Section: General Surgery

Original Research Article

COMPARISON OF LAPAROSCOPIC MESH RECTOPEXY VERSUS SUTURE RECTOPEXY IN RECTAL PROLAPSE

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ABSTRACT

This study explores how effective and safe two laparoscopic techniques—laparoscopic mesh rectopexy (LMR) and laparoscopic suture rectopexy (LSR)—are in treating complete rectal prolapse. A total of 156 patients were enrolled and evenly split into LMR and LSR groups. The main outcomes we looked at included duration of surgery, time to bowel function recovery, relief from constipation and incontinence, port site infections, hospital stay, and recurrence rates. We found that LMR was associated with a longer operative time and slightly longer hospital stays. On the other hand, LSR showed better results in improving constipation. Both techniques led to significant improvements in incontinence, with no reported recurrence or impotence during the study period. These results highlight the unique benefits of each procedure and suggest that LSR may have an edge in terms of quicker recovery and better bowel outcomes, while both methods are safe and effective overall.

INTRODUCTION

Rectal prolapse (RP) is a distressing condition where the rectum partially or completely slips through the anal canal, leading to considerable discomfort and affecting daily life.[1,2] Although it's generally non-life-threatening, RP often brings bothersome symptoms such as bleeding, mucus leakage, constipation, and fecal incontinence.[5]

It is more common among women over the age of 50, but younger men and nulliparous women are also affected—often presenting with other health issues.[3,4] Surgery remains the definitive treatment option, aimed at restoring the anatomy, resolving functional issues like constipation and incontinence, and preventing new bowel problems from developing after surgery.[8]

Choosing the right surgical approach is still debated and is usually based on the surgeon's experience, the patient's health status, and their bowel function.[10] Laparoscopic procedures have become more popular due to their minimally invasive nature. Among them, laparoscopic rectopexy is increasingly seen as the preferred option.[11,12] This study specifically compares laparoscopic mesh rectopexy (LMR) and laparoscopic suture rectopexy (LSR), two common techniques, to evaluate their outcomes in terms of surgical efficiency, safety, and long-term functional benefits.[13,14]

MATERIALS AND METHODS

This randomized controlled trial was carried out in the Department of General Surgery at Teerthankar Mahaveer Medical College, Moradabad, over a span of 18 months. A total of 156 patients diagnosed with complete rectal prolapse were included and randomly assigned to undergo either LSR or LMR, with 78 patients in each group. The study received ethical clearance from the Institutional Ethics Committee.

Inclusion Criteria

- Patients older than 18 years
- Both males and females
- Diagnosed with complete rectal prolapse
- Medically fit for laparoscopic surgery

Exclusion Criteria

- Presence of colonic diseases
- Coexisting pelvic organ prolapse
- Prior history of rectopexy
- Neurological conditions
- Any signs of bowel obstruction

All patients gave written informed consent. Each underwent thorough clinical evaluation and standard lab investigations (CBC, LFT, KFT, blood grouping,

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HIV, HBsAg, HCV), along with imaging (USG abdomen, chest X-ray, abdominal X-rays) and colonoscopy. In selected cases, a contrast-enhanced CT (CECT) of the abdomen was performed. Standard post-operative care was provided, and patients were followed up for three months.

Outcomes assessed included operative time, time to pass first flatus and stool, changes in constipation and incontinence, port site infections, impotence, hospital stay duration, and recurrence. Statistical analysis was done using SPSS version 20.

RESULTS

Out of 156 patients, 78 underwent LSR and 78 underwent LMR. Demographic details were similar across both groups. Most patients were in the 41–50 age group (LSR: 60.25%, LMR: 66.7%) with average ages of 42.53±5.47 years and 43.71±6.51 years, respectively. Men made up the majority in both groups (LSR: 66.7%, LMR: 62.8%).

Table 1: Operative Time and Return of Bowel Function

Outcome	LSR (Mean ± SD)	LMR (Mean ± SD)	p-value
Operative Time (min)	101.72±7.09	119.97±5.58	0.045 *
First Flatus (hrs)	30.08±3.34	31.41±5.20	0.071
First Stool (hrs)	37.54±0.50	49.50±0.50	0.008 *

Statistically significant (p < 0.05)

Patients who underwent LSR had significantly shorter surgeries and quicker return of bowel function (first stool), while the time to first flatus was similar between the two groups.

Table 2: Symptom Improvement

Outcome (Improved)	LSR (%)	LMR (%)	p-value
Constipation	54 (69.2%)	45 (57.6%)	0.062
Incontinence	78 (100.0%)	78 (100.0%)	—

Although constipation improved more in the LSR group, the difference wasn't statistically significant. All patients in both groups reported improvement in incontinence.

Table 3: Complications and Hospital Stay

Outcome	LSR (%)	LMR (%)	p-value
Port Site Infection	0 (0%)	1 (1.3%)	0.088
Recurrence	0 (0%)	0 (0%)	—
Impotence	0 (0%)	0 (0%)	—
Hospital Stay (days)	5.50±1.13	5.56±1.18	0.145

Only one port site infection was noted, in the LMR group. There were no cases of recurrence or impotence in either group. Average hospital stay was nearly the same in both groups.

DISCUSSION

Managing complete rectal prolapse is often challenging, and laparoscopic approaches have become increasingly favored for their minimally invasive advantages.[39,40] This study provides a direct comparison of two common laparoscopic procedures: LMR and LSR, offering valuable insights into their relative performance.

Our patient population—mean age in the early 40s and predominantly male—differs from Western literature, which often reports older, female-dominated groups.[36,37,41] This suggests possible regional or healthcare access differences.

We observed that LSR had the advantage of shorter operative time and quicker bowel recovery, which aligns with previous findings that avoiding mesh may help reduce recovery time.[11,36] Although LSR showed more improvement in constipation, the difference was not statistically significant. Both procedures provided full relief from incontinence, supporting existing literature on the effectiveness of both techniques in this area.[36,43]

Complications were minimal, with just one infection case in the LMR group and no reported cases of impotence or recurrence. While both groups had similar hospital stays, the benefits of LSR in terms of surgical efficiency and bowel function recovery may offer better short-term outcomes. However, longer follow-up would be needed to assess recurrence more conclusively.[36,37,45]

Overall, both procedures are safe and effective, but LSR may offer a faster and more comfortable recovery for some patients. The surgical approach should ultimately be tailored to individual patient needs, symptoms, and surgeon experience

CONCLUSION

Laparoscopic mesh rectopexy and laparoscopic suture rectopexy are both reliable surgical treatments for complete rectal prolapse. Suture rectopexy was associated with a shorter operative time and quicker return of bowel function. Although both techniques showed complete resolution of incontinence and no cases of impotence or recurrence, mesh rectopexy had a slightly higher—but not statistically significant—rate of port site infection and less improvement in constipation. Deciding between the two should depend on individual clinical scenarios, patient preferences, and the surgeon's judgment.

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Summary

This randomized controlled study of 156 patients compared two laparoscopic techniques—mesh rectopexy and suture rectopexy—for treating rectal prolapse. Both groups had similar age and gender profiles, with the majority being males in their early 40s. LSR showed a significantly shorter operative time (101.72 minutes vs. 119.97 minutes) and quicker bowel recovery (first stool in 37.54 hours vs. 49.50 hours). Constipation improved more in the LSR group, although this wasn't statistically significant. All patients in both groups had relief from incontinence. One minor complication (port site infection) occurred in the LMR group. There were no recurrences or impotence. Hospital stays were similar in both groups (around 5.5 days). These results suggest that while both surgeries are effective, LSR may be more favorable for quicker recovery and better constipation relief.

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