



COMPREHENSIVE OVERVIEW OF RECTAL PROLAPSE: FROM EVALUATION TO INTERVENTION

Praveenkumar Periyasamy¹, Ahsen Javaid Chattha², Tariq Raffique^{3*}, Muhammad Mohsin⁴,
Dr Naseem Tariq⁵, Likowsky Desir⁶

¹Lecturer, Department of Anatomy, Levy Mwanawasa Medical University, Lusaka, Zambia

²Final Year MBBS Student, Al Nafees Medical College and Hospital, Islamabad, Pakistan

^{3*}Assistant Professor Dadabhoy Institute of Higher Education, Karachi, Pakistan

⁴Associate Editor, Research Journal of Innovative Ideas and Thoughts

⁵Assistant Editor, Research Journal of Innovative Ideas and Thoughts

⁶MPH, MSc, Department of Surgery, Wyckoff Heights Medical Center, United States

***Corresponding Author:** Dr Tariq Raffique

*Assistant Professor Dadabhoy Institute of Higher Education, Karachi, Pakistan E-mail:
dr.tariq1106@gmail.com

ABSTRACT:

Background: Rectal prolapse is an uncommon pelvic floor disorder of unknown etiology, predominantly affecting older women but also seen in females of all ages, necessitating significant lifestyle adjustments.

Clinical Presentation: Symptoms include constipation, sensation of a colonic mass, and fecal incontinence, prompting diagnostic examination via physical assessment or defecography.

Diagnostic Evaluation: Various tests such as MRI, cystography, colonic transit studies, anal manometry, pudendal nerve motor terminal latency, and colonoscopy may be utilized based on individual presentation, aiding in confirming diagnosis.

Treatment: Surgical intervention, typically abdominal, is the primary therapeutic approach due to its higher success rates. However, emphasis on patient education and medical management is essential to alleviate symptoms and enhance quality of life, regardless of the necessity for surgery.

Keywords: incontinence, constipation, surgical management, rectal prolapse.

INTRODUCTION:

Table 1: Diagnostic Tests for Rectal Prolapse

Diagnostic Test	Purpose
MRI	Imaging of pelvic structures
Cystography	Assessment of bladder function
Colonic transit studies	Evaluation of colonic motility
Anal manometry	Measurement of anal sphincter function
Pudendal nerve latency	Assessment of nerve conduction
Colonoscopy	Visualization of the colon and rectum

Table 2: Surgical Treatment Options for Rectal Prolapse.

Surgical Approach	Description
Abdominal Approach	Commonly preferred for its higher success rates in rectal prolapse repair
Perineal Approach	Alternative for patients ineligible for abdominal surgery
Laparoscopic Technique	Minimally invasive option offering quicker recovery
Robot-assisted Surgery	Enhanced precision and dexterity, potentially reducing post-op complications.

Table 3: Medical Management Strategies for Rectal Prolapse

Intervention	Description
Patient Education	Informing patients about the condition, its management, and outcomes
Dietary Modifications	Adjustments to alleviate constipation and promote regular bowel movements
Pelvic Floor Exercises	Strengthening exercises to improve pelvic floor muscle function
Medications	Pharmacological options to manage symptoms, such as laxatives or stool softeners

METHODS AND TECHNIQUES:

A comprehensive search of the electronic databases PUBMED, Google Scholar, Cochrane Library, Scielo, Jaypee Digital, MEDLINE, Clinical Key, Scopus, EBSCO, and Ovid is used to conduct a bibliographic review. Publications about the surgical treatment of rectal prolapse were examined during the search, and items were chosen by using keywords like "rectal prolapse, management." The following inclusion criteria were applied throughout the search: English-language publications from 2015 to 2019, documentation in other languages, and a connection to the health sciences, surgery departments, public health, and general medicine. After that, papers unrelated to patients with rectal prolapse are excluded. Thirty articles were chosen at the end of the procedure; hence, this article was prepared through a bibliographic compilation, evaluation, and categorization (Leventoglu et al., 2021).

