

## Case Report

**Rectovaginal Fistulae in Post Repair Chronic Perineal Rupture*****Fistula Rektovagina pada Pascarepair Ruptur Total Perienum Lama*****Budi I. Santoso<sup>1</sup>, Shirley Anggraini<sup>2</sup>, Yulia Margaretta Sari<sup>1</sup>**

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**Abstract**

**Objective:** To report and discuss the causes and management of rectovaginal fistula in post repair chronic total perineal rupture.

**Methods:** A case report, a 29-year-old female patient who came to Fatmawati General Hospital with complaints of anal incontinence 9 days after repair chronic total perineal rupture. Rectovaginal examination revealed a rectovaginal fistula 2 mm in diameter at 1.5 cm proximal to the hymenal ring.

**Discussion:** Rectovaginal fistula is one of the complications after repair of chronic total perineal rupture which disturbs the quality of life of women. The patient was diagnosed with a rectovaginal fistula in post repair chronic total perineal rupture. Conservative management with wound care and administration of honey to the patient showed improved postoperative outcome.

**Conclusions:** Anatomical identification of the anal sphincter complex, surgical technique and postoperative care are important in preventing complications following repair of chronic total perineal rupture repair.

**Keywords:** obstetrics sphincter anal injury, postrepair chronic, rectovaginal fistulae.

**Abstrak**

**Tujuan:** Untuk melaporkan dan mendiskusikan penyebab dan tatalaksana kasus fistula rektovagina pasca repair ruptur perineum total lama.

**Metode:** Sebuah laporan kasus, pasien perempuan 29 tahun yang datang ke RSUP Fatmawati dengan keluhan inkontinensia anal 9 hari pascarepair ruptur perineum total lama. Pemeriksaan rectovaginal menunjukkan fistula rektovagina diameter 2 mm pada 1,5 cm proksimal hymenal ring.

**Diskusi:** Fistula rektovagina merupakan salah satu komplikasi pascarepair ruptur perineum total yang mengganggu kualitas hidup perempuan. Pasien didiagnos fistula rektovagina pascarepair ruptur perineum total lama. Manajemen konservatif dengan perawatan luka dan pemberian madu pada pasien menunjukkan perbaikan luaran paska operasi.

**Kesimpulan:** Identifikasi anatomis kompleks sfingter ani, teknik operasi dan perawatan pascaoperasi penting dalam mencegah komplikasi pascarepair ruptur perineum total lama.

**Kata kunci:** cedera sfingter ani obstetri, fistula rektovagina, repair ruptur perineum total lama.

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## INTRODUCTION

Perineal trauma is the most common obstetric complication of childbirth, occurring in 55%-85% of vaginal births. Complications of perineal trauma include pain, infection, and wound breakdown.<sup>1</sup> Perineal trauma occurs either spontaneously with vaginal delivery or secondarily as an extension to an episiotomy. Severe perineal trauma can involve damage to the anal sphincters and anal mucosa. Obstetric anal sphincter injuries include third and fourth degree perineal tears.<sup>2</sup> Obstetric Anal Sphincter Injuries (OASIs) remain an important complication of vaginal delivery and its incidence appears to be rising. While many women suffer no consequences, others develop varying degrees of flatus and faecal incontinence, which correlates to the degree of tear sustained.<sup>3</sup>

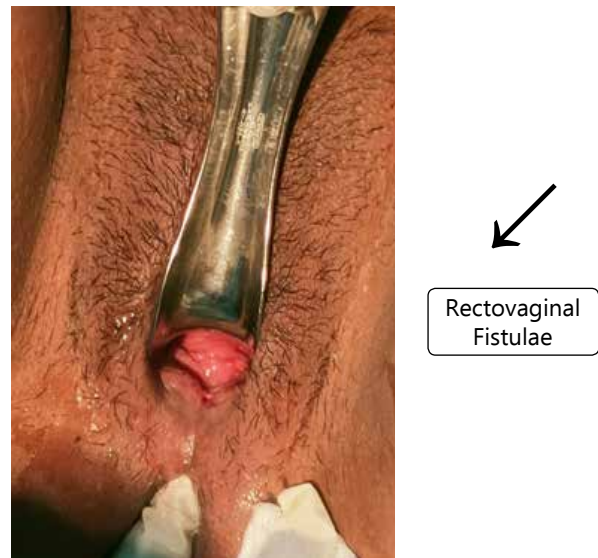
Complications following obstetric anal sphincter injuries (OASIS) during vaginal delivery are relatively rare events, with an incidence of approximately 5-13%.<sup>4</sup> One of the most devastating complications is perineal wound breakdown, occurring with an incidence of 0.1-4.6%. Although uncommon, perineal wound complications can lead to significant morbidity, including chronic pain, incontinence, embarrassment, rectovaginal fistula, and loss of sexual function.<sup>4</sup>

