

AN EXPERIENCE OF LAPAROSCOPY STERILIZATION

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SUMMARY

Laparoscopic sterilization was performed in 4000 patients in different camps. Most of the patients were discharged on the same day. Twenty patients have reported with pregnancy. Reasons for failure were misidentification of tube and patients were already having early pregnancy.

Laparoscopy represents a new approach in female sterilization. Laparoscopy provides a brilliant panoramic view of the pelvis and lower abdomen. Patients favour this method due to its speed, small scar, quick recovery, short hospital stay, early ambulation and almost immediate resumption of routine work.

The aim of this study is to highlight the difficulties encountered as well as to find out merits and demerits of the procedure and also to increase the acceptability among the people.

This paper deals with our observation on 4000 cases of laparoscopic sterilization performed in different camps in the periphery of Bhagalpur Medical College.

Selection of the Cases

All cases were examined routinely for medical check up and routine investigations like haemoglobin percentage and urine examination were done. These

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cases were found free from gross heart or lung disease. Cases of early post-partum period were not included in this series.

Anaesthesia

The patients were asked to evacuate their bladder and they were kept in partial trendelenberg position. Intravenous 10 mgm of calmpose given.

Operative Procedure

A quarter inch long transverse incision was put in the subumbilical region. Sides of the abdominal wall were pulled forward by surgeon and left hand of the assistant. Verres needle is introduced at the site piercing the peritoneum, the direction is almost horizontal. The stylet of the needle is removed and air is passed to create pneumoperitoneum. A typical hollow booming sound is obtained if pneumoperitonium is properly performed. About 1½ to 2 litres air is introduced. It is checked clinically that it has obliterated the liver dullness. Now the

Verres needle is removed and laparoscopic trocar and cannula inserted through the same incision. Before inserting the laparoscope its intraabdominal end is warmed in saline to prevent clouding of lense. Fallopian tube is visualised and a loop of it preferably in the avascular area caught and falope ring put on either side. After withdrawing the apparatus and the air skin incision is sutured. They were observed carefully in the post operative period and most of them discharged on the same day. They were asked to report immediately if any complication arose. The patients were seen after one week and detailed inquiry was done to gather information about gastrointestinal symptoms, vaginal bleeding, etc. They were examined for wound healing and an abdominal cum gynaecological examination was done to detect any abdominal and pelvic complication.

Operative Difficulties

Table I demonstrate different types of difficulties encountered during Laparoscopic Sterelization.

As shown above occasional difficulties were encountered while producing pneumoperitoneum, specially in patient with thick abdominal wall or in those having lax abdominal wall. Subcutane-

ous emphysema and extraperitoneal insuffiation occurred in 2.6% of the cases. While introducing the needle direction was kept horizontal and Verress needle was passed very carefully in four steps. First the needle penetrates through skin to subcutaneous adipose layer. Second penetration through the muscle sheath and peritoneum. Thirdly, steady advancement of the needle. Lastly, needle is manipulated to establish freedom of movement. Special precaution is taken while producing pneumoperitoneum in obese patients (Mehta et al). The skin fold should never be lifted upward either with a towel clip (Loffer and Pent 1974) or with finger (Steptoe 1967) in a markedly obese patients as it tends to increase the distance between the peritoneum and the skin.

Sometimes clear vision of the interior becomes difficult either due to anatomical pathology or some fault in the technique, as for example hazyness of the lense due to evaporation of the peritoneal fluid or some internal bleeding. Sometimes intestines were obstructing the field. In many cases omentum spreads like umbrella covering the pelvic organ. This difficulty was overcome by Laparoscope itself. Its movement inside the abdominal cavity could help in removing the omentum. 86 patients were producing

TABLE I
Operative Difficulties

Difficulties in producing pneumoperitoneum			Difficulties in visualising the Tube		
	No.	%		No.	%
Obese Patient	92	2.3	Clouding of lens-	25	0.62
			soiling of lens	1	0.25
			Blood clot on lens	15	0.37
			Retroverted uterus	86	2.15
			Tubo-ovarian mass	9	0.22
Previously Operated patients	14	0.35	Umbrella of omentum	49	1.22
			Endometriosis	29	0.72

difficulty due to retroverted uterus, in only one of the them laparotomy was required because that was associated with gross obesity, otherwise slight stroke with the Laparoscope on the fundus of the uterus directing it forward helped in succeeding the procedure. Internal bleeding occurred in 4 cases in our series. Bleeding due to piercing the parietal blood vessels is reported by Serment et al (1972) in 6.2% of the cases. Edgerton in his series of 1135 cases reported 1 case of bleeding from umbilical wound. In our series instead of electro coagulation mechanical occluding device i.e .falope ring were used so no question of bleeding from the subtubal arch or burn injury to viscera.

