ube is squirzed up, and oedema of tube is reduced mechanically way, and while pressing and applying Fallop ring, laparoscope should be kept firmly against tube. By this precaution later on even in oedematus ubes transaction of tube not occurred in postpartum cases. The bisected tubes can be treated effectively immediately and safely by applying Fallop ring on both the bisected ends. Fallop ring will control the bleeding by occluding bisected end.

Complications

Although various complications were reported by number of authors from time to time in interval as well as in postpartum cases, Tamaskar, 1978, reported interim perforation and uterine haemorrhage. Such complications did not occur in our cases, because we had not used any dilator or suction curettage while doing manipulation as used by him. Secondly, we pulled down the uterus below so height of uterus was further reduced. Intestinal perforation reported by Thompson and Wheelless (1973) but we have not come across this complication. Surgical emphysema and anaesthetic complications, reported by Steptoe (1967) and Sodertsone, (1973) but we did not have this complication in our series.

Delayed complications were noticed in both interval as well as Postpartum cases. P.I.D. in 6% of Postpartum and 4% of interval cases. Menstrual irregularity 5% in Postpartum and 6% in interval cases and backache 4% in Postpartum and 7% in interval cases. Dispareunia was complained of in 5% in Postpartum and 2% in interval cases. Psychological upset was seen in 1% cases of Postpartum Laparoscopic sterilization.

The complications rate is almost the same in interval and postpartum cases.

Failure rate

Not even a single failure was reported among interval group. Among postpartum group, 1 case (0.5%) had conception 6 months after laparoscopic sterilization. (She was operated on 2nd day of delivery). The cause of failure may be oedematus and thickened tubes on which some times ring may be applied superficially, and with movements of fallopian tube it can slip off. It is clear that oedema of the tube subsides gradually and when ring is applied on thickened and oedematus tube, it is streached much more, and when oedema subsides, this ring does not serve the purpose of complete occlusion. The failure rate is negligible in laparoscopic sterilization by Fallop ring, because immediately after application of Fallop ring the loop blanches white and blood supply of this loop is cut off and eventualy the loop undergo fibrosis.

Followup

For follow up 90.33% of cases reported in time on first visit. About 9.68% cases were defaulters, out of these 6% of cases were from outside the State and had left Jaipur after the operation. On second visit only 20% of patients came for follow up and 80% of cases became defaulter. It

may be because the patient does not have any complaint and is therefore totally satisfied.

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