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LAPAROSCOPIC RECTOPEXY: A CASE SERIES STUDY

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Background: ***Among the many procedures described for the treatment of rectal prolapse, abdominal rectopexy is the preferred one. It consists of fixation of the rectum to the sacrum and does not require any intestinal resection or anastomosis. Laparoscopic rectopexy has the same clinical and functional results as laparotomic rectopexy, but with a shorter postoperative hospital stay and lower costs.***
Patients and Methods: ***25 randomly selected patients were operated upon due to complete rectal prolapse. They underwent laparoscopic rectopexy Pre-operative assessment of the patients included full history taking, thorough general examination, meticulous perineal examination with digital assessment of the sphincteric tone. and colonoscopy. Fixation of the rectum was done by means of suturing in 10 patients or synthetic polypropylene mesh fixed to the rectum and sacral promontory in 15 patients.***
Results: ***The average operative time was 90 minutes. We didn't face any technical problems during the procedure except some sort of hemorrhage from the presacral plexus of veins during the passage of the needle. It was mild and controlled easily by applying compression over the bleeding site using the rectum itself. Postoperative course was quiescent in all patients. Constipation was reported postoperatively in 7 patients. We reported no recurrence of prolapse during the follow-up period.***
Conclusion: ***Laparoscopic rectopexy is a valuable operation for both surgeon and patient. As regard for the surgeon, it offers him an excellent exposure of the deep narrow pelvic cavity allowing him to identify his way easily without risks of vital structures injury. As regard for the patient, it substitutes the highly invasive operative intervention that is reflected on the postoperative course and the rate of recovery. It is also associated with minimal incidence of complications with nil recurrence. There is no significant difference between using a mesh or simple interrupted stitches so it is left for surgeon preference.***

Keywords: laparoscopy, rectopexy, rectal prolapse

INTRODUCTION

Complete rectal prolapse is a debilitating condition, which affects both the very young and the elderly and can cause faecal incontinence. (1)

Several operations have been proposed to correct rectal prolapse, which can be divided into transabdominal and perineal procedures but still the best operation for rectal prolapse remains a controversial subject. (2)

Among the many procedures described for the treatment of rectal prolapse, abdominal rectopexy is the preferred one. It consists of fixation of the rectum to the sacrum and does not require any intestinal resection or anastomosis. However, like all open abdominal surgery associated with a large incision this operation may result in significant morbidity, which is exacerbated by the advanced age of the patient. (3)

Laparoscopic rectopexy has the same clinical and functional results as laparotomic rectopexy, but with a shorter postoperative hospital stay and lower costs. (4)

Technical features of laparoscopic rectopexy include complete rectal mobilization without division of the lateral stalks to avoid parasympathetic denervation and postoperative problems with defecation. Suture rectopexy

is equally effective as posterior mesh rectopexy in preventing recurrences and eliminates the use of foreign material, which is sometimes associated with intense fibrosis, sepsis and increased constipation. [5]

Without the need for bowel resection, the laparoscopic rectopexy may constitute an optimal application of laparoscopic colorectal techniques and may soon become the gold standard for the treatment of rectal prolapse. [6]

Surgical experience and case selection are the most critical variables by which surgeons can decrease the intra-operative laparoscopic complication rate. [7]

Aim of the study

The aim of this study is to present our early experience in laparoscopic rectopexy either by the use of mesh or by simple interrupted sutures. Our evaluation constitutes the technical feasibility, the patient compliance, intra and postoperative complications and the incidence of recurrence.

PATIENTS AND METHODS

Our study included 25 randomly selected patients (15 males and 10 females) presented in the General Surgery department of El-Minia University Hospital. Their ages ranged from 29 to 65 years. All patients were presenting with complete rectal prolapse. Sixteen patients had some degree of fecal incontinence. All females except one were multiparous. Three cases had recurrent prolapse after perianal circulage procedures.

Pre-operative assessment of the patients included full history taking, thorough general examination, meticulous perineal examination included P/R and P/V (in females) with digital assessment of the sphincteric tone. Inspection for the prolapsed rectum was done in both left lateral and squatting positions.

Colonoscopy was done for all patients preoperatively to exclude any intra-luminal pathology.

All operations were done under general anesthesia with the patient in the Trendlenberg position (about 30°) with insertion of a Foley's urinary catheter, which was removed immediate after extubation.

Through three ports (two 10 mm and one 5 mm), dissection of the rectum was done with complete reduction of the cul de sac. Dissection was kept close to the wall of the rectum to avoid injury of both the nervi ergenti and the presacral nerves. Fixation of the rectum was done by means of suturing in 10 patients or synthetic polypropylene mesh fixed to the rectum and sacral promontory in 15 patients.

As regard suturing, this was done by applying two monofilamentous proline stitches (2/0) on the lateral edges of the rectum with the presacral fascia. In the case of synthetic mesh, it was fixed to the rectum (enveloping 2/3 of its circumference) and the presacral fascia by means of a hernial stapler device. Selection of the type of the procedure was random except for the three cases with recurrent prolapse, we preferred to do mesh rectopexy.