## CASE

A 29-year-old primipara woman was consulted to Fatmawati Hospital with chief complain of stool leakage through vagina 5 days after underwent repair of chronic total perineal rupture. Patient always experience flatal and solid stool incontinence, never experience liquid stool incontinence and rarely wearing pad. Patient was gave birth her first child three month ago with birth weight was 2900 grams. Her spontaneous delivery was assisted by midwife without instrumental delivery. Patient was experienced obstetric sphincter anal injury (OASIS) and first repair of OASIS was performed immediately by midwife. A week after delivery, she complained anal incontinence and she was reffered to Fatmawati Hospital. Repair of OASIS in this patient was performed 3 month after tha last repair. The procedure was under regional anesthesia. Anal mucosa was sutured with simple interrupted with 3-0 Vycril. Internal anal spincter was sutured with mattress suture using 3-0 Vycril. External anal sphincter was sutured with overlapping

technique using 2-0 Vycril. Perineal musculature and vaginal mucosa was sutured with running closure using 2-0 Vycril, and perineal skin was sutured with subcuticular suture using 2-0 Vycril. Post-operative management were administration of combination oral Cephalosporin and Metronidazol for 7 days, administration of stool softners (dependent on patient stool consistency), and urinary catheter was maintained for 12 hours. Patient was hospitalized for 2 days until she have defecation.

Physical examination revealed that vital sign were within normal limit and BMI was 24 kg/m<sup>2</sup>. Gynecological examination showed defect in posterior vaginal mucosa, 1,5 cm proximal hymenal ring, approximately 2 mm in diameter and connected to anal mucosa.



**Figure 1.** Physical Examination

The patient was diagnosed with rectovaginal fistulae in post repair chronic perineal rupture. Patient was managed with conservative therapy which are wound toilet, high protein diet, and honey application in fistula.

## DISCUSSION

Obstetric anal sphincter injuries (OASIS) are serious complications of vaginal birth with a reported incidence globally from 1 % to 10 %. OASIS is one of the most significant risk factors for anal incontinence in young women, longterm dyspareunia and perineal pain. Despite optimal primary repair, approximately 39 % of women who sustain an OASIS will suffer from anal incontinence.<sup>5</sup>

Many risk factors for third and fourth degree perineal lacerations have been identified, including race, operative vaginal delivery, episiotomy, perineal length, nulliparity, length of second stage, and birth weight. However, there has been relatively little research to identify factors associated with these perineal wound complications.<sup>4</sup>

This patient had wound dehiscence which leads to rectovaginal fistula. Several factors were associated with wound complication in this patient. From patient characteristic, we found that patient was overweight, history of fourth degree perineal tear, and underwent spontaneous delivery. Factors associated with wound complications are race, body mass index (BMI), and smoking. Women who were colonized with GBS were more likely to have a wound complication as compared to those who were not colonized. Women with a fourth-degree laceration (compared to third-degree), those who sustained a blood loss of more than 500 mL, and those receiving antibiotics in the postpartum period were also more likely to have wound complications. The use of intrapartum antibiotics was found to be associated with a reduced risk of wound complications. Method of vaginal delivery was a significant predictor of wound complications. More specifically, wound complications occurred in 9.5% vs 7.8% vs 3.9% of forceps, vacuum, and spontaneous deliveries, respectively.<sup>4</sup>

Primary repair failed in 31.7% of the tears. These included more tears repaired by less experienced personnel and more repairs performed during on-call hours than in the successful primary repair group. Significantly more pain medication was used in the failed group, and the use of antibiotics and laxatives after the repair was more common in the successful group. Sphincter injuries were repaired using the overlapping suture technique in 95.1% of the repairs in the successful group compared with 47.4% in the failed group. The mean (SD) Wexner score was significantly higher in the failed group.<sup>6</sup>

The patient underwent full bowel preparation and administration of intravenous Cephalosporin preoperatively. Intraoperatively, anal mucosa was sutured with simple interrupted with 3-0 Vicryl. Internal anal sphincter was sutured with mattress suture using 3-0 Vicryl. External anal sphincter was sutured with overlapping technique using 2-0 Vicryl. Perineal musculature and vaginal mucosa was sutured with running closure using

2-0 Vicryl, and perineal skin was sutured with subcuticular suture using 2-0 Vicryl.