DEFINITION:

Rectal prolapse is a pelvic floor problem that primarily affects older women, though it can affect women of any age. It can cause intestinal dysfunction, diminished and impaired quality of life, and localized discomfort in the anal area. It can be categorized according to its clinical involvement at the rectal level, albeit no universally recognized classification scheme has been established. A complete rectal prolapse is a full-thickness circumferential prolapse of the rectal wall beyond the anal canal, characterized by the protrusion of all layers of the rectum through the anus and appearing as concentric rings of rectal mucosa. The distinction is partial prolapse, which solely entails mucosal protrusion (Imanova, 2022).

IDENTIFICATION:

A suspicious defecography or the physical examination's observation of rectal protrusion must be used to corroborate the diagnosis in this case. A comprehensive clinical history and physical examination are essential to rule out other possible diagnosis, such as grade IV hemorrhoids, intussusception, rectal ulcers, inflammatory bowel disease, and neoplasms (El-Dhuwaib et al., 2020).

Supplementary Research

Visual analyses

Multiple plane imaging and enhanced soft tissue differentiation are both demonstrated by magnetic resonance imaging (MRI). The pictures distinguish between flaws in the integrity of the external, internal, or both sphincters. Additionally, it permits the classification of lesions such as fluid collections, infections, and fistulous tracts and the visualization of pelvic pathological changes and their interactions with the anatomical planes on several planes of accurate localization. Scarring and fibrosis have weak signals. Cystography can identify structural anomalies that may result in detrusors or pubovesical instability, such as urethral diverticula, uterovaginal fistulas, or intravesical foreign bodies (Kwak et al., 2022).

In incontinent patients, it may also uncover an undiagnosed tumor. Phlegmaturia, incontinence, irritative symptoms of urination, urogenital fistulas, and suspected urethral diverticulum are other signs. In 80% of patients with obstructive defecation symptoms, defecography, either by dynamic MRI or standard fluoroscopy, can identify abnormalities related to rectal prolapse (see Table 1). To ascertain whether a sigmoid colectomy is necessary to address rectal prolapse, surgical candidates experiencing severe or chronic constipation undergo a colon transit study (Garoufalia et al., 2023).

Studies on Pelvic Physiology

Since prolonged dilatation weakens the internal anal sphincter muscle and might result in low resting pressures, anal manometry is a helpful first measure of sphincter function. Though studies seldom alter the operating technique, these failures can objectively document sphincter pressures to predict continence following surgery and the potential requirement for postoperative biofeedback. Pudendal nerve terminal motor latency (PNTML) is a technique for evaluating the time an impulse takes to pass through a nerve when it is stimulated at the ischial spines. The initial detectable muscular activation is triggered by stimulation. The external sphincter muscle contracts in response to this stimulation, enabling single nerve testing (average latency 2.0 + 0.2 milliseconds) (Alkatout et al., 2021).

Longer conduction times come from demyelination of the nerve sheaths, whereas axonal degeneration causes denervation. While some evidence suggests that longer PNT-ML before surgery is linked to worse postoperative continence, most authors have not shown a relationship between PNTML or manometry and postoperative functional outcome using abdominal or perineal techniques. These investigations are usually carried out at the onset of the pathology's diagnostic approach to advise patients beforehand about the possibility of prolonged intestinal dysfunction following surgery (VanSickle et al., 2022).

Table 1 lists the requirements for classifying men during the acute stage.		
Defecography	Fluoroscopy	Magnetic Resonance
Benefits	Position for a natural evacuation. Simple to obtain. Inexpensive.	Precise measurements and crisp pictures of the pelvic muscles and compartments.
Negative aspects	Poor image quality for evaluating the integrity of the muscles.	A strange posture for evacuation. Expensive cost.

