

Case of Rectal Prolapse with Bilateral Inguinal Hernia

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Abstract

Rectal prolapse is the protrusion of mucosal tissue through the anal orifice. Maybe of 3 types - mucosal, complete or internal. Pathophysiology may be due to a defect in mucosa or due to long standing strain of rectal tissue. Treated appropriately, prognosis is good & mortality is low.

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I. Introduction

Rectal prolapse was described as early as 1500 BCE. Rectal prolapse occurs when a mucosal or full-thickness layer of rectal tissue protrudes through the anal orifice. Problems with fecal incontinence, constipation, and rectal ulceration are common.

Three different clinical entities are often combined under the umbrella term rectal prolapse:

- Full-thickness rectal prolapse
- Mucosal prolapse
- Internal prolapse (internal intussusception)

Treatment of these three entities differs.

Full-thickness rectal prolapse is defined as protrusion of the full thickness of the rectal wall through the anus; it is the most commonly recognised type. Mucosal prolapse, in contrast, is defined as protrusion of only the rectal mucosa (not the entire wall) from the anus. Internal intussusception may be a full-thickness or a partial rectal wall disorder, but the prolapsed tissue does not pass beyond the anal canal and does not pass out of the anus.

II. Case Review

A 63 yr old male patient came with chief complains of something coming out of anal opening since 3 months and bilateral groin swelling since 2 months. Patient was apparently alright 63months ago when he experienced something coming out of his anal opening which could be manually reduced initially but has been non-reducible since the last 10 days. This has been associated with bleeding per rectum during defecation. Patient also complains of bilateral swelling over the groin region which were initially small in size and has gradually progressed to its current dimensions. The swelling reduces on lying down and increases on standing or straining. No vomiting, abdominal pain, chronic cough, constipation, Hematemesis, weight loss, jaundice, lifting heavy weights or straining during micturition. Patient has no co-morbid conditions and no history of prior surgeries.

On per abdomen examination, abdomen was soft, no guarding, no tenderness, no rigidity and no distension.

per rectum, full thickness rectal prolapse with approximately 10 cm long rectal segment protruding outside anus.

In local examination, on inspection, a single Pyriform swelling of approximately, 20*12 cm size present in left inguinal region extending up to the base of the scrotum with normal overlying skin. The swelling

reduces on lying down and increases on standing. The penis is deviated to right side. Impulse on cough is visible.

A single globular swelling of size 7*4 cm present in right inguinal region extending up to the root of scrotum with normal overlying skin. The swelling reduces on lying down and increases on standing. Impulse on cough is visible. All other hernial sites normal.

On palpation, all inspectory findings confirmed, in left inguinal region, a pyriform swelling of 22*15cm extending up to base of scrotum and in right groin 8*5 cm globular swelling is present extending up to root of scrotum. Bilateral cough impulse palpable. On deep ring occlusion test, both side swelling appears. Three finger test, both side impulse felt on middle finger. Ring invagination test, both side impulse felt on pulp of finger. On percussion, resonant note felt. On auscultation, no bruit heard.

Routine investigations revealed normal counts. Ultrasonography of the abdomen was unremarkable.

Initially, manual reduction of prolapsed rectum was done under spinal anaesthesia. However, the prolapse recurred on post-operative day 3. On post-operative day 8, patient was taken for laparotomy and Posterior Rectopexy of prolapsed rectum using 7.5*15 cm of proline mesh was done and bilateral inguinal hernia was done with Lichtenstein tension free meshplasty using prolene mesh of size 7.5*15 cm. One abdominal drain was kept and peritoneum was closed in layers. Post-op monitoring was done and was uneventful.

III. Discussion

Anatomy

The rectum is the distal 12-15 cm of the large intestine between the sigmoid colon and the anal canal. It primarily serves as a reservoir for fecal material. The mucosa is the inner lining of the intestinal tract. The dentate line is the junction of the ectoderm and endoderm in the anal canal.

The internal anal sphincter is a smooth muscle that is the most distal extension of the inner circular smooth muscle of the colon and the rectum. It is 2.5-4 cm long and normally 2-3 mm thick. The internal sphincter is not under voluntary control and is continuously contracted to prevent unplanned loss of stool.

The external anal sphincter is striated muscle that forms a circular tube around the anal canal. Moving proximally, it merges with the puborectalis and the levator ani to form a single complex. Control of the external anal sphincter is voluntary.

