

Rectovaginal Fistula Secondary to Endorectal Proctopexy: Case Report of a Rare Complication

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Abstract

Background: EndoRectal ProctoPexy (ERPP) is a surgical option for the treatment of rectocele.

Case presentation: A 42 years-old woman, with an history of chronic constipation, was diagnosed with a rectocele at physical examination and confirmed by a defecating proctography. The patient subsequently underwent ERPP. Fourteen days later, she presented with an anterior pelvic pain, vaginal discharge and diarrhoea.

Rectoscopy, barium enema and transanal ultrasonography demonstrated the presence of a fistula tract. After a failed attempt of direct local surgical repair, endoscopic clipping, and placement of a fistula plug, patient was finally diverted with a temporary stoma and treated successfully with a Martius flap.

Conclusion: ERPP procedure, even if performed according to the standardized technique, can result in complications that are difficult-to-treat and should, therefore, be reserved for expert colorectal surgeons with training in transanal surgery. We report the first case of a rectovaginal fistula developed after this procedure.

Keywords

Rectovaginal fistula; Martius flap; Fistula plug; Endoscopic clipping

Abbreviations

ERPP: EndoRectal ProctoPexy; RVF: Recto-Vaginal Fistula

Introduction

Internal rectal prolapse and rectocele are frequent clinical findings in patients suffering from refractory constipation, that may be best characterized as "obstructive defecation syndrome" (ODS).

The management of ODS should be mainly conservative because, even in expert hands, challenging complications and high recurrence rate may follow surgery. In order to correct symptomatic rectocele and rectal internal prolapse several approaches have been reported, including trans-vaginal, trans-anal and trans-abdominal as well as combined techniques. The results of these various procedures are variable with different patterns of complication [1-4].

The endorectal proctopexy (ERPP) has been suggested as an effective, cost-effective surgical option for these disorders [5]. Recto-vaginal fistula (RVF) is a possible complication of this procedure and one of the most distressing clinical situations that women can experience, due to the physical, psychological and social burden. We report a case of a rectovaginal fistula developed after ERPP for rectocele.

Case Report

A 42 years-old woman presented with a 10-year history of chronic constipation, with outlet obstruction. Prior to surgery she complained of a sensation of incomplete fragmented evacuation, with a chronic use of laxatives. Obstetric history included a vaginal delivery without perineal injury 13 years earlier. Physical examination revealed a rectocele and a circumferential internal rectal mucosal prolapse. No sphincteric impairment was detected. Video-defecography, performed by synchronous opacification of rectum, vagina and bladder, showed a 6 cm rectocele, without uro-gynecological abnormalities (Figure 1). Anorectal manometry showed increased threshold and maximum tolerated volumes.

The procedure was carried out with the patient in lithotomy position. After insertion and fixation with four skin stitches of a special disposable purse device (Changzhou Kangdi Medical Stapler Co., Ltda, China), an adrenaline saline solution was injected into the submucosal layer. The dissection was performed by diathermy starting 2 cm above the dentate line and, with a gentle traction, the mucosal layer was progressively separated from the inner muscle and pulled down. A careful hemostasis was accomplished by using bipolar forceps. The dissection was continued circumferentially until a satisfactory height of the mucosal cylinder was obtained; four stitches, one for each quadrant, were then placed running from the proximal to the distal mucosal margin, achieving a plication of the internal muscular layer with 4-5 steps. Once this repeated suture was completed the mucosal cylinder was resected and anastomosis fashioned. The anastomotic line was carefully checked and additional mucosal absorbable stitches were placed.

Fourteen days after operation patient complained of anterior pelvic pain with faecal vaginal discharge. Proctoscopy revealed a 1,5 cm defect on anterior rectal wall about 2 cm above dentate line communicating with vagina (Figure 2). Endorectal ultrasound confirmed the presence of a rectovaginal fistula.

Three days later, after a mechanical bowel preparation, patient underwent a combined correction: on the vaginal side the fistula tract was excised and the defect was sutured with interrupted 2/0 Vicryl stitches in a transverse fashion, while on the rectal side an endorectal advancement flap was made. Four days after discharge she experienced a new opening with minor bleeding and passage of flatus and stool through the vagina, and a minimally invasive endoscopic attempt was carried out, by placing iron clips on the rectal wall defect. After an initial improvement of symptoms, patient noticed again a light mucus excreting from the rectum and the vagina. A clinical revision showed the rectovaginal track still patent and, taking into consideration patient concern about further surgery, a minimally invasive approach was tempted once again by applying the Surgisis Biodesign™ Recto-Vaginal Fistula Plug (Cook Medical, Bloomington, IN, USA), unfortunately without results.