Postoperative feeding started 24 hours after the operation with fluid for two days and then soft diet for another 3 days then normal feeding was restored. Defecation in squatting position was not allowed except after two weeks postoperatively.

Postoperative follow up was done in the outpatient clinic in the same hospital every month for 3 months then every 6 months. Three patients were lost for follow up after two visits, as they were from far-away area and had no telephonic connection. Follow up was done by the usual clinical examination with P/R to assess the tone of the sphincters.

RESULTS

The study included 25 patients, 15 males (60%) and 10 females (40%), their ages ranged between (29 and 65 years) with average of 45 years.

The average operative time was 90 minutes (ranged between 130 and 70 minutes). In suture rectopexy, the operative time was between 100 and 130 minutes, while in mesh rectopexy the operative time was shorter (between 70 and 90 minutes).

The rectum was fixed to the fascia covering the sacral promontory by means of a mesh encircling the back and the sides of the rectum in 18 patients (72%) while in the remaining 7 patients (28%) we used two interrupted proline 2/0 stitches to fix the rectum into the sacral promontory. The mesh was fixed to the rectum and the presacral fascia by means of a hernial stapler. There was no great difference in the operative time between the two methods. We didn't face any technical problems during the procedure except some sort of hemorrhage from the presacral plexus of veins during the passage of the needle. It was mild and controlled easily by applying compression over the bleeding site using the rectum itself. We left an intra-abdominal drain in this case which was removed after 24 hours.

Postoperative course was quiescent in all patients. Constipation was reported postoperatively in 7 patients (28%) (4 with suture rectopexy, 3 with mesh rectopexy), it was easily managed by the use of mild laxative (Lactulose). Port site superficial infection occurred in 3 patients (12%), it

necessitated no antibiotics but repeated dressings.

All patients with preoperative incontinence were improved postoperatively except two (8%) who remained incontinent for gases and soft stool but not for hard stool.

During the follow-up, we reported no recurrence of prolapse but one female (4%) developed umbilical port site hernia and one male with mesh rectopexy (4%) developed impotence.

Table (1): ***age and sex distribution***

Sex	*Number*	*Age*
Males	15 (60%)	29-65 yrs (average 49.9)
Females	10 (40%)	35-65 yrs (average 50.2)

Table (2): ***Surgical technique in relation to sex***

Sex	*Mesh rectopexy*	*Suturing rectopexy*
Males	10	5
Females	8	2
Total	18 (72%)	7 (28%)

Table (3): ***Intra and Postoperative complications***

Complication	*Males*	*Females*
Bleeding	-	1 (4%)
Port site infection	2 (8%)	1 (4%)
Constipation	6 (24%)	1 (4%)
Trocar site hernia	- (0%)	1 (4%)
Recurrence of the prolapse	- (0%)	- (0%)
Impotence	1 (4%)	-
Incontinence	1(4%)	1(4%)

Table (4): ***Differences between suture and mesh rectopexy***

	Suture rectopexy	*Mesh rectopexy*
Operative time	100 – 130 min	70-90 min
Postoperative constipation	4 (16%)	3(12%)
Postoperative complications	No	Impotence in one patient (4%)
Recurrence	No	No

DISCUSSION

The range of surgical methods available to correct the complete rectal prolapse poses the question about the best operation. However, abdominal rectopexy retains the best reputation between surgeons.8

All steps of the laparotomic rectopexy (mobilization of the rectum, preservation of the presacral nerve and posterior rectopexy) can be accomplished laparoscopically with more easiness, better visualization and minimal dissection.9

In our series, laparoscopic dissection of the prolapsed rectum carries a better visualization of the field that minimizes the risks of bleeding and with keeping the dissection closer to the rectal wall, injury of presacral nerves has little chance to occur. Using the ultrasonic dissector (Harmonic scalpel by Johnson) facilitates the dissection and deletes the risk of thermal injury of the nerves and rectal wall.

There is no significant difference between suture rectopexy and fixation by a synthetic mesh (polypropylene) as regard the complications and recurrence. The operative time is slightly lower in mesh rectopexy but this may be due to lack of experience in laparoscopic suturing technique.

The main problem in the laparotomic approach is impotence in males, this usually happens due to blind deep dissection that usually injuries the autonomic nerves. On using laparoscopy, we can easily identify these precious structures with the fate of preserving the potency of the patient. Considering that (60%) of the patients are males in the sexual activity stage, this advantage seems to be very precious.

CONCLUSION

Laparoscopic rectopexy is a valuable operation for both surgeon and patient. As regard for the surgeon, it offers him an excellent exposure of the deep narrow pelvic cavity allowing him to identify his way easily without risks of vital structures injury. As regard for the patient, it substitutes the highly invasive operative intervention that is reflected on the postoperative course and the rate of recovery. It is also associated with minimal incidence of complications with nil recurrence. There is no significant difference between using a mesh or simple interrupted stitches so it is left for surgeon preference.

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