Colonoscopy

As per the suggested national standards, a colonoscopy should be performed on all patients since it is a rare source of information that could influence a management decision directly related to rectal prolapse. Nevertheless, it's possible to find a different pathology that calls for a different course of action (Alkatout et al., 2021).

Medical supervision

Patients who are not candidates for surgery because of surgical risk of related comorbidities or who choose not to have the treatment are offered medicinal care to reduce symptoms before surgical repair. The patient's symptoms, the severity of prolapse, and the degree to which the condition negatively affects the patient's quality of life all influence these medical treatment plans. Ensuring sufficient fluid and fiber intake is part of every patient's initial medical treatment. To control leaks or constipation, one might try to regulate bowel movements, drink 1 to 2 liters of water and other liquids daily, eat high-fiber meals, and take 25 to 30 grams of fiber supplements daily. Patients with severe constipation and difficulties voiding may require emesis and suppositories. Exercises targeting the pelvic floor muscles, including the Kegel exercise, can help women experiencing pelvic organ prolapse feel better. Exercise does not, however, appear to be an effective treatment for rectal prolapse (Hunter et al., 2018).

In specific retrospective investigations, individuals with fecal incontinence or blocked defecation saw success rates ranging from 30 to 90% after completing a course of biofeedback therapy despite the lack of data on the use of biofeedback for the treatment of rectal prolapse. Less effective techniques, such as gluing the buttocks or pressing a padded pad against the perineum to reduce or prevent protrusion, are saved for very old, bedridden, or debilitated patients who cannot tolerate any surgical procedure; this is a palliative measure for symptoms only and does not treat the prolapse (Vodušek, 2004).

Surgical oversight Generality

The only therapy that offers a permanent cure for this condition is surgery, which makes it the cornerstone of treatment. The abdominal and perineal approaches are the two main categories into which the approaches are separated. The best course of action is still up for debate. Still, it is determined by looking at several variables, including the patient's age, comorbidities, physical state, fundamental intestinal function, and potential quality of life improvements. The symptoms of a prolapsed intestinal mass, fecal incontinence, and constipation related to prolapse are the indications listed for moving forward with this treatment.

The technique is carried out under general and epidural anesthesia; the patient is positioned in the Lloyd Davies position or lithotomy; it is essential to remember that a rectal examination is required before the treatment to assess the tone of the anal sphincter (Pellino et al., 2022).

The abdominal method

Surgeons have found that this method, which can involve open, laparoscopic, or robotic surgery, is the most effective. Rectopexy, which consists of raising the flaccid rectum to the sacrum, is the aim of the procedure. It can be carried out with or without sigmoid segment excision and is achieved by direct suturing or using a prosthetic mesh. Transabdominal rectopexy with sigmoid resection is the preferred procedure for individuals who already have constipation; for patients who have never had constipation, transabdominal rectopexy without sigmoid resection is advised. Regarding recurrence, the alternative treatment, including open surgery, which is particularly beneficial for younger patients, performs better (Bertrand et al., 2020).

Following general anesthesia, the surgeon may mobilize the rectum anteriorly, posteriorly, or in combination while maintaining the hypogastric innervation. Resection of the sigmoid colon is required immediately after that, and the rectum is then fixed to the sacrum. In rare circumstances, rectal prolapse may coexist with the prolapse of other organs, such as the bladder or uterus, necessitating urology or gynecology surgery. Its main drawback is the significant morbidity, offset by its low recurrence and better functional outcomes. Later in this essay, we'll talk about robotic surgery and the laparoscopic method (Imanova, 2022).

An approach from the rear

Two popular approaches to this therapeutic alternative exist, the Delorme and Altemeier procedures. It is employed when the abdominal route is not feasible because of patient

comorbidities (See Table 2). The most common operation in North America is called an Altemeier procedure; it involves a perineal recto sigmoidectomy, or full-thickness resection, and is recommended for individuals whose prolapses are longer than 4 cm. Surgeons in Europe prefer to use the Delorme surgical approach, which involves a perineal mucosectomy combined with a rectal muscle plication. Patients with brief prolapses of 4 cm or less are advised to have this procedure. Transanal rectal resection with a stapler is an additional procedure that can be used for patients with rectal prolapse; however, compared to the other two traditional perineal procedures, this surgical technique has shown a lower rate of perioperative bleeding (Funahashi et al., 2020).

