Rectal prolapse: case report and literature review

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Introduction

The first references to rectal prolapse were described in the Ebers papyri around 1500 BC.[1] Rectal prolapse can be defined as a disorder characterized by circumferential protrusion of the rectum and is called complete when all the layers of the rectal wall protrude out of the anus; mucosal if only this layer is prolapsed, and internal if the invagination does not go beyond the anal canal.[2]

It can be intermittent or incarcerated and presents a risk of strangulation. The presentation is diverse, associating a variety of symptoms including pain, incomplete evacuation, consanguineous rectal discharge and/or mucus, and fecal incontinence or constipation.[3] Preoperative assessment includes physical examination, colonoscopy, anoscopy, anoscopy, echoendoscopy and, in some patients, anal manometry. The treatment is always surgical, the surgical tactic must be chosen for each patient and there are several options available.

Clinical case

Female sex, 63 years old. Multiple personal history among which stands out: systemic lupus erythematosus, chronic ulcerative colitis, multiple myeloma, hypogammaglobulinemia and hypertension. Consultation in polyclinic by manually reducible rectal prolapse of 4 years of evolution.

Episodes of acute irreducibility that subside with medical treatment. Multiple episodes of rectorrhagia and pain. On examination, good general condition, perianal inspection without alterations, rectal examination shows hypotonic sphincter, grade I hemorrhoids. Rectal prolapse greater than 5cm that is reproduced with valsalva maneuvers.

Videocolonoscopy is requested, which reports medium and small ostium diverticula in sigmoid and transverse ostium. The rest without lesions. Endo anal ultrasound: Small defect of the anterior EAE.

Manometry: Absence of RRAI and decreased resting pressure. Colon by double contrast enema: long, flexuous and diverticular colon, with sigmoid garland (Figure 1 & 2).

Figure 2 Diverticular colon.

Given prolapse greater than 4 cm, with multiple episodes of jamming and symptomatology, surgical resolution was decided. Altemeier procedure is performed (Figure 3) by making a circumferential incision of the entire thickness of the rectal wall 2 cm from the dentate line.

Figure 3 Altemeier procedure.

Dolichosigma that was externalized by manual traction. Resection of the sigmoid colon and the redundant rectum, approximately 30 cm. Manual end-to-end coloanal anastomosis with resorbable suture.

Figure 1 Colonoscopy.

The postoperative evolution presented as a complication a 7 cm collection in the pelvis 7 days after the operation, which was resolved by laparoscopic drainage. 6 months after the procedure, good evolution, sporadic episodes of incontinence. Rectal examination showed a slightly hypotonic sphincter, permeable suture.

No evidence of recurrence.

Discussion

Rectal prolapse is considered a low frequency entity with an incidence of less than 0.5% of the general population.

It affects 6 times more females, especially after 50 years of age with a peak at 70 years of age. Up to one third of patients are nulliparous.[4,5] In the case of men, the age of incidence is frankly lower, being more frequent in those under 40 years of age. In both sexes, the presence of psychiatric pathologies requiring multiple psychopharmaceuticals is frequent.[6]

Although the pathophysiology is not fully understood, it is suggested that for prolapse to occur the rectum must lose its stability. Deficiency of the puborectalis muscle is thought to play a crucial role.[2,7] A history of constipation, obstetric trauma, anorectal surgery, lumbosacral spine surgeries, psychiatric diseases, advanced age and female sex are risk factors for the development of rectal prolapse. Rectal prolapse is associated with certain anatomical alterations including weakness of the pelvic floor and anal canal, deep fornix of Douglas, redundant sigmoid colon, deficient fixation of the rectum to the sacrum with loss of horizontality, pathological anal sphincter and pudendal nerve neuropathy.[2,9]

The association with intussusception or traumatic solitary rectal ulcer has been described but not demonstrated.[10,11] These anatomical alterations cause the small bowel to occupy the Douglas fornix, which as mentioned above is deep, displacing the anterior wall of the rectum downwards until it protrudes outside the anus.[2,12]

These anatomical abnormalities are accompanied by functional disorders, approximately 50% to 75% of patients with rectal prolapse report fecal incontinence and 25% to 50% of patients report constipation.[13] Incontinence in the context of rectal prolapse can be explained by the sphincteric anatomical alteration produced by the prolapse altering its function, the chronic traumatic dilatation of the sphincter caused by the prolapse itself and the continuous stimulation of the rectoanal inhibitory reflex by the prolapsed tissue.[9] Up to 50% of patients with prolapse have pudendal neuropathy, which may be responsible for denervation-related atrophy of the external sphincter musculature.[14]

The constipation associated with prolapse may be the result of intussusception of the bowel into the rectum and colonic dysmotility.[15] Videocolonoscopy is mandatory in order to assess the rectal mucosa and rule out the presence of other concomitant colonic pathology. Although manometry and endoscopic ultrasound are studies that can be preindicated, they provide valuable information about the anatomy of the pelvic floor, the anal sphincter and its functionality.

