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Case report
Prikaz slučaja
UDK 616.35-089.87-036.82
<https://doi.org/10.2298/MPNS2210317V>

PERINEAL STAPLED PROLAPSE RESECTION – A CASE REPORT

PERINEALNA STAPLERSKA RESEKCIJA PROLAPSA – PRIKAZ SLUČAJA

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Summary

Introduction. Over 100 different surgical procedures for the treatment of rectal prolapse have been described. Since these patients commonly have associated comorbidities, methods of choice include surgical techniques with a perineal approach, such as perineal stapled rectal resection. **Case Report.** A 77-year-old female patient presented with a complete rectal prolapse measuring 12 cm in length. Considering the associated comorbidities and the patient's age, perineal stapled rectal resection was chosen as the surgical modality. She underwent surgery under general anesthesia in the dorsal decubitus and slightly reverse-Trendelenburg position. The surgery lasted 35 minutes. The surgery and the immediate postoperative course were uneventful. At the follow-up examination, six months after surgery, the findings were normal, without local recurrence. There was a slight deterioration of fecal incontinence, with a Vaizey score 10/20, but the patient tolerated it well. **Discussion.** The perineal stapled rectal resection technique has fewer intraoperative complications and 6.3% fewer postoperative complications compared to classic perineal procedures (staple line bleeding, anastomotic stenosis, pelvic hematoma, sigmoid colon perforation, perirectal abscesses and rectovaginal fistulas), which were reported in many studies. However, patients with longer postoperative follow-up demonstrated a higher recurrence rate compared to patients who underwent other surgical techniques with an abdominal approach. **Conclusion.** The perineal stapled rectal resection procedure is easy to perform and acceptable for the elderly patients with associated comorbidities, who are not candidates for other surgical techniques with abdominal approach.

Key words: Rectal Prolapse; Perineum; Surgical Staplers; Recurrence; Surgical Procedures, Operative; Treatment Outcome

Introduction

Patients with complete rectal prolapse are usually severe patients. They are mostly elderly patients with associated comorbidities, and surgical treatment for them carries a high risk. Therefore, surgical treatment planning must include both curative and palliative treatment options [1, 2].

Surgery is the only validated means of treating rectal prolapse. Over 100 different surgical procedures for the treatment of rectal prolapse have been described [3]. There is still no consensus on which surgical procedure is the best.

Sažetak

Uvod. Opisano je preko 100 različitih hirurških procedura za lečenje prolapsa rektuma. Pošto se radi uglavnom o bolesnicima sa udruženim komorbiditetima, metode izbora predstavljaju operativne tehnike sa perinealnim pristupom, kao što je i perinealna staplerska resekcija rektuma. **Prikaz slučaja.** Kod bolesnice stare 77 godina uočen je kompletan prolaps rektuma dužine 12 cm. Zbog udruženih komorbiditeta i godišta bolesnice, kao operativna tehnika izabrana je perinealna staplerska resekcija rektuma. Bolesnica je operisana u opštoj anesteziji u dorzalnom dekubitalnom i blagom anti-Trendelenburgovom položaju, ukupno trajanje operacije bilo je 35 minuta. Operacija i neposredni postoperativni tok protekli su uredno. Na kontrolnom pregledu šest meseci nakon otpusta, lokalni nalaz je uredan, bez recidiva. Došlo je do blagog pogoršanja fekalne inkontinencije, Veizley (Vaizey) skor je bio 10/20, ali bolesnica je to dobro podnela. **Diskusija.** Dokazano je u više sprovedenih studija da tehnika perinealna staplerska resekcija rektuma ima manje intraoperativnih komplikacija i sa 6,3% manje postoperativnih komplikacija u odnosu na klasične perinealne procedure (krvarenje staplerske linije, stenoza anastomoze, pelvični hematom, perforacija sigmoidnog kolona, pararektalni apcesi i rektovaginalne fistule). Međutim, u dužem postoperativnom praćenju, stopa recidiva je viša u odnosu na druge operativne tehnike sa abdominalnim pristupom. **Zaključak.** Procedura perinealne staplerske resekcije rektuma je tehnički lako izvodljiva i prihvatljiva za bolesnike starijeg životnog doba sa udruženim komorbiditetima, kod kojih nisu izbor druge operativne tehnike sa abdominalnim pristupom.

