



**INNOVATIONS IN SURGICAL APPROACHES FOR RECTAL
PROLAPSE: A COMPREHENSIVE REVIEW**

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ABSTRACT:

The condition is a debilitating one, which affects the lives of many people. Over the years, there have been various surgical techniques that have been developed to address this problem, in order to enhance patient outcomes and reduce complications. This all-encompassing review paper delves into explorations on novel surgical approaches for rectal prolapse management bringing out recent developments, their fundamental concepts, and their subsequent results.

Keywords:

Rectal prolapse, surgical treatment, transabdominal approach, transperineal approach, minimally invasive surgery, outcomes, complications.

Introduction:

Rectal prolapse also known as procidentia is a condition in which the rectum protrudes through the anus causing several symptoms like impaired bowel function, incontinence and pelvic pain. It can highly affect the quality of life of these patients as well as an individual's general welfare. Although conservative means such as dietary modifications or exercises for the pelvic floor may be effective for some individuals, this approach will not suffice when severity becomes so much or fails to improve.

Research Objective

This comprehensive review primarily aims at critically examining recent innovations in different surgical methods meant for managing rectal prolapse. The article thus seeks to identify key advancements informed by available scientific evidence and with reference to clinical outcome interpretations.

Material and Methods:



A comprehensive literature review was undertaken using various electronic databases, including Pub Med, Embase and Cochrane Library to identify relevant articles published within the last 10 years. The search words used for this search were “Rectal Prolapse,” “Surgical Treatment,” “Transabdominal approach,” “Transperineal approach,” “Minimal invasive surgery” and related keywords. Only peer-reviewed English-language journal articles were included in this review.

Results:

Surgical Approaches for Rectal Prolapse:

1. Transabdominal Approaches:

a. Abdominal Rectopexy:

Abdominal rectopexy is a frequently applied surgical technique for treating rectal prolapse. In this method of treatment, the patient's rectum is surgically fixed to the sacrum either with or without removing excess rectal tissue. Recently there have been advances in this method such as laparoscopic and robotic-assisted rectopexy.

In a retrospective study involving 152 patients who underwent laparoscopic rectopexy, the authors reported a recurrence rate of 9.2% and complication rate of 14.5% [1]. Another study consisted of 80 patients who underwent robot assisted rectopexy showed that it had a recurrence rate of 5% and a complication rate of 11.3% [2].

b. Ventral Mesh Rectopexy:

Ventral mesh rectopexy is a modified version of abdominal rectopexy, which involves using synthetic or biological mesh to fix the rectum to the sacrum. This has shown reduced recurrence rates and better functional outcome when compared to conventional rectopexy techniques.

A systematic review and meta-analysis of 29 studies involving 2,172 ventral mesh rectopexy patients reported a recurrence rate of 4.4% and a complication rate of 15.5% [3].

2. Transperineal Approaches:

a. Perineal Rectosigmoidectomy (Delorme's Procedure):

Perineal rectosigmoidectomy also known as Delorme's procedure involves excision of the mucosal layer that is protruding from the rectum and fixation of the remaining parts of the large bowel to the pelvic floor. This technique is mainly used in cases where there is complete tear in all layers of prolapsed rectum.

A retrospective study on Delorme's procedure was done among 120 patients who had undergone it reporting an incidence rate for recurrent cases at 15% and complications rate stands at 12.5% [4].

b. Altemeier Procedure:



The Altemeier procedure, perineal or posterior perianal perirectosigmoidectomy with anastomosis is another type and this entails excising out the extrusion while its remnant connects back to anal canal.

A study on Altemeier procedure among a sample size comprises of ninety eight patients showed that it had a recurrence rate at 10.2%, while its complication rate stood at 14.3% [5].

3. Minimally Invasive Surgical Approaches:

a. Laparoscopic and Robotic-Assisted Rectopexy:

Over the past few years, minimally invasive surgical methods like laparoscopic and robotic assisted rectopexy have become popular due to their possible benefits such as lower postoperative pain, shorter stays in hospital and quick recovery.

A retrospective report that focused on 152 patients who had undergone laparoscopic rectopexy found out that there was a recurrence rate of 9.2% and 14.5% complication rate [1]. Another research work which studied the outcome of robotic-assisted rectopexy among 80 patients showed that there was a recurrence rate of five percent (5%) and complication rate of eleven point three percent (11.3%) [2].

b. Transanal Minimally Invasive Surgery (TAMIS):

Transanal minimally invasive surgery (TAMIS) is a novel technique which employs single-port platform to reach and cut out prolapsed rectal tissue through the anus. This technique has been considered as an alternative to traditional transabdominal or transperineal approaches.

A study involving 36 patients who underwent TAMIS for rectal prolapse showed that there was a recurrence rate of 8.3% and a complication rate of 11.1% [6].

Outcomes and Complications:

The choice of surgical approach for rectal prolapse depends on various factors such as age, comorbidities, severity of the prolapse, surgeon's experience. The techniques cannot be compared to each other since they all have their own pros and cons that may vary depending on specific method used.

The recurrence rates among the three surgical techniques were lowest for ventral mesh rectopexy and robotic-assisted rectopexy, which had reported rates of 4.4% to 5% [1-3]. Perineal rectosigmoidectomy (Delorme's procedure) and the Altemeier procedure have slightly higher recurrence rates, ranging from 10.2% to 15% [4,5].

There is a difference in the rate of complications across surgical approaches with lower range being between 11.1 percent and 15.5 percent [1-6]. Common



complications include blood loss, swelling, urinary retention as well as intestinal disorder.

Conclusions:

This article presents different surgical methods used to treat prolapsed rectum such as abdominal rectopexy, laparoscopic rectopexy and ventral mesh rectopexy which are all transabdominal procedures; Delorme's procedure, Robotic-assisted technique and Altemeir that are transperineal approaches; Lateral anal sphincterotomy (LAS), STARR (stapled trans-anal resection), Perineal procedures like Mucosal proctectomy, Doppler guided hemorrhoid artery ligation/Recto anal repair (DGHAL/RAR) that are minimally invasive techniques.

Evidence has shown that choice of operation should be individualized based on patient's wishes and surgeons' skills. The role of minimally invasive surgery which includes laparoscopic or robotically assisted approaches has been noted with promise in reducing recurrence rate while improving functional outcome for patients undergoing ventral mesh rectopexy. Although, nevertheless, it is still important to take into account the potential hazards and merits of each technique and weigh them against the patient's overall clinical condition and personal desires.

Therefore, more research should be done and further improvement of these operative techniques will definitely result in better patient outcomes and optimization of management of rectal prolapse. To administer the most excellent care to their patients, healthcare professionals need to be aware of the latest developments in this area.

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