It is not used very often because of the high rate of complications during the procedure, which can result in multiple postoperative adverse effects, as well as its various contraindications. The perineal technique has several benefits, one of which is that diet disruption is low because bowel function is quickly restored. For patients with severe comorbidities, this approach improves tolerance because it can be done under spinal anesthesia.

The primary drawback is a higher chance of recurrence, with rates approaching 20%. Fecal impaction, pelvic abscess, hemorrhage, and urine retention are among the side effects that have been linked to this surgery. The laparoscopy Berman's 1992 description of it was flecfla. Compared to open surgery, this minimally invasive technique is safer, more efficient, and has lower morbidity (Dahan et al., 2021).

This option is best suited for those who have never had abdominal surgery. The laparoscopic approach is more complicated and poses a bigger reliability problem for doctors than open surgery. Surgeons did not prefer the open or laparoscopic rectopexy technique despite the advantages of this strategy being revealed in the Coflorte trial in Ireland. This same study established this operation's effectiveness in terms of short-term outcomes. Endoscopic transanal microsurgery (TEM) This surgical method is primarily utilized in cases of incomplete or occult rectal prolapse, in which the defect is located very close to the beginning, making a transperineal approach with a stapler or Delamore more difficult or impossible (Pecorino et al., 2022).

Patients with the conditions above may be considered for endoscopic management, as the safety and ease of using an endoscope for endoluminal fixation of the rectum has been demonstrated. This minimally invasive surgical technique has been shown to reduce hospitalization rates, shorten recovery times, and have no long-term adverse effects on anorectal function (Milone et al., 2021).

Robotic Surgery

It is thought to be safe and effective to employ robotic surgery for the surgical treatment of rectal prolapse. It is imperative to compare its efficacy with the laparoscopic approach to determine its suitability for treating this condition. A study involving 350 patients was carried out to compare the robotic and laparoscopic intervention methods. Minimal decreases in intraoperative bleeding, postoperative problems, and length of hospital stay are linked to robotic surgery. It is crucial to begin with the observation that, although there was a notable distinction between the laparoscopic and robotic techniques, there was minimum bleeding and modest problems in both cases.

Similarly, robotic surgery was associated with longer surgical times and greater financial costs. Recurrence, procedure conversion, and surgical reintervention rates showed no discernible differences; these outcomes rely on the surgeon's and his team's dependability and experience. The laparoscopic approach remains more cost-effective without randomized clinical trials proving the long-term benefits of robotic surgery and its benefits on patient function (Laxague et al., 2021).

Table 2: Surgical candidates for the perineal approach.
senior citizens
Patients at high risk for general anesthesia
Individuals with notable co-occurring conditions.
Individuals who have had prior rectal prolapse surgery
Individuals with a history of radiation therapy or significant pelvic surgery

Following Surgery

Postoperative management aims to prevent and relieve pain, control nausea and vomiting, regulate food, initiate enteral feeding early, and mobilize the patient following surgery.

Adequate analgesia during and following the selected surgical treatment helps patients recover by promoting postoperative reflation and ambulation. Patients having colorectal procedures, particularly laparoscopic ones, may be prescribed nonopioid analgesics (e.g., acetaminophen, cyclooxygenase 2 [COX-2], and a nonsteroidal anti-inflammatory drug [NSAID]). For patients who are not yet able to handle the oral route, intravenous forms of medications such as ibuprofen and paracetamol are available. It is essential to emphasize the prophylactic usage of 8–10 mg of dexamethasone as an analgesic and antiemetic (Kim et al., 2020).