The patient was finally treated with a Martius flap and a temporary diverting loop ileostomy, with a normal postoperative course. Four weeks later an examination under anaesthetic revealed a well healed vaginal wound without residual inflammation or sign of fistula. The stoma was closed and the patient made an uneventful recovery. At 12-month follow-up the condition of the patient was satisfactory and relapse of the fistula was not observed.

Discussion

The ERPP represents an interesting technical option in the surgical management of rectocele and internal mucosal prolapse, with an increasing number of patients treated and a growing enthusiasm for the good functional results and the most favourable spectrum of potential complications compared to the stapler rectal resection techniques.

This operation is basically derived from the Delorme's procedure and allows the correction of the internal mucosal prolapse by excising the circular infolding of the rectal wall. It may be associated with levatorplasty in order to correct not only the rectal intussusception but also the possible associated weakness of pelvic floor.

Despite the relative safety of the technique, it may be followed by few, but significant morbidity, even in expert hands. Bleeding, proctalgia, dehiscence, sepsis are potential complications of ERPP procedure. The causes may be due to technical errors, inadequate patient selection or inadequate treatment of the disease.

In the experience of Ganio et al. ERPP was a safe technique and no serious complications occurred. One hundred and sixty-seven patients with rectal outlet obstruction underwent this operation with an overall complications rate of 10.2% (17 patients) including fissure-in-ano (4.2%), proctalgia (3.0%), suture-line dehiscence with stenosis (1.8%) and *Clostridium difficile* colitis (1.2%) [6].

Lieberman et al. retrospectively evaluated 34 patients after the Delorme procedure for the treatment of rectal outlet obstruction caused by internal rectal prolapse or a combination of internal rectal prolapse and rectocele. 76.4% reported a good to excellent overall result after the procedure and twelve patients (35.3 %) experienced one or more complications [7].

The results of our experience indicate that ERPP is associated with a remarkable improvement of symptoms and a low rate of persistent incomplete evacuation, with an overall complications rate of 19.4% [5]. RVF has never been reported as a complication of ERPP procedure. In our opinion it is more likely to be due to local ischemia rather than to a direct trauma, even because it appeared evident days after the operation.

Clinical features of the rectovaginal fistula are stool and gas discharge from the vagina which, associated to chronic inflammation and skin irritation, affect sexuality and psychology, leading to a worsened quality of life. Spontaneous healing may occur with adequate medical treatment such as total parenteral nutrition, antibiotics, and long-time fasting, but surgical approach remains the mainstay for managing complex fistulas not suitable for conservative management. Surgery for rectovaginal fistula is difficult and the outcome of repair is quite often uncertain. Recurrence, a permanent stoma, dyspareunia, anal stenosis and incontinence may all ensue. Many different surgical approaches for RVF have been described, depending on the fistula's localization and the patient's comorbidities. Lower RVF are usually

reconstructed using an anal, perineal or vaginal approach. Transabdominal approaches are used for the repair of higher fistulas.

A local repair is appropriate for the first or second repair in women with rectovaginal fistulas and intact sphincter muscles. Colorectal surgeons typically prefer an endorectal or perineal approach whereas gynecologists favor a transvaginal approach. Repair of RVF fistula with an endoscopic clipping has been reported [8,9]. In the present case, endoscopic clipping therapy was tried because of its relatively ease, safety and quickness, facing a fistula small in size, with good blood supply, without chronic inflammation.

Closure of low rectovaginal fistulas using an anal fistula plug has also been reported [10,11]. The Surgisis Biodesign™ Recto-Vaginal Fistula Plug (Cook Medical, Bloomington, IN, USA) is a newly developed commercial product, which is a minimally invasive alternative to the traditional fistula surgery. Ellis reported 7 patients who underwent bioprosthetic plug repair for rectovaginal fistula, and among them, recurrence was seen only in 1 patient (14%) [12]. We choose this method because, despite the cost, it was suitable for this case, with a patient not keen to further surgery, affected by a low, easily identifiable and accessible fistula track.