The definitive treatment is always surgical and has three main objectives: the first is to eliminate the prolapse by resection or restoration of the normal anatomy, the second is to correct the associated functional abnormalities of constipation or incontinence, and the third is to prevent recurrence of the disease.[9,16]

A variety of surgical procedures have been described throughout history, including mucosal resection, perineal proctosigmoidectomy, anterior resection with or without rectopexy, suture-only rectopexy, and a number of procedures involving the use of synthetic or biological meshes attached to the presacral fascia anterior resection with or without rectopexy, suture-only rectopexy, and a number of procedures involving the use of synthetic or biologic mesh attached to the presacral fascia, including D'Hoore's ventral rectopexy with mesh.[9,17]

In general, surgical options are classified according to the approach used (abdominal or perineal). It should be noted that a Cochrane review states that it is not possible to conclude a superiority between the procedures.[18] Abdominal approaches allow restoration of the anatomy and treatment of associated diseases such as rectocele. They have a low recurrence rate and marked improvement in continence, however morbidity is high.[2] There are no studies that demonstrate complete pathologic resolution with medical treatment alone. However, prolapse-related symptoms can be treated to improve quality of life while surgery is planned.[9,16]

Surgical techniques described via the abdominal route include Ripstein's anterior rectopexy and Orr-Loygue's rectopexy, now in disuse, and Wells' anterior rectopexy. Wells anterior rectopexy consists of suturing the sacrum to the rectum and transelevating it. However, due to high rates of Pemberton and Stalker, they described the rectopexy with suture, and performed a mobilization of the rectum up to the levator plane. The lateral ligaments were preserved and fixed to the presacral fascia by stitches of non-resorbable material.[2]

The creation of an intense fibrosis fixes the rectum to the sacrum. With this technique, recurrence is very low in most publications, 2 to 3% 19 In general, a high rate of improvement of continence is observed, however, constipation, as in the rest of rectopexy, is only slightly improved, unchanged or deteriorated.[2] Anterior resection and sigmoid resection have shown poor results and have therefore fallen into disuse.

The Frykman-Goldberg resection plus retopexy aims to prevent descent of the rectum after its dissection, so it performs a complete excision of the left colon and associates a suture of the rectum to the sacrum, below the anastomotic line. Luukkonen, et al. in a prospective comparative study between rectopexy and resection-rectopexy showed that with resection there was an improvement of up to 33% in continence and up to 60% in constipation.

In relation to the perneal approach, the main therapeutic options are the Aletemeier procedure and the Delorme procedure. The Delorme procedure is the most suitable for treating small prolapses, and those in which the full thickness does not affect the entire circumference. It has a morbidity of up to 20% and a mortality of up to 5%, the recurrence of the disease is high, approximately 26%. The procedure consists of dissection and excision of the mucosal cuff overlying the prolapse, plication of the muscular wall and a mucosal anastomosis.[2]

The Aletemeier rectosigmoidectomy was first described by Mickulicz in 1889. The mortality rate reported in most studies is 0%. The morbidity described is between 1.8% and 12.5% and recurrence between 0% and 16%. It is the procedure of choice for frail patients with irreducible prolapse greater than 5 cm.[21] The procedure was described above, along with the clinical case. Some considerations that we believe are important to highlight include that the incision in the rectal wall should be made about 2 cm from the pectineal line to respect the internal sphincter as much as possible, the identification of the fat of the rectum mesum, in its posterior face, facilitates dissection in the appropriate plane; once the cul-de-sac of Douglas is opened, the rectum and all the redundant sigma are freed until it no longer descends, considering this gesture as fundamental to avoid recurrence.

Complications include hemorrhage, sexual dysfunction, infection of the surgical site, suture dehiscence, evacuatory difficulty, evisceration and eventration (abdominal approaches), perianal or intra-abdominal collections as in the case presented. There are no significant differences in the incidence of complications according to the surgical technique, it being understood that the laparoscopic approach presents less risk of infection of the surgical site, evisceration and eventration.

Conclusion

Rectal prolapse is a challenge for the surgeon who has to solve in the same surgical act the anatomical problem and the functional disorders that accompany it. The ideal surgery should be, on the one hand, minimally invasive, and include low morbidity without mortality and, on the other hand, achieve optimal functional results, without recurrence, improving continence and avoiding constipation.[2] The abdominal approach is the most appropriate for young patients, and rectopexy, with or without resection, is the most commonly used technique. Laparoscopic surgery has shown similar efficacy to conventional surgery with the already known benefits of mini-invasion.

The perineal approach is the best option for older or frail patients; the Delorme technique is simpler to perform, but the Altemeier rectosigmoidectomy offers better results since it allows a minimally invasive procedure with low recurrence and mortality. In the case presented, given the patient's history and the magnitude of the prolapse, an Altemeier procedure was chosen, obtaining good results at 1-year follow-up.

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None.

Conflicts of interest

The authors declare no Conflicts of interest.

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