

Rectal prolapse: surgical perineal treatment

Tiesiosios žarnos prolapsas: chirurginis perinealinis gydymas

Ir Fretes, D. Muñoz

*First chair Coloproctology Department of Surgical Clinic
National University of Asuncion, Faculty of Medical Science, Paraguay*

Objectives and Discussion

Rectal prolapse is an entity in which the entire layer of the rectal wall protrudes through the anal canal. Rectal prolapse is classified into two types: complete and incomplete prolapse. Complete prolapse represents an output of the entire layer of the rectum outward concentric folds presenting the anus. Incomplete prolapse is defined as an entity in which the rectal wall that stands out is limited to the inside of the anal canal, also known as hidden or internal rectal prolapse rectal intussusception. We must distinguish mucosal prolapse of rectal prolapse: in the case of mucosal prolapse, there is not a total protrusion of the rectal wall, only a portion comes out, or only the rectal mucosa and the folds are radial. Rectal prolapse is an entity that has been recognized since ancient times, as described in the Ebers Papyrus in 1500 BC [1]. In 1912, Moschowitz [2] theory suggested a sliding hernia in which the anterior rectal wall is herniated through a defect of the pelvic fascia, because it noted that the rectovaginal sac fund was abnormally deep in patients with rectal prolapse, and, therefore, he proposed to repair the defect in the levator ani muscle and closing the Douglas pouch. In 1968, Snallmann and Broden [3] demonstrated through a defecography that the rectal intussusception causes rectal prolapse. This theory holds that the starting point of the rectal intussusception starts about 6 or 8 cm from the anal margin. Intussusception is aggravated by excessive

and chronic straining, then becoming a visible rectal prolapse. This theory, though widely accepted, is still controversial. Shorvon et al. [4] reported that more than 50% of normal individuals have defecography intussusception. Mellgren et al. [5] state that not all patients with rectal intussusception eventually develop rectal prolapse. In 1977, Parks [6] suggested the theory of the perineal nerve injury to perform biopsies pelvic floor in patients undergoing subsequent repair for fecal incontinence and rectal prolapse, confirming by histology the perineal lesion, explaining then the cause of rectal prolapse was a weakening of the pelvic floor muscles due to nerve injury. This nerve injury also causes fecal incontinence. Possible reasons for nerve injury are the descent of the pelvic floor, vaginal delivery and excessive straining. This situation does not apply in cases of patients with rectal prolapse that does not have incontinence, there's no evidence of electromyographic pudendal nerve injury, so this theory is applicable only to patients with rectal prolapse and fecal incontinence. In addition, the relaxation of the lateral ligaments and the inertia of the pelvic floor muscles have been suggested as other causes for rectal prolapse [7]. The most common symptoms are bulging, bleeding, frequent defecation episodes, and rectal tenesmus. Other common symptoms include incontinence and fecal output of mucus through the anus. If rectal prolapse is chronic, it can be associated with urological disorders (bladder

stones or urethral stricture) and combined with bladder prolapse, or uterine prolapse [8]. Rectal prolapse is diagnosed with a medical history and inspection with the observation of a bulge out through the year with a rectal wall edematous and congestive mucosa. In cases of incomplete prolapse or hidden prolapse, a defecography should help with the diagnostic. Currently, a way of comprehensive evaluation of pelvic compartments is through the realization of a dynamic pelvic MRI, offering information of urogenital pathologies of the pelvic floor as rectoceles, enteroceles, perineal descent syndrome, paradoxical puborectal muscle contraction, liable to simultaneous surgical correction if the case so warrants [9]. More than 100 different procedures to solve this problem have been documented [10–15]. To resolve this problem, options approach abdominal and perineal surgical treatment. Historically, perineal approaches are associated with higher recurrence rates [7, 8]. This higher recurrence rate is compensated with lower perioperative morbidity, especially in patients with multiple comorbidities, old or too weak to withstand the abdominal surgical approach [16].

SURGICAL TREATMENT VIA PERINEAL TIERSCH SURGERY: This procedure is often performed in patients with advanced age or high risk and can be performed under local anaesthesia. It is a simple procedure, and is performed with a cerclage of the seines, decreasing its opening to the anus. Thiersch [17] did it with a silver wire, currently nylon threads, Dacron, silastic, teflon, and silicone is used. We particularly use polypropylene yarn No. 2 with a double return thereof to the digital calibration anal circumference. A complication that can occur is the fecal impaction, as well as an infection of the surgical wound. Recurrences from 30 to 50% are reported [18–21].