Glavne reči: prolaps rektuma; perineum; hirurški stapleri; recidivi; operativne hirurške procedure; ishod lečenja

Regarding the surgical approach, procedures fall into two basic categories: transabdominal (open or laparoscopic) and perineal approach procedures [4]. The decision on the method of operative treatment should be made based on patients' comorbidities, their age, bowel function, local findings of prolapse, and the experience of the surgeon. In the elderly, high-risk patients, surgical techniques with a perineal approach are the methods of choice, although postoperatively the rate of recurrence and incontinence is higher compared to transabdominal operations [5, 6].

At the beginning of the 20th century, perineal surgeries were on the increase and became the

Abbreviations

PSPR – perineal stapled prolapse resection

method of choice in the treatment of rectal prolapse. The most frequently performed are the Delorme and Altemeier procedures [7].

In 2007, Roland et al. described a new surgical technique called perineal stapled rectal prolapse resection (PSPR) for the treatment of complete rectal prolapse [8, 9].

Case Report

A 77-year-old female patient was admitted due to anorectal complaints and bowel prolapse. The symptoms started a few months before the examination. During the first examination, a complete rectal prolapse was established measuring 12 cm in length.

The patient denied previous abdominal surgical procedures. Her medical history included aortic valve replacement two years ago, hypothyroidism, systemic lupus erythematosus, and arterial hypertension. In the preoperative setting, the chest X-ray showed diffuse patchy changes of scar etiology on both sides in the lower lung fields. Due to uterine prolapse and urinary incontinence, she was examined by a gynecologist, who suggested separate surgical treatment. The preoperative Vaizey incontinence score was 7/20 [10].

Due to all the comorbidities and the age of the patient, PSPR was chosen as the operative technique, primarily due to minimal surgical trauma and based on literature data showing good results compared to transabdominal procedures.

The patient underwent surgery under general anesthesia in the dorsal decubitus and slightly reverse-Trendelenburg position (**Figure 1**). The prolapse was



Figure 1. Complete rectal prolapse measuring 12 cm in length

Slika 1. Prolaps rektuma u dužini od 12 cm

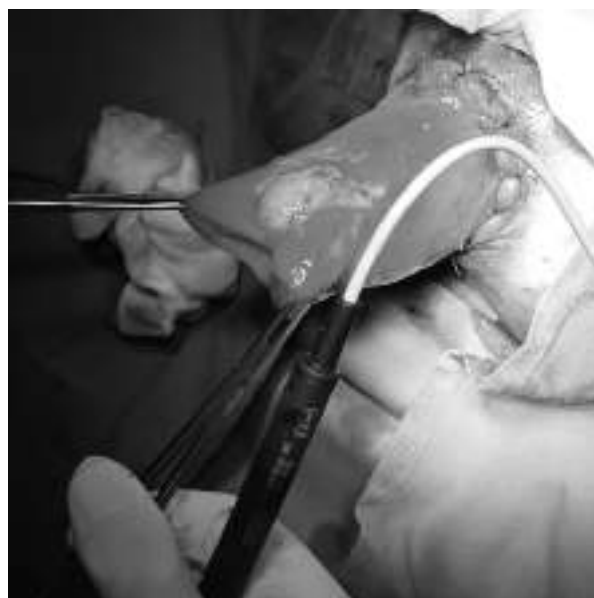


Figure 2. Placement of fixation sutures

Slika 2. Postavljanje fiksacionih šavova

completely retracted by a grasper, and then its distal part was fixed with 10 single absorbable (3.0) sutures (**Figure 2**). After that, at 6 and 12 o'clock position, an incision was made and transection of the prolapse was done using two linear staplers (**Figure 3**). After that, the prolapse was resected using two Contour staplers. The stapler line was sutured with an extended absorbable suture (3.0) (**Figure 4**). Hemostasis was correct, intraoperative loss was approximately 100 ml of hemorrhagic fluid. The total duration of the procedure was 35 minutes. In the immediate postoperative course, the function of the anal sphincter was preserved. Per os intake (liquid) was introduced 6 hours after surgery.



