

# Use of stapling devices to repair full-thickness rectal prolapse

 Bülent Kaya

Department of General Surgery, Private Medivia Hospital, İstanbul, Turkey

## ABSTRACT

Rectal prolapse is a chronic condition with important morbidity. Several surgical techniques, such as the Altemeier and Delorme procedures, have been used to treat the condition, but thus far, there is no gold standard surgical procedure. Recurrence and unsuccessful operations are not uncommon. Perineal stapled prolapse resection is a relatively new surgical technique for treating rectal prolapse. This is a report of the use of this simple procedure to repair rectal prolapse perineally using a stapling device under spinal anesthesia. The operation was successful, and there was no recurrence 4 months after surgery.

**Keywords:** Rectal prolapse; recurrence; stapled resection.

## Introduction

Rectal prolapse (RP) or procidentia is classically defined as full-thickness protrusion of the rectum through the anus. Rectal prolapse is an uncommon surgical condition. It occurs about less than 0.5% of the general population. [1] Most of the RP patients are women older than 50 years and they have a history of multiple childbirth. Main risk factors include multiple parturition, chronic constipation and old age. RP may be presented with anal mucoid discharge, rectal pain and bleeding after defecation, tenesmus, constipation or incontinence. RP is diagnosed with classical concentric folds detected during physical examination.

We present the case of an 81-year-old woman with a medical history of rectal pain, bleeding and fecal incontinence secondary to RP. The patient was successfully operated with stapled resection technique.

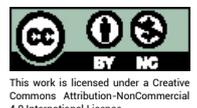
## Case Report

An 81 years old female patient presented with rectal pain and prolapse of rectum. She also complaint of mucoid discharge from rectum. She had multiple chronic diseases including hypertension, diabetes and cardiac problems. In physical examination, about 10 cm of rectum was protruded with mucosal folds. The diagnosis of total rectal prolapse was established. All laboratory results were within normal limits such as hemoglobulin, hepatic and renal function tests. Only abnormal finding was arrhythmia in electrocardiogram. Rectosigmoidoscopy was performed before operation. There was no other pathology in this examination.

The patient was placed in a lithotomy position under spinal anesthesia (Fig. 1a). The external rectal prolapse was then completely pulled out and clamped using Babcock clamps. A careful bi-manual examination was per-



Received: 17.11.2019 Accepted: 08.01.2020  
Correspondence: Bülent Kaya, M.D., Department of General Surgery,  
Private Medivia Hospital, İstanbul, Turkey.  
e-mail: drbkaya@yahoo.com



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License.

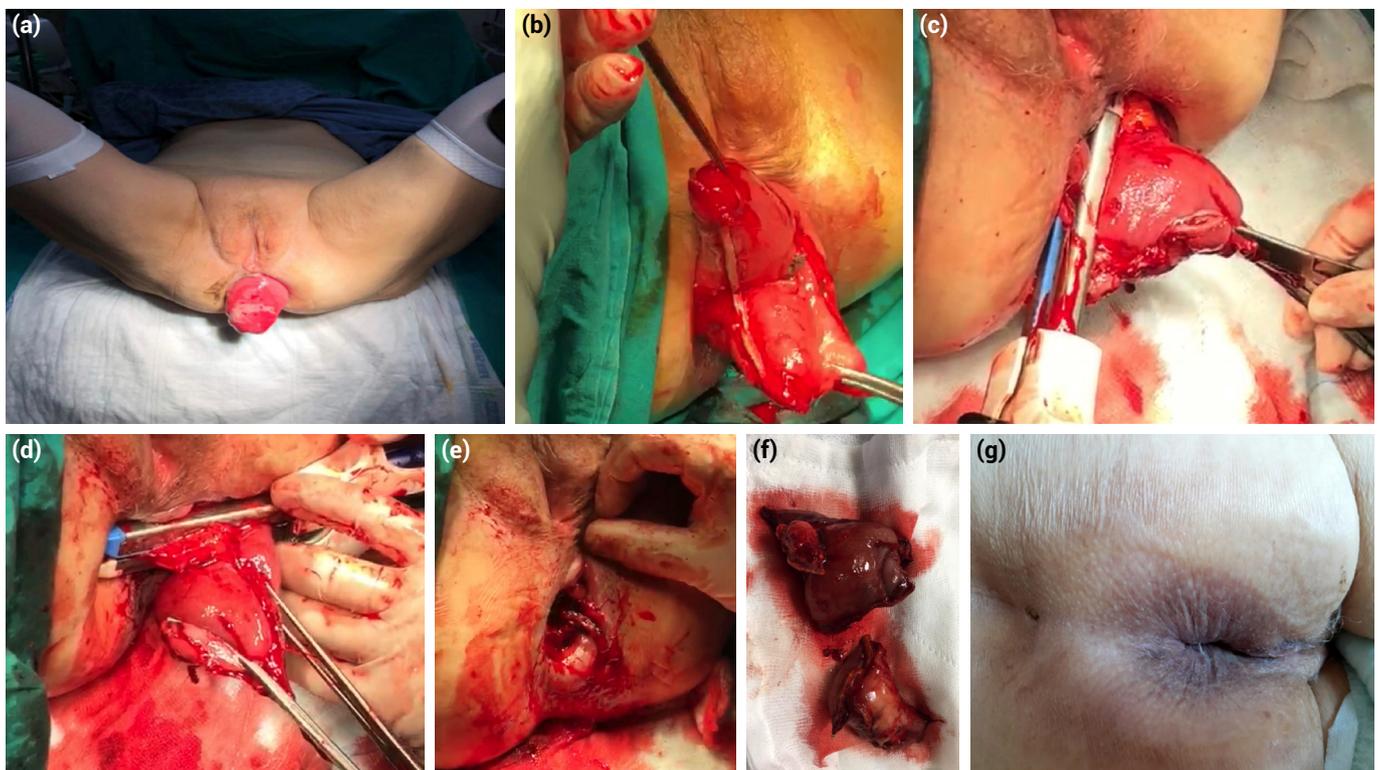
formed to exclude the entrapment of any intraperitoneal organs between rectal walls. The prolapse was cut open at the 3 and 9 o'clock position using the GIA 60 mm reloadable staplers. The staple line ended about 2 cm from the dentate line on both sides (Fig. 1b). Each of the divided tissues are resected transversely at the base using another GIA 60 mm on both sides (Fig. 1c, d). The lines of staples were completely over sewn with running Vicryl 2/0 suture to ensure the integrity of the staple line and achieve hemostasis (Fig. 1e). The Operation time was 45 minutes. Resected material was seen in (Fig. 1f). There were no intraoperative or postoperative complications. There was no recurrence in controls in 7. day, 15. days and 4. months in postoperative period (Fig. 1g).