DELORME SURGERY: Delorme procedure was first described in 1900 [22]. This surgery involves a transanal perineal approach, the separation of the mucosa followed by a muscular plane plication and mucosal reanastomosis [23]. There can be complications such as bleeding, hematoma, and dehiscence stenosis. The advantage of this surgery is that it does not involve the abdominal cavity. Recurrence in this surgery is due to insufficient resection of the rectal mucosa. In men, one of the most important secondary complications was a

sexual dysfunction to a broad dissection and posterior pelvic rectopexy, dissection.

1. Mucosectomy. 2. Longitudinal muscle plication. 3. Adjustment and reduction of prolapse. 4. Mucosa anastomosis. 5. Final results. 6. Scheme.

We have operated in the past 1 year on 22 cases, including 15 women and 7 men, all operated with regional anaesthesia. 5 cases presented complications, 4 patients had stenosis of which one was resolved with estenotomia and the other three cases with rectal dilations and one case of bleeding to the seven one. The operative day after that was resolved with hospitalization and medical treatment but without requiring transfusion.

PERINEAL RECTOSIGMOIDECTOMY (ALTEMEIER SURGERY) This technique has already been described by other surgeons, and was popularized by Altemeier and Culbertson in the early 1970 [25, 26]. It consists of a full-thickness resection of the rectum, from 1 centimetre proximal to the dentate line, and often may include resection to the sigmoid colon, with a peritoneum excision of the pouch of Douglas. Then it continuous with an anastomosis colorectal with absorbable suture. It is the irreducible incarcerated operation of choice for a total rectal prolapse. The reported mortality rates are from 0 to 5% and recurrence rates of 0-16%. Studies in which levatorplasty (levatorplasty) and other studies that were not performed are included in this data [7, 8, 14, 27–33]. The levatorplasty decreases the rate of recurrence when associated with perineal rectosigmoidectomy [3, 4]. Complications of rectosigmoidectomy perineal include anastomotic leak with pelvic sepsis and bleeding [7].

In our experience, we currently have 42 operated cases by this technique, including 9 for being irreducible and those 3 cases with necrosis. Of the total Altemeier surgeries performed, the levatorplasty variant was applied (plication of the levator ani muscles) to the last 20 cases, due to the evidence of a decrease in recurrence rate with the application of this procedure.

1. Rectal prolapse. 2. Total section thickness, double pipe scheme. 3. Section for planes. 4. Enterocele in Fornix open Douglas. 5. Colorectal anastomosis – coloanal. 6. Final result.

FIXING SACROPROMONTO ROUTE BACK: The indication for the use of the posterior approach is

quite accurate, midrectal pathologies between 6 and 15 cm from the anal margin. Elderly patients in poor general condition or where the abdominal approach is contraindicated. It is an option for the resolution of rectal prolapse. In our experience we have 14 cases operated by this route of rectal prolapse, 11 women and 3 men, all over 50 years. The results of the surgery were excel-

lent in 72%, good in 21% and 7% bad. The surgical technique basically involves placing in Sevillian knife position, linear incision over the sacrum, dissection of the rectum, pexia and attaching it to the promontory. 1. Sevillian knife. Incision. 2. Exposure of the sacrum and rectal dissection. 3. Placing points rectal wall. 4. FIXING completed.

