

Serosal and Endometrial Reconstitution During Myomectomy

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Abstract

Context: Myomectomy is usually performed when uterine fibroids are associated with infertility. Serosal and endometrial reconstitution are some of the subtle challenges that the gynaecologist has to deal with during myomectomy, in an attempt to minimise postoperative pelvic and intrauterine adhesions.

Objective: This study was conducted to evaluate the effect of careful apposition of the serosa and endometrium on subsequent development of post-myomectomy pelvic and intrauterine adhesions and to assess the effect of resection of redundant endometrium on subsequent menorrhagia.

Study Design, Setting, and Subjects: A review of 17 patients with previous myomectomy who eventually had a subsequent laparotomy for various indications between June 1992, and July 1998 in the University College Hospital, Ibadan was carried out.

Main Outcome Measures: Operative findings at myomectomy, as well as therapeutic procedures performed on them were recorded. Patients' observation of changes in menstrual blood loss postoperatively was also recorded. The presence of pelvic adhesions at re-laparotomy and intrauterine adhesions on hysterosalpingography in those who had endometrial reconstitution was also noted.

Results: Continuous closure was found to be beneficial in all cases of serosal defects. Excision of redundant endometrium in 11 women was associated with subjective reduction of menorrhagia in 9 of them.

Conclusion: It is advisable that gynaecological surgeons strive to minimise areas of visceral trauma, ischaemia and abrasion during myomectomy.

Key Words: Myomectomy; Fibroid; Endometrium; Menorrhagia; Infertility. [Trop J Obstet Gynaecol, 2001, 18: 16-18]

Introduction

Myomectomy is the commonest elective surgical procedure in gynaecological practice in Ibadan. Uterine fibroids, which are the only indication, frequently are associated with infertility^{1,2}. Symptomatology is diverse³ depending on myoma volume, site in relation to the myometrium and possibly other patient characteristics. Haemorrhage is practically the greatest hazard of myomectomy⁴ but since most women who undergo myomectomy procedures are primarily interested in their fertility, the sequelae of surgery are of paramount importance. The objective of the study therefore was to evaluate the effect of careful apposition of serosa and endometrium on subsequent development of post-myomectomy pelvic and intrauterine adhesions as well as the effect of resection of redundant endometrium on subsequent menorrhagia.

Patients and Methods

The study comprised patients with previous myomectomy who subsequently required re-laparotomy for various indications. Of the myomectomies performed between June 1992 and July 1998, we identified operative findings and records that suggested problems with serosal or endometrial reconstitution, and recorded how these were managed appropriately. The Bonney's cervico-isthmic clamps were used only in the first three women in this series, choosing thereafter to use a sterile Foley's catheter for tamponade. The abdomen was entered through a midline incision when the uterus was at or above the umbilical level or relatively fixed. Otherwise the patients had a Pfannenstiel incision. During the period, it was our

protocol to do hysterosalpingography (HSG) in all patients who have fibroids with infertility.

Results

The mean interval between myomectomy and re-laparotomy was 16.2 months. The indications for re-laparotomy are shown in Table 1. Of the 17 women reviewed, nine (51.3%) were nulliparous. The mean uterine size was compatible with gestational age of 18.2 weeks. (SD: 0.127). The weights of the enucleated myomata were not recorded for all the cases. The technical problems thought to have produced the defects in the patients are enumerated in Table 2. There were 15 patients with serosal and 13 patients with endometrial defects among the 17 patients. Most serosal defects were better appreciated after release of the tourniquet. The endometrial breach was observed while enucleating the myomata.

The serosal defect was approximated with continuous absorbable synthetic sutures in 8 patients. Four patients required flap refashioning with 'figure of 8' closure, while adrenaline packs were used in 3 patients. In these patients the peritoneal drain stopped being functional within 6 hours, when serosal defects were the only problem.

