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Laparoscopic Tubal Ligation in Women with Previous Pelvic or Abdominal Surgery

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ABSTRACT

Objectives: Laparoscopic tubal ligation (LTL) is a surgical procedure done on women as a permanent method of contraception and the most prevalent form of contraception worldwide.

Study design: We have prospectively collected and evaluated data for 50 women with previous pelvic or abdominal surgery who underwent LTL in the family planning clinic at our tertiary care referral hospital from October 2007 to July 2009.

Results: The mean age of patients was 29 years and mean parity 3.2. The most common previous pelvic or abdominal surgeries were caesarean sections followed by open appendicectomy. Omental adhesions up to abdominal wall and in the pelvis were seen in 10 (20%) patients; adhesions to the bladder were observed in 4 (8%) and perihepatic adhesions in 3 (6%) patients; flimsy peritubal and periovarian adhesions were detected in 16 (32%) patients.

Conclusion: In women with previous pelvic or abdominal surgery, keeping in mind the risk of postsurgical adhesions, LTL can be performed safely with low morbidity.

INTRODUCTION

Laparoscopic tubal ligation (LTL) is a surgical procedure done on women as a permanent method of contraception and the most prevalent form of contraception worldwide. Many gynaecologists have an apprehension to perform laparoscopic ligation in women who have undergone previous laparotomy (pelvic or abdominal surgery) due to the threat of postsurgical adhesions. Most of them undergo minilaparotomy. Women without previous surgery can also have adhesions.

We also examined the outcomes in each group after 1050 laparoscopic sterilizations. The scars could be median, paramedian or pfannenstiel.

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MATERIAL AND METHODS

We have prospectively collected and evaluated data for 50 women with previous scars who underwent LTL in the family planning clinic at our tertiary care referral hospital from October 2007 to July 2009. The exclusion criteria were history of more than three laparotomies or history of bowel/bladder injury in any previous surgery. The surgeon's experience was 7 years after Masters in Obstetrics & Gynaecology. The data included demographic characteristics, obstetric history (parity, abortions, number of living issues), past medical and surgical history (history of caesarean sections, laparotomy for ectopic pregnancy, appendix or gall bladder or any other major abdominopelvic surgery). After taking an informed written consent and counseling about the associated risks of bladder/bowel injury and need for conversion to minilaparotomy, all the patients were called in the morning after an overnight fasting. Bimanual examination was done in lithotomy position, and intravenous sedation (1ml each diazepam and pentazocine) and local anaesthetic 2% xylocaine 3 ml was infiltrated in the infraumbilical

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area. Pneumoperitoneum was created with Verres needle using carbon dioxide. Keeping in mind the adhesions due to previous surgery, extreme caution was exercised. Hulka uterine manipulator was used in all patients for better visualisation during ring application. Karl Storz laparocator with 10 mm port using single puncture (camera and instruments in one port) was used to apply falope rings for tubal occlusion.

RESULTS

The mean age of patients was 29 years and mean parity 3.2. The most common previous pelvic or abdominal surgeries were caesarean sections followed by open appendicectomy as shown in Table 1. Twenty seven patients (54%) had pfannenstiel scars, 18 (36%) midline vertical and 5 (10%) had paramedian scars respectively. Twenty six women (52%) had had one previous surgery, twenty (40%) had had two, and four (8%) had had three. Two attempts to achieve pneumoperitoneum were required in 3 patients due to obesity; there was preperitoneal insufflation in 2 patients in which Palmer's point was used. Pregnancy termination (less than 12 weeks gestation and 13 to 18 weeks gestation) with LTL was performed in 22 (44%) and 10 (20%) patients respectively. Second trimester termination was performed using medical methods followed by tubal ligation later. Interval LTL was performed in the postmenstrual phase in 18 (36%) patients. General anaesthesia was given in 8 (16%) patients; 6 (12%) to complete the procedure laparoscopically due to pelvic adhesions and in two (4%), minilaparotomy was done due to dense bowel adhesions obscuring the tubal structures. These two patients underwent Pomeroy's tubal ligation. Omental adhesions up to abdominal wall and in the pelvis (severe) were seen in 10 (20%) patients; adhesiolysis was required in 2 to complete the procedure. Mild adhesions to the bladder were observed in 4 (8%) and perihepatic adhesions in 3 (6%) patients; these were not lysed. Minimal flimsy peritubal and periovarian adhesions were detected in 16 (32%) patients; ligation was successfully accomplished in all by adhesiolysis. Tubes were dilated, edematous and tortuous in 8 (16%) patients; rings were easily applied in four and the rest required bipolar electrocoagulation. Double ring application was done in 14 tubes due to slight mesosalpingeal tear, haematoma or tubal transection. Coagulation was required in one to control the bleeding. Other associated findings observed were uterine malformations (bicornuate uterus) in 2 and uterine perforation in 3 patients. There was no bladder or bowel injury. In the postoperative recovery unit, all patients were observed for 6 to 8 hours and discharged on the same day with clear written and oral postoperative instructions on wound care, information on follow up and warning signs and advice on restricting activities after surgery. Admission for 24 hours was given to 2 patients who underwent minilaparotomy. Stitch removal was done after one week and further follow up was scheduled after next menses or prior in case required.

Table 1: Previous pelvic or abdominal surgeries (n=50)

S. No	Surgery	Number	Percentage
1.	Caesarean sections	29	58
2.	Ectopic pregnancy	5	10
3.	Open appendicectomy	6	12
4.	Open cholecystectomy	4	8
5.	Bowel surgery	1	2
6.	Ovarian cystectomy	2	4
7.	Excision of endometrioma	3	6

DISCUSSION

Medical termination of pregnancy (MTP) provides an excellent opportunity to perform LTL in parous women with completed family as in our study.

Tubal ligation is a procedure made on request. As every surgical procedure, it has risks and possible complications. Patients should receive adequate counseling about the possible risks, which are higher in the presence of previous surgical scars (pelvic or abdominal surgery); other potential risk factors include obesity, previous or current history of PID, cardiac and or lung diseases. Intra-abdominal adhesions occur in 60 to 90% of women who have undergone major gynaecological procedures and are associated with considerable morbidity constituting one of the common causes of chronic pelvic pain.[1] Szigetwari et al evaluated the outcome and association of previous abdominal surgery and significant adhesion in 955 women undergoing laparoscopic tubal sterlization. Two hundred sixty-three women (28%) had had previous surgery. Of them, 61 (23%) displayed significant adhesions. Of the remaining 692 patients with no surgery, 19 (2.7%) had significant adhesions.[2] Ghoshal et al determined the safety of laparoscopic tubal sterlisation in women who had two or more caesarean sections and concluded that this procedure is associated with low morbidity and scarring from caesarean sections should not be a contraindication if extra care is taken.[3] Our study also proves the safety of this well accepted technique. Lee et al showed that minilaparoscopy can be performed safely and effectively to reduce serious vascular or visceral injury from insertion of primary cannula in 20 patients who had previous pelvic and/or abdominal surgery.[4] Three broad categories of anaesthesia that can be offered to patients are general, regional and local. We prefer using local anaesthesia and mild sedation as it keeps the patient awake, comfortable, responsive, and cooperative with a speedy recovery in addition to low cost, ease of administration and less risk of anaesthesia related complications.

CONCLUSION

To conclude, in women with previous pelvic or abdominal surgery, keeping in mind the risk of postsurgical adhesions, LTL can be performed safely with low morbidity.

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