## Discussion

RP was old disease which was described on papyrus in 1500 BC. Auffret reported the first surgical therapy for RP in 1882 and up to date surgery remains the only definitive treatment.<sup>[2,3]</sup> The diagnosis of rectal prolapse is made on medical history and physical examination. On physical examination, the classic finding is protrusion of the rectum from the anus, with concentric mucosal folds.

Performing correct surgical technique in RP is important because it occurs more frequently in older people with important comorbidities. Different surgical approaches including abdominal, laparoscopic, and perineal have been used to treat this pathology. The perineal approach is usually considered a surgical option for elderly patients with comorbidities. The Rehn-Delorme and Altemeier are the two most commonly performed classical perineal techniques. When compared to abdominal techniques, perineal approaches are related with high recurrence rates. Altemeier's procedure, with or without levatorplasty, has lower recurrence rates than Delorme's procedure, but higher recurrence rates than abdominal techniques.<sup>[4]</sup>

A new surgical technique called perineal stapled prolapse resection (PSPR) for external prolapse was described by in 2007 and showed good functional results.<sup>[5,6]</sup> Tschuor et al.<sup>[7]</sup> studied the long-term results of Perineal stapled prolapse (PSP) resection in 9 patients. At a median follow-up of 40 months (range 14–58 months), the prolapse recurrence rate was 44% (4/9 patients). They concluded that Perineal stapled prolapse resection is a safe procedure for the treatment of external rectal prolapse. It permits resection of the prolapsed rectum without need of mobilization



**Figure 1.** (a) Patient in lithotomy position with rectal prolapse. (b) Rectum resection was begun in right and left lateral part with linear stapler. (c) Base of the rectum resection was performed with two linear stapler. (d) Firing second transverse linear stapler. (e) Last appearance of anal region after resection. (f) Resected rectum segments. (g) The last appearance of anal region in postoperative day 15.

or dissection of the rectum. However, the long-term, recurrence rate of 44% was high.

Hata et al.<sup>[8]</sup> performed stapled resection procedure on 5 patients. All patients were followed up for over 24 months and none had any recurrences of their rectal prolapses. No complications occurred during the operations and postoperative periods. Scherer operated 14 patients with stapled resection.<sup>[5]</sup> All the procedures were successful. During the postoperative follow-up none of the patients showed an early recurrence of the prolapse.

In conclusion, Perineal Stapled Prolapse Resection is an easy, fast and safe procedure. The reported rate of complications is low in this technique. Functional outcomes are satisfactory. Main disadvantage of PSPR is its high cost, which is related with the number of stapler cartridges required to complete total resection. But it can be still considered a surgical option in elderly patients with multiple comorbidities.

#### Disclosures

**Informed Consent:** Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

**Peer-review:** Externally peer-reviewed.

**Conflict of Interest:** None declared.

#### References

1. Kairaluoma MV, Kellokumpu IH. Epidemiologic aspects of complete rectal prolapse. *Scand J Surg* 2005;94:207–10.
2. Wu JS. Rectal prolapse: a historical perspective. *Curr Probl Surg* 2009;46:602–716. [\[CrossRef\]](#)
3. Theuerkauf Jr. FJ, Beahrs OH, Hill JR. Rectal prolapse. Causation and surgical treatment. *Ann Surg* 1970;171:819–35.
4. Jacobs LK, Lin YJ, Orkin BA. The best operation for rectal prolapse. *Surg Clin North Am* 1997;77:49-70. [\[CrossRef\]](#)
5. Scherer R, Marti L, Hetzer FH. Perineal stapled prolapse resection: a new procedure for external rectal prolapse. *Dis Colon Rectum* 2008;51:1727–30. [\[CrossRef\]](#)
6. Hetzer FH1, Roushan AH, Wolf K, Beutner U, Borovicka J, Lange J, et al. Functional outcome after perineal stapled prolapse resection for external rectal prolapsed. *BMC Surg* 2010;10:9. [\[CrossRef\]](#)
7. Tschuor C, Limani P, Nocito A, Dindo D, Clavien PA, Hahnloser D. Perineal stapled prolapse resection for external rectal prolapse: is it worthwhile in the long-term? *Tech Coloproctol* 2013;17:537–40. [\[CrossRef\]](#)
8. Hata F, Nishimori H, Ikeda S, Yajima T, Nishio A, Ishiyama Y. A simple and safe procedure to repair rectal prolapse perineally using stapling devices. *Case Rep Gastroenterol* 2014;23:8:39–43. [\[CrossRef\]](#)