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Table 1
Indications for re-laparotomy in the 17 patients with previous myomectomy

Caesarean section	- 8
Tubal surgery (Salpingostomy, Salpingolysis)	- 6
Ovarian Cyst	- 2
Recurrent	- 1

Endometrial defects were easily repaired in all except 2 of the women. The first was a 36-year-old nulliparous patient who had a huge posterior uterine wall myoma with the entire posterior endometrial lining closely apposed to it. The procedure performed was to carve into the myoma and end up with a ½ inch “orange peel” conformation. There was also a need to undermine edges of surrounding healthy myometrium in order to achieve closure under minimal tension. The patient had no significant post operatively vaginal discharge. Menstrual blood flow had reduced and

her post-treatment HSG was normal. In the second patient, the huge myoma was in the anterior cervico-isthmic region. The fibroid nodule had been removed before it was realised that a longitudinal strip of lower endometrial lining had been removed as well. A sterile paediatric Foley’s catheter was inserted through the cervical canal, and the cervico-isthmic edges were split longitudinally. The deeper layer was apposed over the Foley’s catheter with 2-0 vicryl sutures. This patient was lost to follow-up. In one other patient, the fibroid nodule (about 2 x 2.5cm) was situated on the posterior uterine cornu on the left. It was felt to form the dorsal wall of the interstitial portion of the left fallopian tube, and was slowly dissected out.

At re-laparotomy, 11 patients had flimsy adhesions, while 6 had none. Of those who had adhesions, 7 had adhesions to the uterine corpus and the rest to the adnexa. Postoperative HSG were requested for 13 patients with endometrial breaching and were reported by the radiologist to be normal. Nine out of eleven patients who had redundant endometrial tissue excised during myomectomy reported reduction in menstrual blood loss post-operatively. This was evident by the reduction in the number of sanitary towels used per day.

Table 2

Serosal Defects		Endometrial Defects	
Technical Problem	No. of Patients	Technical Problem	No. of Patients
1. Uterine fundal anchor sutures	1	1. Huge intramural myomata	2
2. Pedunculated myomata	2	2. Adenomyosis carved-out	4
3. Huge intramural myomata	6	3. Cervical fibroid	1
4. Omental adhesions	6	4. Fundal fibroid (de-roofing uterus)	2
5. Small bowel adhesion	1		
6. Adherent ‘curved-on-self’ fallopian tube	2		
7. Dense P.O.D. Adhesions	4		

Discussion

Myomectomy is the operative procedures of choice when the patient wants to retain her fertility¹. Fertility potential after myomectomy is dependent on the existence of pre-operative adhesions and postoperative peritubal or pelvic adhesions⁵. Although various measures have been recommended as being capable of preventing post-operative adhesions⁴, more attention has been paid to the state of the parietal peritoneum⁷. A recent report of post-

myomectomy laparoscopy⁷ revealed that adhesions to the uterine incision sites did occur. They were commonest on posterior wall incisions, less common on fundal incisions, and least anteriorly.

In this study, the greater frequency of fundal serosal defects is attributable to our tendency to elevate the uterus for better access. It is not clear if pre-operative uterine elevation by vaginal packing, as practiced by other workers

elevates the uterus enough⁸. It may not be useful with massive fibroid uteri or when the cervix is flush with the vault. The array of aetiological factors resulting in serosal defects should make it evident that quite large areas may be exposed but not necessarily be haemorrhagic. Haemorrhage was our main reason for attempts at serosal reconstitution. Vasopressin is not locally available for haemostasis during myomectomy.

Endometrial cavity entry may not entirely be undesirable. In fact, some authorities recommend deliberate endometrial cavity entry if a sub-mucous fibroid is suspected. We do not believe that a pre-operative retrograde uterine instillation of methylene dye could have helped us avoid entry into the uterine cavity. In this study therefore, we have attempted to show that gynaecological surgeons must strive to achieve acceptable haemostasis and minimize areas of visceral trauma, ischaemia and abrasion. Since most women in this environment expect to conceive after myomectomy, more gynaecologists must acquire skills and equipment for basic operative laparoscopy to divide adhesions following myoma surgery.

The subjective improvement in menstrual blood flow recorded in 9 out of 11 patients with resection of redundant endometrium is presumably due to the reduction in available endometrial surface area. This showed clearly that reduction in uterine size, and specifically the endometrial surface area, is associated with a significant improvement in menorrhagia associated with large intramural or submucous fibroid. Myoma surgery should be taught meticulously to our younger colleagues and innovations should be encouraged.

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