REFERENCES

- Mann CV. Rectal prolapse. In: Morson BC, ed. *Diseases of the Colon, Rectum and Anus*. New York: Appleton-Century-Crofts; 1969, pp. 236.
- Moschowitz AV. The pathogenesis, anatomy and cure of prolapsed of the rectum. *Surg Gynecol Obstet* 1912; 15: 7–21.
- Broden B, Snellman B. Procidencia of the rectum studied with cineradiography: a contribution to the discussion of causative mechanism. *Dis Colon Rectum* 1968; 11: 330–47.
- Shorvon PJ, McHugh S, Diamant NE, Somers S, Stevenson GW. Defecography in normal volunteers: results and implications. *Gut* 1989; 30: 1737–49.
- Mellgren A, Schultz I, Johansson C, Dolk A. Internal rectal intussusception seldom develops into total rectal prolapse. *Dis Colon Rectum* 1997; 40: 817–20.
- Parks AG, Swash M, Urlich H. Sphincter denervation in ano-rectal incontinence and rectal prolapse. *Gut* 1977; 18: 656–65.
- Takesue Y, Yokoyama T, Murakami Y, et al. The effectiveness of perineal rectosigmoidectomy for the treatment of rectal prolapse. *Surg Today* 1999; 29: 290–3.
- Prasad ML, Pearl RK, Abcarian H, et al. Perineal proctectomy, posterior rectopexy and postanal levator repair for the treatment of rectal prolapse. *Dis Colon Rectum* 1986; 29: 547–52.
- O'Brien A. Defecografía por Resonancia Magnética. *Revista Chilena de Radiología* 2010; 16(1): 11–16.
- Frykman HM, Goldberg SM. The surgical management of rectal procidencia. *Surg Gynecol Obstet* 1969; 129: 1225–30.
- McKee RE, Lauder JC, Poon FW, Aitchison MA, Finlay IG. A prospective randomized study of abdominal rectopexy with and without sigmoidectomy in rectal prolapse. *Surg Gynecol Obstet* 1992; 174: 145–8.
- Luukkonen P, Mikkonen U, Jarvinen H. Abdominal rectopexy with sigmoidectomy vs. rectopexy alone for rectal prolapse: a prospective, randomized study. *Int J Colorectal Dis* 1992; 7: 219–22.
- Finlay IG, Aitchison M. Perineal excision of the rectum for prolapse in the elderly. *Br J Surg* 1991; 78: 687–9.
- Williams JG, Rotherberger DA, Madoff RD, Goldberg SM. Treatment of rectal prolapse in the elderly by perineal rectosigmoidectomy. *Dis Colon Rectum* 1992; 35: 830–834.
- Senapati A, Nicholls RJ, Thomson JP, Phillips RK. Results of Delorme's procedure for rectal prolapse. *Dis Colon Rectum* 1994; 37: 456–460.
- Madsen M. Perineal Approaches to Rectal Prolapse. *Clinics in Colon and Rectal Surgery* 2008; 21(2).
- Thiersch C. Carl Thiersch 1822–1895. Concerning prolapse of the rectum with special emphasis on the operation by Thiersch. *Dis Colon Rectum* 1988; 31: 154–5.
- Labow S, Rubin RJ, Hoexter B, Salvati EP. Perineal repair of rectal procidencia with an elastic fabric sling. *Dis Colon Rectum* 1980; 23: 467–9.
- Poole GV Jr, Pennell TC, Myers RT, Hightower F. Modified Thiersch operation for rectal prolapse. Technique and results. *Am Surg* 1985; 51: 226–9.
- Earnshaw JJ, Hopkinson BR. Late results of silicone rubber perianal suture for rectal prolapse. *Dis Colon Rectum* 1987; 30: 86–8.
- Hunt TM, Fraser IA, Maybury NK. Treatment of rectal prolapse by sphincteric support using silastic rods. *Br J Surg* 1985; 72: 491–2.
- Delorme R. Sur le traitement des prolapses du rectum totaux pour l'excision de la musculeuse rectal ou rectolique. *Bull Mem Soc Chir Paris (Bulletin et Memoires de la Societe des Chirugiens de Paris)* 1900; 26: 499–518.
- Tobin SA, Scott IHK. Delorme operation for rectal prolapse. *Br J Surg* 1994; 81: 1681–4.
- Yakut M, Kaymakcioglu N, Simsek A, et al. Surgical treatment of rectal prolapse: a retrospective analysis of 94 cases. *Int Surg* 1998; 83: 53–5.
- Altemeier WA. One-stage perineal surgery for complete rectal prolapse. *Hosp Pract* 1972; 7: 102–8.
- Altemeier WA, Culbertson WR. Technique for perineal repair of rectal prolapse. *Surgery* 1965; 58: 758–64.
- Agachan F, Reissman P, Pfeifer J, et al. Comparison of three perineal procedures for the treatment of rectal prolapse. *South Med J* 1997; 90: 925–32.
- Deen KI, Grant E, Billingham C, Keighley MRB. Abdominal resection rectopexy with pelvic floor repair versus perineal rectosigmoidectomy and pelvic floor repair for full-thickness rectal prolapse. *Br J Surg* 1994; 81: 302–4.

29. Altemeier WA, Culbertson WR, Schowengardt C, et al. Nineteen-years-experience with the one-stage perineal repair of rectal prolapse. *Ann Surg* 1971; 173: 993–1006.
30. Ramanujam PS, Vankatesh KS, Fietz MJ. Perineal excision of rectal procidentia in elderly high-risk patients: a ten-year experience. *Dis Colon Rectum* 1994; 37: 1027–30.
31. Watts JD, Totheberger DA, Buls JG, et al. The management of procidentia: 30-year experience. *Dis Colon Rectum* 1985; 28: 96–102.
32. Johansen OB, Wexner SD, Daniel N, et al. Perineal rectosigmoidectomy in the elderly. *Dis Colon Rectum* 1993; 36: 767–72.
33. Kim D-S, Tsang CB, Wong WD, et al. Complete rectal prolapse: evolution of management and results. *Dis Colon Rectum* 1999; 42: 460–9.
34. Chun S, Pikarsky A, You S, et al. Perineal rectosigmoidectomy for rectal prolapse: role of levatoroplasty. *Dis Colon Rectum* 2001; 44: A5–A26.