Figure 3. Transection using a linear stapler

Slika 3. Transekcija pomoću linearnog staplera



Figure 4. Condition after resection
Slika 4. Stanje nakon resekcije

The further postsurgical course was uneventful. On the first postsurgical day, there was no blood in the patient's stool. On the second and fourth postoperative days, rectoscopy was performed showing a neat staple line of the entire circumference 2 cm from the anocutaneous border. The patient was discharged on the fifth postoperative day for further home treatment.

The histopathological findings of the resected part of the rectum showed that it was a non-specific chronic colitis without signs of neoplastic proliferation.

At a follow-up examination six months after surgery, the local findings were normal, with no recurrence. There was a slight deterioration of fecal incontinence, Vaizey score 10/20, but the patient handled it well. The patient is completely satisfied with the cosmetic outcome.

Discussion

Over 100 different surgical procedures have been described for the treatment of rectal prolapse [11]. Perineal stapler resection of the rectum using a Contour stapler is an alternative to the conventional transanal (perineal) Rehn-Delorme [12] and Altemeier procedures [13]. The safety of the PSPR technique was reported by Hetzer et al. in his study including 32 patients, without intraoperative complications, and with 6.3% fewer postsurgical complications in comparison to the classic perineal procedure (staple line bleeding, anastomosis stenosis, pelvic hematoma, perforation of the sigmoid colon, pararectal abscesses, and rectovaginal fistulas) [14, 15]. In order to prevent injury to the Douglas cord, or possibly an associated enterocele, as in our patient, it is necessary to place the patient in the dorsal decubitus and anti-Trendelenburg position.

The study including 408 patients undergoing PSPR by Fan et al. showed that the most common

complication was staple line bleeding, and the total complication rate was 14.5% (51/350) [16].

A modification of the surgical technique is also possible, when transection of the prolapse is performed using linear staplers instead of using two Contour staplers. An important aspect of this procedure is that the number of stapler charges for bowel resection is not even. It depends on the length and thickness of the prolapsed rectum [17]. Since the resection site between the staples is a weak point and a potential complication location, it is necessary to reinforce the staple line with individual absorbable sutures.

There are four studies with relatively short postoperative follow-ups (from 1 - 6 months), which have shown significant improvement in constipation and continence after PSPR surgery. However, like in our case, postoperative deterioration of fecal incontinence was also described in other studies. The most probable cause is the shortening of the rectal reservoir [18, 19].

In the study by Tschuor et al., with an average postoperative follow-up of 40 months (14 - 58 months), the recurrence rate was 44% [20]. There are several reasons that may cause a higher recurrence rate compared to other non-operative techniques with a perineal approach (44% versus 32%).

One of the reasons is most likely the selection of patients (PSPR is the method of choice for severe patients with numerous comorbidities). Also, these patients most often have pelvic floor insufficiency, and the surgical technique does not include levatoroplasty. In all the mentioned studies, the length of prolapse was greater than 7.5 cm, which is higher than the average length of prolapse reported in classical operative techniques, showing that these patients also have a greater dysfunction. In the end, one must take into account the surgical training, as it is a relatively new and rarely used technique so it may be an additional factor.

Recommendations published in a recent consensus study state that PSPR is a viable surgical option for selected patients, especially the elderly and polymorbid patients with shorter life expectancy [21].

These recommendations confirm the findings of the aforementioned studies; PSPR has less intraoperative and immediate postoperative morbidity, but a higher rate of recurrence in the longer postoperative follow-up.

Based on the materials used, PSPR represents a more expensive operative technique compared to classic procedures (Delorme or Altemeier). However, shorter duration of surgery and shorter hospital stay compensate for the difference in price.

Conclusion

Perineal stapler rectal resection is a safe surgical technique for the treatment of rectal prolapse. It includes resection of the prolapsed part without the need for mobilization or dissection of the rectum.

As shown in our case, this procedure is technically easy to perform and acceptable for elderly patients with associated comorbidities, who are not candidates for other surgical techniques with abdominal approach.

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- Rad je primljen 28. XII 2022.
 Recenziran 31. I 2023.
 Prihvaćen za štampu 6. II 2023.
 BIBLID.0025-8105:(2022):LXXV:9-10:317-320.