The Martius procedure for the surgical repair of urethrovaginal fistula was first described by Heinrich Martius in 1928. He used the bulbocavernosus/bulbospongiosus muscle for reconstruction [13]. The literature reports overall success rates of 33–100 % for the Martius procedure in the surgical repair of mainly recurrent RVF. Most studies reported high healing rates with this procedure, indicating that the Martius flap can be recommended for the surgical management of complicated and recurrent RVF [14].

Undoubtedly, the ERPP is a technically demanding procedure requiring experience in colorectal surgery, and the present report demonstrates that a post-ERPP RVF may occur despite a correct technical execution of the procedure. The potential risk of a life-threatening septic complication in a procedure for a functional benign disease like rectal intussusception must not be forgotten.

Figures

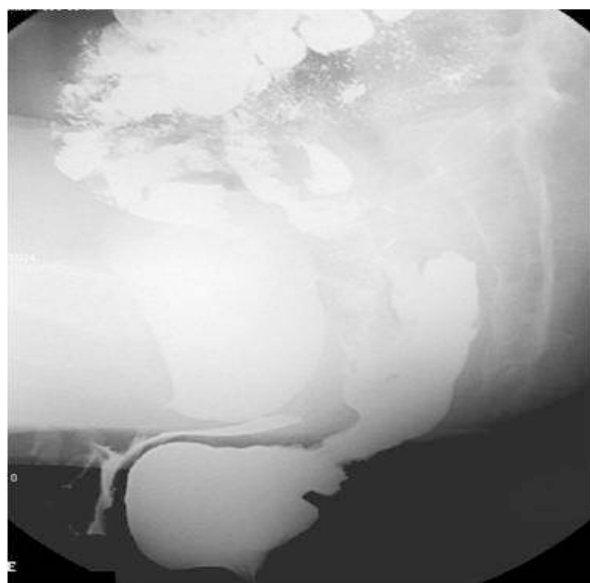


Figure 1: Wide rectocele and rectal intussusception at defecography

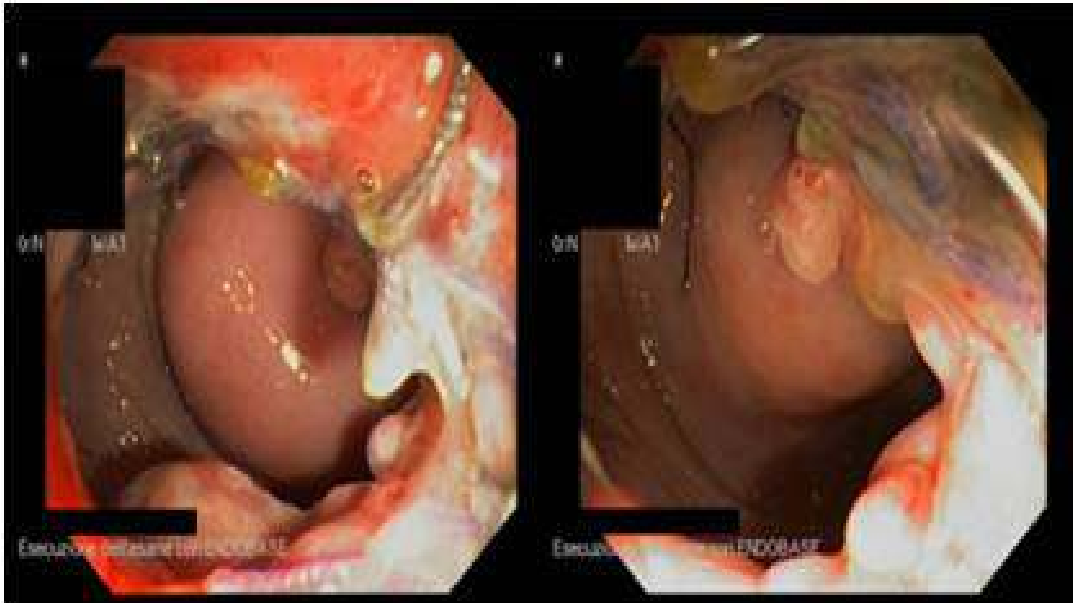


Figure 2: Recto-vaginal fistula at proctoscopy

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