Introduction

Rectocele is defined as a herniation of the rectal wall inside the vagina due to a defect of the recto-vaginal septum. It is traditionally considered a posterior compartment damage with weakness of posterior vaginal wall support resulting in a bulging of the rectum into the vaginal cavity. One of the main causes of rectal prolapse is the operative vaginal birth, although the evidence of the defect may occur after many years. The treatment of rectocele is surgical, and the approach can be transperineal, transvaginal, and transanal or, in selected cases, transperitoneal through open or laparoscopic techniques.

The transperineal techniques are the Alteimer’s rectosigmoidectomy and the Delorme’s surgical procedure. The main transvaginal techniques are the perineal body anchorage (PBA) to the posterior septum and the traditional Denonvilliers’ transversal suture after removing of the vaginal skin. The transanal procedures are the Sullivan - Khubchandani technique, the stapled transanal rectal resection (STARR), and the trans-STARR technique.

In this study we report the transvaginal surgical techniques we routinely perform, and the transanal procedure (STARR), comparing the data from the literature on their results. Mean hospital stay, rectal symptoms, dyspareunia, quality of life, recurrence rate and postoperative complications are discussed.

SUMMARY: Surgical repair of rectocele. Comparison of transvaginal and transanal approach and personal technique.

V. LEANZA, E. INTAGLIATA, G. LEANZA, M.A. CANNIZZARO, G. ZANGHÌ, R. VECCHIO

Rectocele is defined as a herniation of the rectal wall inside the vagina due to a defect of the recto-vaginal septum. It is traditionally considered a posterior compartment damage with weakness of posterior vaginal wall support resulting in a bulging of the rectum into the vaginal cavity. One of the main causes of rectal prolapse is the operative vaginal birth, although the evidence of the defect may occur after many years. The treatment of rectocele is surgical, and the approach can be transperineal, transvaginal, and transanal or, in selected cases, transperitoneal through open or laparoscopic techniques.

In this study we compare two transvaginal surgical techniques - i.e., the perineal body anchorage to the posterior septum and the traditional Denonvilliers’ transversal suture after removing of the vaginal skin, with the mostly performed transanal procedure, the STARR - comparing the data from the literature on their results. Mean hospital stay, rectal symptoms, dyspareunia, quality of life, recurrence rate and postoperative complications have been considered.

Both transvaginal and transrectal surgical techniques are effective to solve posterior compartment defect and to improve the quality of life. Vaginal approach may interfere with the sexual activity; furthermore, it is associated with minimal postoperative pain than the transanal approach. Better anatomic results are assured after endovaginal surgery, while better rectal function prevail after the transanal approach. Vaginal techniques are more suitable to gynecologists, whereas the transrectal ones are usually performed by colorectal surgeons or general surgeons.

KEY WORDS: Rectocele - Rectal prolapsed - STARR.
Surgical repair of rectocele. Comparison of transvaginal and transanal approach and personal technique

Patients and methods

Transvaginal surgical techniques

PBA technique

The patient is placed in a dorsal lithotomy position. A transverse incision is made at the muco-cutaneous junction and thereafter the posterior vaginal wall is opened under the mucosa, transversely, in all the extent of bulge. The rectal wall and recto-vaginal connective tissue are separated from the vaginal wall by both sharp and blunt dissection, avoiding rectal injury. If an enterocele sac is shown, it is dissected, opened, and closed with a tobacco bag suture. Then the rectovaginal fascia is sutured at the perineal body with separated delayed absorbable stitches. The perineorrhaphy is performed with one or two horizontal sutures. Excess vaginal mucosa is then excised, aiming at a two or three finger width vaginal caliber and the vaginal wall is closed with running delayed absorbable sutures (Figure 1a).

TDTS technique

The patient is placed in a dorsal lithotomy position, a transverse incision is made at the muco-cutaneous junction and thereafter the posterior vaginal wall is incised at the midline. The rectal wall and recto-vaginal connective tissue were separated from the vaginal wall by both sharp and blunt dissection. If an enterocele sac is present, it is repaired as well. At this point, in spite of the previous technique, the Denonvilliers’ recto-vaginal fascia is linked at the midline with interrupted delayed absorbable sutures. Longitudinal suture of the posterior vaginal skin after removing the redundant tissue, is performed (Figure 1b).

Transanal surgical technique

Stapled trans-anal rectal resection procedure (STARR)

It is indicated in patients with outlet obstruction due mostly to rectal intussusception and rectocele. After dilating the anus, the posterior rectal wall is retracted and three purse-string sutures, incorporating the mucosa, submucosa and rectal muscle wall, are placed along the anterior rectal wall, up to the edge of the rectocele. A 33-mm circular stapler is introduced and the rectal mucosa is pulled into the device. The posterior vaginal wall is checked just prior to firing the stapler so as to not include it the resection. 3.0 Vicryl sutures are used to reinforce the staple line or for hemostasis. The same procedure can be accomplished through a single circular stapler device.

