

Laparoscopic Rectopexy Operative Procedure for Complete Rectal Prolapse among Female patients

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Abstract

Background: Laparoscopic rectopexy is performed to repair the complete rectal prolapse. **Objective:** The aim of this study was to see the safety of laparoscopic mesh rectopexy in patients with complete rectal prolapse after doing a case series at a tertiary care hospital. **Methodology:** This was a case series carried out at Shaheed Suhrawardy Medical College Hospital, Dhaka and at a private clinic from January 2005 to December 2010 for a period of 5 years. All female patients presented with complete rectal prolapse were included in this study. Follow up and outcomes were measured after operation. **Result:** A total number of 6 female patients were operated due to complete rectal prolapse. The mean age (\pm SD) of the study population was 64.4(\pm 4.615) years. The age range was 58 to 70 years. The mean (\pm SD) duration of operation was 127.0 \pm 25.150 minutes. Constipation was reported in 33.3% cases of patients and 66.7% patients were without any complications. **Conclusion:** Laparoscopic mesh rectopexy is a technically feasible and safety method for treatment of complete rectal prolapse [J Shaheed Suhrawardy Med Coll 2014;6(2): 67-70]

Keywords: Laparoscopy; rectopexy; rectal prolapse

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Introduction

Complete rectal prolapse is the condition where an intussusception of the rectum is extending beyond the anal canal¹. It may lead to progressive anal sphincter damage and deterioration of incontinence^{2,3}. Weakness of the pelvic diaphragm causes descent of the middle compartment⁴. In a significant proportion of patient a history of obstructed defaecation, prolonged straining and constipation seem to precede rectal prolapsed⁵. Rectal prolapse is a condition which can occur both in adult & children due to various predisposing factors⁶.

Surgery is needed for complete rectal prolapse. The reason of surgery for rectal prolapse is to correct the prolapsed itself and to protect or restore faecal continence⁶. New-onset or worsening constipation should be avoided; if possible,

simultaneous correction of associated middle-compartment prolapses should be achieved. It is found that the surgical procedure involving extensive rectal mobilization and fixation is likely to correct the rectal prolapse with a relatively low recurrence rate⁶. Unfortunately, postoperative constipation is the most common side-effect after mesh rectopexy. It has consistently been reported in approximately half of the patients in large series⁶. Subsequently several surgeons like resection rectopexy which is known as Frykman-Goldberg procedure⁷ in which a suture rectopexy is combined with a sigmoid resection. Others favour perineal procedures, and recent reports of lower recurrence rates have further increased this interest⁸. However, differences in the definition of constipation make comparison between individual series difficult⁶. A recent Cochrane review concluded that the small sample size of included trials,

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together with methodological weaknesses, severely limited the usefulness of the review for guiding clinical practice⁹. Until recently, abdominal rectopexy has been advocated as the treatment of choice for complete rectal prolapse in Bangladesh where recurrence rate is 0-8%¹⁰. In case of elderly patients who are not fit enough to undergo abdominal procedure, various perianal approaches are preferred where recurrence rate is 0-21%¹¹.

Baerman¹² was first performed the laparoscopic rectopexy. Laparoscopy has multiple benefits to the surgeon like safe, better visualization, improved dissection, reduced blood loss using harmonic scalpel, potential benefits for training, potential to improved quality, reduced post operative pain, reduced hospital stay and improved cosmesis⁶. However, laparoscopy has some benefits to the patient like less scarring, less pain, shorter hospital stay, quicker return to activities. Laparoscopic rectopexy may be associated with short-term benefits for the patient, resulting in less morbidity and a reduced hospital stay¹³. The country like Bangladesh has resource constraint as well as the people are poor. For this reason the short time hospital stay and less complication can give the better outcomes of the patient who undergo laparoscopic rectopexy. In the light of these data, the present study was undertaken for the treatment of rectal prolapse for mobilization of the rectum. So the purpose of the present study was to determine the efficacy and safety of Laparoscopic Mesh Rectopexy.

Methodology

This was a case series carried out in the Department of Surgery at Shaheed Suhrawardy Medical College Hospital, Dhaka and at a private clinic from January 2005 to December 2010 for a period of 5 years. All female patients presented with complete rectal prolapse were included in this study. Pre-operative assessment of the patients including full history taking, thorough general examination, per rectal as well as per vaginal examination with digital assessment of the sphincteric tone were performed. Colonoscopy was done for all patients preoperatively to exclude any intra-luminal pathology. Fixation of the rectum was done in all patients by synthetic polypropylene mesh which was fixed to the rectum and sacrum by suturing. All operations were done under general anesthesia with the patient in the Trendelenberg position with insertion of a Foley's urinary catheter. Other three trocars were placed under direct vision- two in right iliac fossa and another in the left iliac fossa. The uterus was fixed to anterior abdominal wall using a temporary suture. Dissection was started at the level of sacral promontory and through the pre sacral space; extended to the level of levator ani muscle. Polypropylene mesh (6x12 cm) was tightly rolled and was introduced like a cigarette into the abdomen. Mesh was fixed to the sacrum and rectal wall with the help of non absorbable suture materials. The median duration of the procedure was 2 hours (100-150 minutes). Blood loss was less than 100 cc in each case. There was no need for conversion. Follow up and outcomes measures. One year

post operative follow-up was done. Statistical analysis was done by SPSS 17.0. The qualitative data were expressed as frequency and percentage and the quantitative data were expressed as mean with standard deviation.