Pathophysiology

The pathophysiology of rectal prolapse is not completely understood or agreed upon. There are two main theories, which essentially are different ways of expressing the same idea.

The first theory postulates that rectal prolapse is a sliding hernia through a defect in the pelvic fascia. The second theory holds that rectal prolapse starts as a circumferential internal intussusception of the rectum beginning 6-8 cm proximal to the anal verge. With time and straining, this progresses to full-thickness rectal prolapse, though some patients never progress beyond this stage.

The pathophysiology and etiology of mucosal prolapse most likely differ from those of full-thickness rectal prolapse and internal intussusception. Mucosal prolapse occurs when the connective tissue attachments of the rectal mucosa are loosened and stretched, thus allowing the tissue to prolapse through the anus. This often occurs as a continuation of long-standing hemorrhoidal disease and is treated as such.

Often, prolapse begins with an internal prolapse of the anterior rectal wall and progresses to full prolapse.

Etiology

The precise cause of rectal prolapse is not defined; however, a number of associated abnormalities have been found. As many as 50% of prolapse cases are caused by chronic straining with defecation and constipation.

Other predisposing conditions include the following:

- Pregnancy
- Previous surgery
- Diarrhea
- Benign prostatic hypertrophy
- Chronic obstructive pulmonary disease (COPD)
- Cystic fibrosis
- Pertussis (ie, whooping cough)
- Pelvic floor dysfunction
- Parasitic infections – Amebiasis, schistosomiasis

- Neurologic disorders - Previous lower back or pelvic trauma/lumbar disk disease, cauda equina syndrome, spinal tumors, multiple sclerosis
- Disordered defecation (eg, stool withholding)

Certain anatomic features found during surgery for rectal prolapse are common to most patients. These features include a patulous or weak anal sphincter with levator diastasis, deep anterior Douglas cul-de-sac, poor posterior rectal fixation with a long rectal mesentery, and redundant rectosigmoid. Whether these anatomic features are the cause or result of the prolapsing rectum is not known.

In children, rectal prolapse is probably related to the vertical orientation of the rectum, the mobility of the sigmoid colon, the relative weakness of the pelvic floor muscle, mucosa that is poorly fixed to submucosa, and redundant rectal mucosa.

Prognosis

The prognosis generally is good with appropriate treatment. Spontaneous resolution usually occurs in children. Of patients with rectal prolapse who are aged 9 months to 3 years, 90% will need only conservative treatment. Continence usually is initially worse after surgical treatment, but in most patients it improves over time; however, the degree of improvement is unpredictable.

Untreated rectal prolapse can lead to incarceration and strangulation (rare). More commonly, increasing difficulties with rectal bleeding (usually minor), ulceration, and incontinence occur.

Postoperative mortality is low, but the recurrence rate can be as high as 15%, regardless of the operative procedure performed. The most common postoperative complications involve bleeding and dehiscence at the anastomosis. Other complications include mucosal ulceration and necrosis of the rectal wall. Operative complications are higher for abdominal operations, with a lower recurrence rate; the opposite is true for perineal operations, which have a much lower complication rate but a higher recurrence rate.

Recurrence

The recurrence rate for anterior resection without sacral fixation is about 7-9%, with a morbidity of 15-29%. This recurrence rate is higher than that for other abdominal procedures.

The recurrence rate for Marlex rectopexy ranges from 2% to 10%, with a morbidity of 3-29%. Continence is improved in 50-70% of patients. Constipation, however, is not improved and may worsen after this operation. The results of suture rectopexy are comparable.

The recurrence rate for resection and rectopexy is 3-4%, with several studies reporting a 0% recurrence rate. Morbidity ranges from 4% to 23%. Because the redundant colon is also resected, constipation improves in 60-80% of patients, and continence improves in 35-60%.

The recurrence rate for Delorme mucosal sleeve resection ranges from 5% to 26%, with a variable morbidity that is usually related to the patient's underlying comorbidities. Fecal incontinence and constipation improve in about 50% of patients.

The recurrence rate for Altemier perineal rectosigmoidectomy ranges from 0% to 50%, with an average of approximately 10%. Continence may be improved if a levator plication is added to the procedure. A study by Altemier et al indicated that restoration of continence with this procedure can be unpredictable.

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