Discussion

Mild rectocele is often unrecognized. However, when symptomatic, its functional impact can be very limiting to women in their daily activities (20). A patient may recognize a rectocele as a symptomatic vaginal bulge that may be associated with obstructive defecatory disturbance, whose incidence reported in the Literature ranges from 30-50% (20-23). It can be associated with a variety of complaints such as obstructive defecation, incomplete rectal emptying, incontinence of gas or feces, bleeding (24-26), looseness with intercourse, perineal pressure, rectal pain, extreme straining to defecate, extended evacuation time, long interval between two evacuations (5-10 days), perineal pain/discomfort when standing, and fragmented defecation (21, 22). Evacuation is often digitally supported in advanced clinical grading (21).

One of the main causes of rectal prolapse is the operative vaginal birth, but the evidence of the defect may occur after many years (27). Other possible causes are chronic increase in abdominal pressure (i.e. constipation), prolonged orthostatic posture, or congenital or inherited weakness in the pelvic support system. The objective diagnosis of rectocele is most commonly made by the gynecologists and the general surgeons. Pelvic exam may reveal a tissue bulging into the posterior compartment of the vagina. Digital rectal exam is useful to evaluate the posterior vaginal wall weakness and the defect at the anterior wall of the rectum. Defecography is a useful imaging modality since it can detect the presence of a rectocele, quantify its size and the degree of rectal emptying as well as identify a non-relaxing pubo-rectalis muscle and assess the rectal emptying capacity.

![Fig. 1 - a) Perineal body anchorage, b) Traditional Denovilliers’ transversal suture.](image-url)
Conservative management is almost always attempted before surgical repair (26). The surgical indication to rectocele repair is controversial, but most surgeons advocate it when a rectocele is symptomatic and of large dimension (>3 cm), or if the rectum fails to empty sufficiently on defecography (21).

Although many authors have reported satisfactory anatomic results after surgery, conflicting results about bowel and sexual function have been observed after transvaginal approaches. The major concern regarding the adverse effects of the vaginal approaches is dyspareunia and sexual dysfunction (28-31). Various series report the improvement of sexual function after vaginal surgery (5, 32-34). Kahn and Stanton (30) reported that the preoperative percentage of sexual dysfunction raised from 18% to 27% in their follow-up of 171 patients treated by vaginal approach, and Paraiso and coworkers (28) noted a 12% postoperative dyspareunia rate. An improvement in symptoms related to defecation was noted in both transvaginal approaches, ranging from 70 to 95% (35-37). When compared with the preoperative situation, need to digitally assisted rectal emptying is statistically significantly reduced, ranging from 3 to 7% (35). Objective measurement at defecography during the follow-up shows a significant decrease in rectocele depth. The recurrence rates of rectocele ranges from 5.7-7% after the transvaginal techniques (35). Complications as rectal stenosis with constipation, anal incontinence, risk of infection, recto-vaginal fistula, fecal urgency, incontinence to flatus or feces, infection and rectovaginal fistula have not been reported in the literature after transvaginal surgery. The integrity of the rectal mucosa after transvaginal approaches and differently than after STARR, significantly reduces the incidence of bacterial contamination. Besides, at our opinion, the major exposure of the operative field permits a suitable modulation of the redundant posterior vaginal skin

The recent use of a transanal stapler aims at facilitating the surgical repair of a rectocele (38). STARR is considered an effective and safe procedure for the treatment of obstructed defecation syndrome due to rectal intussusception, rectocele and small rectal prolapse. Improvement of rectal symptoms related to the correction of both intussusception and rectocele is very satisfactory (35, 39-44). The literature does not report cases of post-operative dyspareunia following transanal correction (38, 40, 45). Improvement in the quality of life after STARR ranges between 50% and 100%. Need to digitally rectal empyting ranges between 16.6 and 27% after transanal surgery (35, 46). Pre- and post-operative results showed a more significant improvement on the base of defecography in the transvaginal approach (35). The STARR technique showed a bleeding rate ranging from 3.3 to 26.6% (35, 40, 44, 47). Recurrence rate is less than 40% (35, 44). The rate of postoperative pain is low (40, 43, 44, 47), with a significant difference in patients receiving transanal repair who have more persistent pain (38). There is no case of sexual dysfunction (35, 40, 45). No worsening of eventual preoperative anal incontinence is reported (41), or if any, it is often mild and transitory (43). Fecal urgency rate ranges from 1.1 to 34% among the STARR patients (38, 44, 46, 47). Postoperative incontinence to flatus is reported in 6 to 26.7% of the cases (38, 44, 47). The risk of serious complications as sepsis and rectovaginal fistula after STARR should not be underestimated, since the operation involves a full-thickness resection of the rectal wall (40).

Conclusions

Both transvaginal and transrectal surgical techniques are effective to solve posterior compartment defect and to improve the quality of life. Vaginal approach may interfere with the sexual activity, furthermore it is associated with minimal postoperative pain. Better anatomic results are assured after endovaginal surgery, while better rectal function prevails after the transanal approach. Vaginal techniques are more suitable to gynecologists, whereas the transanal one is usually performed by colo-proctologists or general surgeons. Although gynecologists prefer the transvaginal techniques and the general surgeons the transanal route, a multidisciplinary approach, however, is preferable (48).

References

Surgical repair of rectocele. Comparison of transvaginal and transanal approach and personal technique