Fluid therapy: to prevent oliguria or hemodynamic instability following surgery, an infusion of isotonic solution at a rate of 50–100 ml/flora is typically suggested as a fluidization goal. The maintenance of intravenous solutions is stopped if the oral route is tolerated.

Nasogastric tubes: These can cause pain and cause a patient's tolerance to the oral route to take longer to develop. Using a nasogastric tube for elective colon and rectal procedures is not advised.

Food: Start a light, balanced food four to six hours before surgery to reduce the negative protein balance following surgery. You may also add high-calorie beverages to your diet at that time. While studies of individuals following different colorectal procedures reveal no difference in whether the diet is started as soon as the patient is on it, indications of bowel activity (e.g., gas, bowel noises) may be significant for initiating the diet. Tolerate. Orally until visible indications of digestive action (Pennestrì et al., 2023).

Early mobilization: For every patient recovering from surgery, this is crucial. To lower the risk of venous thromboembolism and postoperative pneumonia, early ambulation is vital. This objective may be met with incentives from medical specialists, physiotherapists, and occupational therapists.

Urine catheter: Early removal of the urine catheter minimizes the risk of a postoperative urinary tract infection and facilitates early ambulation. Early discharge refers to a short hospital stay (usually less than five days) aiming to accelerate recovery and return to normal activities. This lessens the chance of infection around the surgical site and reduces the stress brought on by both insufficient sleep and medical personnel handling (Krielen et al., 2020).

Checking for surgery site infections: C-reactive protein (CRP) is one blood test that can be used to predict postoperative infection problems early on. A blood test showing a CRP > 150 mg/L or a continuous rise in CRP around the third postoperative day suggests the possibility of an infectious complication. Alternatively, PCR results significantly predict recovery without infection problems if they fall below this level (Bogani et al., 2020).

Controlling Recurrent Prolapse

Fleas have been found to have a higher postoperative recurrence rate of rectal prolapse, and they can appear three years after surgery. The surgical treatment for this complication is not defined due to the limited availability of evidence with statistical weight on the success rate and effectiveness. The choice of approach depends on the type of prolapse, whether partial or complete, as well as the patient's symptoms in that particular case. Now. Medical intervention is advised if the prolapse is asymptomatic or has few symptoms. Full-thickness prolapse is recommended to be treated surgically; however, because perineal recto sigmoidectomy carries a risk of ischemia to the residual rectum, it should be avoided. However, in partial rectal prolapse, less invasive therapeutic approaches, such as numerous longitudinal band ligations of the mucosa, are advised (Khawaja et al., 2022).

CONCLUSION:

There are two types of rectal prolapse: total and partial involvement. With a 2.5 per 100,000 patient incidence, it is an uncommon disease that significantly affects quality of life. Constipation (85% of patients), incontinence (70% of patients), and the sensation of rectal mass prolapse are among the most indicative symptoms. Generally, the diagnosis is established by objectively examining the

rectal procidence or, in circumstances where suspicion is strong, with the assistance of a defecography. It is crucial to consider the following while choosing a treatment plan: unfavorable outcomes, life expectancy, and relapse rates. Patients who are not surgical candidates are offered medical therapy, which also reduces symptoms before surgery. Adequate consumption of fluids and fiber should be advised as a first step.

Surgery is the only conclusive option; it can be perineal or abdominal. The best method is the abdominal one, which can be used for robotic, laparoscopic, or open surgery with the goal of rectopexy. Transabdominal rectopexy with sigmoid resection is the preferred procedure for individuals who already have constipation; it is not required for patients who do not. The Delorme method and the Altemeier procedure are the two common approaches used in the perineal approach, which is used when the abdominal route is not feasible. The recurrence rate for the perineal approach is close to 20%. The objectives of postoperative care include early ambulation, introduction of nutrition in the first six cases of postoperative flora, and appropriate analgesic and hydration conditions.

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