Results

A total number of 6 female patients were operated due to complete rectal prolapse. The mean age of the study population was 64.4 years with a standard deviation of 4.615 years. The age range was 58 to 70 years (Table 1).

Table 1: Mean age with SD of the study population

Mean ± SD	Age Range
64.4±4.615 years	58-70 years

*SD=Standard Deviation

The mean duration of operation was 127.0 minutes with a standard deviation of 25.150 minutes. The range was 100 to 155 minutes (Table 2).

Table 2: Mean duration of operation with SD among the study population

Mean ± SD	Operation Range	Time
127.0±25.150 minutes	100-155 minutes	

*SD=Standard Deviation

Constipation was reported in only 2(33.3%) cases of patients and the rest of the 4(66.7%) patients were without complications (Table 3).

Table 3: Complications after Rectopexy Operation among the Study Population

Complications	Frequency	Percentage
No Complication	04	66.7
Constipation	02	33.3
Total	06	100.0

Discussion

In patients with rectal prolapse anatomic abnormalities are seen of which deep rectovaginal or rectovesical pouch, lax pelvic floor musculature, failure of normal relaxation of the external sphincter and redundant sigmoids are the most common⁵. Though exact etiology is unknown, there are some predisposing factors which are responsible for rectal prolapsed like chronic constipation, chronic diarrhea, mental retardation and many more. In this present study only female patients were included and were operated by laparoscopic rectopexy due to complete rectal prolapse. There is 6 female patients are included. This indicates that female is more at risk of development of complete rectal prolapse than male. Similar to these findings Scaglia et al¹⁴ and Keighley et al¹⁵ have agreed and have mentioned that treat to develop complete rectal prolapse is more common in female. It has been also found that the mean age of the study population was 64.4 years with a standard deviation of 4.615 years. The age range was 58 to 70 years. This

indicates that older age group of female are more vulnerable in the occurrence of complete rectal prolapse disease. Collinson et al¹⁶ has agreed with this present result and has explained that muscle laxity occurs in older age group leading to rectal prolapse. Kim et al¹⁷ has also reported that increase of age is responsible in the causation of complete rectal prolapse which is consistent with the present study. In addition to the age others factors are also responsible for the causation of disease.

Among the many procedures described for the treatment of rectal prolapse, abdominal rectopexy is the preferred one¹⁶. It is a feasible and effective treatment for complete rectal prolapse¹¹. It consists of fixation of the rectum to the sacrum and does not require any intestinal resection or anastomosis. It has been found that the mean duration of operation is 2.12 hours with a standard deviation of 25.150 minutes. The minimum time duration of operation was 1.6 hours and maximum is 2.6 hours. This is with the agreement of Collinson et al¹⁶, Kim et al¹⁷, Sajjid et al¹⁸ and Aitola et al¹⁹ and all these articles reported that laparoscopic rectopexy is a good treatment modality to treat the complete rectal prolapse patients. It has been well established that laparoscopic rectopexy has the same clinical and functional results as laparotomic rectopexy; however, it has shorter hospital stay, less pain, less scarring and quicker return to activity. Similar findings are measured in this present study.

During operation no technical problems except some sort of hemorrhage from the pre-sacral plexus of veins has been noted. However, bleeding was mild and controlled easily by applying compression over the bleeding site using the gauze. Postoperative course was quiescent in all patients.

There is a drawback of the abdominal rectopexy which is constipation. Constipation was reported in only 2(33.3%) cases of patients and the rest of the 4(66.7%) patients were without any complications. These two patient who had developed mild constipation postoperatively, was treated successfully with a fiber enriched diet and intermittent use of bulk forming agent. No recurrence of prolapse has been reported during the follow-up period. In addition to that the post-operative recoveries of the patients were rapid, with resumption of bowel function and normal activities within 2-3 days after surgery. The average hospital stay was also short.

The present result has been explained that 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 identifying the 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. The primary disadvantages is the long operative time during the learning curve and need for surgeon with experience in intra-corporeal suturing techniques. Longer series with longer follow up are needed before final conclusion may be reached.

The present technique was found to be reproducible and safe. The avoidance of posterior dissection and fixation of the mesh to the sacral promontory rather than the presacral

fascia prevents a potentially life-threatening presacral haemorrhage. The choice of a ventral position for the mesh is based on defaecographic data that identified recto-rectal intussusception as the leading mechanism for development of external rectal prolapse.

Conclusion

Laparoscopic mesh rectopexy is a technically feasible method in expert hand and surgeon should efficient in intracorporeal knotting technique. In addition to that laparoscopic Mesh Rectopexy is safe and effective with good clinical outcome in the treatment of complete rectal prolapse. Furthermore, a RCT should be carried out to compare the effectiveness of laparoscopic mesh rectopexy.

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