During Laparoscopy there were un-

expected findings namely hydrosalpinx, ovarian cyst, endometriosis, and Tubo ovarian mass engulfing and the fimbrial end. These comprised thirty eight cases, Table II demonstrate the reason of un-successful laparoscopy leading to Laparotomy.

Gastro-intestinal complication occurred in 0.7% of the cases. In ten cases the verres needle somehow or other punctured the bowel and air of the peritoneal cavity started coming out of the rectum. In one case patient had bowel trauma during insertion of the trocar, Laparotomy done. Other 28 patient with gastro-intestinal symptoms, were cured on conservative treatment only. One patient on laparotomy showed perforated

TABLE II
Causes of Unsuccessful Laparoscopy

Causes	No.	%
Difficulty in producing Pneumoperitoneum	6	0.15
Pelvic adhesion due to previous Surgery	6	0.15
False tract of verres	4	0.01
Pelvic adhesion due to previous infection	9	0.22
Retroverted uterus in obese patient	1	0.25
Difficulty in visualising due to bleeding	4	0.17

TABLE III
Demonstrate the Complication

	No.	%
Cardiac arrest	Nil	Nil
Unsuccessful Laparoscopy	30	0.75
Surgical emphysema	25	0.62
Perforation of small gut	16	0.4
Acute pelvic inflammation	8	0.2
Gastro intestinal symptoms	28	0.7
Pelvic Haematoma	1	0.025
Chest infection	6	0.15
Post-Operative fever	10	0.25
Vaginal bleeding	15	0.4
Wound infection	40	1
Thrombo embolic disease	Nil	Nil
Failure of Sterilization	20	0.5

bowel segment and bowel resection was done.

Occasionally hypotensive shock and even cardiac arrest have been reported. There were no such complication in this series. Mortin et al (1973) reported that there is remarkable stability of cardiovascular system during Laparoscopy if the intra abdominal pressure is kept up to 20 mm of mercury.

Discussion

In India where majority of the population belongs to rural areas laparoscopic sterilization on nationwide scale is the best answer to present need (Purandare 1980).

Observation of 4000 cases of laparoscopic sterilization in this series in different camps showed overall complication of 4%, of which 1.1% were of gastrointestinal system. In 30 patients laparotomy was needed due to various reasons given in Table II. Vague discomfort in the abdomen and shoulder pain complained by many patients were admitted and given conservative treatment. Otherwise most of the patients were discharged on the same day.

Sermont et al (1972) reported 0.04% incidence of injury to ilium. Thompson et al (1973) reported overall complication of 8%, of which 1.5% were major and 0.3% pertaining to gastrointestinal tract.

Jyotsna (1977) did not find any complication in his series. Merchant (1978) in her series of 134 cases found failed pneumoperitoneum in 12 cases, surgical emphysema in 1 case, bowel burn in 1 case, wound sepsis in 2 cases and gastrointestinal disturbance in 2 cases.

Dalal and Singhal (1978) in their series of 212 cases found vaginal bleeding in 11 cases, local wound infection in 9 cases,

small bowel burn in 1 case and skin burn in 1 case.

Sethi et al (1978) reported on 2089 laparoscopic sterilizations and met with bowel injury in 0.15%, surgical emphysema 0.33%, haemorrhage from fallopian tube 0.24%, cauterization of round ligament and ovarian ligaments 0.34%, and trocar injury to soft tissue 0.1%.

There was no burn injury in our series as instead of electrocoagulation, mechanical occluding device were used.

Twenty patients have reported with pregnancy up to now. Reasons for failure were firstly misidentification of the tube, ring might have been negotiated into the round ligament. Secondly, many patients were having early pregnancy, when operated. But we cannot give exact causes of failure because proper follow-up requires more time.

Laparoscopy, the hall mark of modern reproductive biology has added advantage of accelerating the family-planning programme many folds due to decreased operative and recuperative time. Low cost, insignificant patient inconvenience and feasibility to carry it out in different camps which is direct approach to rural population.

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