Following a fourth degree perineal tear, the anal mucosa can be approximated by a number of techniques. The mucosal repair can be carried out with an interrupted 3-0 Vicryl suture with the knots tied in the anal lumen or external to the anal canal. Alternatively the anal mucosa can be approximated with a 3-0 PDS suture with a submucosal continuous suture. There are currently no studies that suggest a benefit from any of these repair techniques for the anal mucosa with respect to outcomes including anovaginal and rectovaginal fistulas.<sup>2</sup>

Obstetric anal sphincter tear repair is performed with an end-to-end surgical technique. However, such a procedure does not restore normal anatomy or function. Sultan *et al.* found EAS defects in 82% of women after primary repair of an anal sphincter tear by endoanal ultrasonography. Due to unsatisfactory of outcomes, overlapping repair was introduced to correct sphincter defect and the rate of flatus and fecal incontinence reduced significantly. Nevertheless, one randomized control trial conducted by Farrell *et al.* found that there was no long-term benefit associated with the overlapping technique over the end-to-end repair after 3 years' follow-up. Repairing both the IAS and EAS muscles separately in cases of combined tears during primary repair reportedly reduces the risk of developing fecal incontinence. Thus, careful rectovaginal examination after vaginal birth is the crucial factor in reducing anal incontinence.<sup>7</sup>

Regarding suture material, there are no differences between polyglactin (Vicryl) and polydioxanone (PDS) for repairing the anal sphincter. Additionally, well-trained clinicians are associated with successful repair.<sup>7</sup> The suture ends should be cut short and the knots covered by the overlying superficial perineal muscles in order to minimize any discomfort from suture ends and knots. Monofilament sutures maybe beneficial as they are less likely to harbour organisms and predispose to infection.<sup>2</sup>

A randomized trial (n = 112), compared OASIS repairs with polyglactin (Vicryl) and polydioxanone (PDS). At 6 weeks, there was no significant difference in suture-related morbidity. There may be benefit to delayed absorbable suture with respect to longer term functional outcomes but this has yet to be evaluated in clinical trials. Many of the more recently published studies have used delayed absorbable sutures but have not been

undertaken to compare suture material.<sup>2</sup>

Surgical technique might also associated with wound dehiscence that lead to rectovaginal fistulae in this patient. Surgical wound dehiscence may occur because of technical issues with the closure of the incision. Surgical incisions are closed to bring together the sides of the wound to facilitate healing and minimise scar formation. The most appropriate closure material and technique for a surgical incision depends on a wide variety of factors including the number of tissue layers to be closed, the anatomical location of the incision, the condition of the patient, and surgeon experience/preference.<sup>8</sup>

Wound dehiscence may occur if the method of incisional closure fails or is not strong enough to hold the edges and sides of the incision together. It may occur if suture knots slip or unravel, or sutures break, stretch, or cut through tissue because they have been placed too close to the edge of the incision, too far apart and/or put under too much tension. A retrospective study of 363 patients with surgical wound dehiscence following laparotomy attributed 8% of surgical wound dehiscence to broken sutures and 4% to loose knots.<sup>8</sup>

Another intraoperative risk factor for wound dehiscence is tissue trauma or large area of dissection and/ or undermining and failure to obliterate dead space. In addition to being caused by disrupted healing and mechanical stress, wound dehiscence can result from failure of the material used to close the incision, including stretching, slippage or breakage. Mechanical stress placed on a closed surgical incision can cause wound dehiscence by disrupting the material used for closure and/or rupturing the healing tissues. Mechanical stress can result from excessive forced tension during wound closure or swelling of the tissues around the incision due to oedema. The latter may occur as part of the inflammatory phase of the healing process or in response to infection, Mechanical stress may also be due to a haematoma, seroma or abscess below the surface of the incision.<sup>8</sup>

Excellent technique include gentle handling of tissues, meticulous control of bleeding, maintenance of blood supply, prevention of tissue drying, removal of devitalised or contaminated tissues, avoidance of dead space, and the use of an appropriate closure technique. The wound closure technique selected for primary closure should be appropriate for the site of the incision and surgical procedure, and should ensure

that the tissue layers are accurately apposed and tension across the incision is minimised. Minimising tension may require suturing of individual tissue layers and careful consideration of the spacing and length of the sutures.<sup>8</sup>

The postoperative management comprised a fluid diet for 5 days and antibiotics for 5 days (metronidazole, cefixime). Avoidance of constipation was also important. It is important to avoid disruption of the sutured mucosa due to faecal impaction caused by constipation. Accordingly, laxatives were given in most cases. After an OASIS repair, laxatives are given post-operatively to reduce straining and faecal impaction. The use of laxatives is recommended because the passage of the faeces may cause wound dehiscence.<sup>9,10</sup>

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