

Case Report

Old Perineal Rupture: From Diagnosis to Reparation

Ruptur Perineum Lama: Diagnosis sampai Perbaikan

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Abstract

Objective : To describe and discuss the technique to diagnose, preparing the reparation and postoperative management in old perineal rupture case.

Methods : A 28-year-old primipara woman was referred to YPK Mandiri Hospital after having incontinence to flatus, to urinate and passive soiling. Three months before admission, she had her first child through vaginal delivery.

Discussion : She was diagnosed with a third-degree obstetric anal sphincter injury (OASIS). Rectal examination with digital palpation (pill-rolling motion) and ultrasound examination, revealed a distinct gap anteriorly (10 – 2 o'clock). End to end technique was preferred to repair the defect.

Conclusions : A good understanding of perineal and anal sphincter anatomy is essential to diagnose OASIS. The aim of reconstructive surgery is to restore the continuity of both the external and internal anal sphincters. Ideally, the repair should be performed as soon as possible after the injury.

Keywords : obstetric anal sphincter injuries, OASIS, third-degree tear, perineum, perineal trauma.

Abstrak

Tujuan : Untuk mendeskripsikan dan diskusi tentang tehnik dalam mendiagnosa, mempersiapkan operasi reparasi dan manajemen pascaoperasi pada kasus ruptur perineum lama.

Metode : Sebuah laporan kasus yang diambil dari pasien perempuan 28 tahun primipara yang dirujuk ke RS YPK Mandiri setelah mengeluhkan inkontinensia flatus, urin, dan keluarnya feses tanpa disadari. Tiga bulan sebelumnya, pasien melahirkan anak pertama melalui persalinan pervaginam.

Diskusi : Diagnosis pasien adalah cedera sfingter ani obstetrik derajat tiga. Pemeriksaan rektal dengan palpasi digital (gerakan pill-rolling) dan pemeriksaan ultrasonografi, memperlihatkan adanya penipisan di daerah anterior (arah jam 10 – 2). Teknik end to end dipilih untuk memperbaiki defek.

Kesimpulan : Pengetahuan yang baik mengenai anatomi perineum dan sfingter ani penting untuk mendiagnosis OASIS. Tujuan utama dari operasi rekonstruksi adalah untuk memperbaiki kontinuitas dari sfingter ani eksternal dan internal. Idealnya, reparasi dilakukan secepat mungkin setelah terjadinya cedera.

Kata kunci : cedera sfingter ani obstetrik, OASIS, perineum, trauma perineum, robekan derajat tiga.

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INTRODUCTION

OASIS includes both third- and fourth-degree perineal tears. Third-degree perineal tears are defined as partial or complete disruption of the anal sphincter muscles, which may involve either or both the external anal sphincter (EAS) and internal anal sphincter (IAS) muscles.¹In developed countries, the incidence of third-degree perineal tears ranges between 0.5% and 1% of all vaginal deliveries and are significantly more common in primigravidae.²The rareness

and difficulty in identifying the torn parts of the perineal muscles make it difficult to be diagnosed, and there are still difference perspectives in the repair techniques.

Case Illustration

A 28-year-old primipara woman was referred to our centre (YPK Mandiri Hospital). Three months prior to referral to our centre, she had her first child through vaginal delivery by a midwife. A month later, she having anal incontinence,

urinary incontinence, and bowel contents could leak passively. Her gynaecologist diagnosed her with an obstetric anal sphincter injury (OASIS), and she got referred.

Through inspection, the perineal body was absent, and there was an absence of the corrugator cutis anal. We did rectal examination and pill rolling motion and found a thinning anteriorly. On transperineal ultrasound examination, we found a distinct gap and discontinuation at 10 – 2 o'clock (Figure 1).



Figure 1. Ultrasound imaging

We diagnosed her with an old third-degree perineal rupture (grade 3C). We recommended a surgical repair of third-degree tear. The procedure was done using regional anaesthesia. We got a complete and retracted rupture of the internal anal sphincter muscles and external anal sphincter muscles. The IAS muscle was repaired separately with interrupted sutures using 3/0 polyglactin suture on a tapered needle. The repair of EAS muscle used end to end technique and its capsule using interrupted sutures; using 2/0 polyglactin suture on a tapered cut needle. Then we rebuild the distal rectovaginal septum and perineal body using 2/0 polyglactin suture on a cutting needle. We reconstruct the perineal body to provide support to the repaired anal sphincter. Then the vaginal skin was sutured and the perineal skin approximated with a Vicryl 3/0 subcuticular suture. A rectovaginal examination was performed to confirm complete repair and ensure that all tampons or swabs have been removed.

DISCUSSION

Obstetric damage to the anal sphincter includes both third and fourth-degree perineal tears.¹ Third-degree perineal tears are defined as partial

or complete disruption of the anal sphincter muscles, which may involve either or both the external anal sphincter (EAS) and internal anal sphincter (IAS) muscles.^{1,3-5}

The diagnostic examination used in our case was transperineal ultrasound imaging. The transperineal approach using a high frequency transvaginal probe for evaluation of the anatomy of the anal sphincter has been presented by several investigators^{6,7} as it is more accessible to obstetricians that seem to be well tolerated.⁸ Other studies recommend using endoanal ultrasonography and magnetic resonance imaging.⁹ The vaginal probe was placed in the area of the fourchette and perineal body, and the area was scanned in the transverse and sagittal planes. The internal sphincter appears as a hypoechoic ring. The external sphincter appears as a double ring of mixed echogenicity with a thin hypoechoic layer between two layers of mixed echogenicity. When defects were suspected, they were evaluated for irregularity and discontinuity of the normal and hyperechoic rings. Discontinuity of the sphincter, changes in sphincter width or asymmetry, the 'half-moon' sign, and changes in the pattern of mucosal folds the 'star sign' are potentially useful sonographic features of sphincter muscle damage.⁸

The aim of reconstructive surgery (either primary or secondary) is to restore the continuity of both the external and internal anal sphincters. Proper reconstruction will also result in the lengthening of the anal canal and restoration of a functional high-pressure zone within it.⁷ The goal of sphincter repair is reconstructing a muscular cylinder that is at least 2 cm thick and 3 cm long,^{10,11} as this results in an anatomically and functionally correct anal canal. Meticulous hemostasis and anatomic reapproximation of all disrupted tissue layers are the key principles for preventing complications and restoring faecal competence.⁵

Adequate anesthesia is required to relax the contracted anal sphincter, retrieve the retracted ends, and bring them back together without tension.^{1,5,12} Anesthesia should always be used, and epidural anesthesia is considered to be the gold standard type.²

For the choice of sutures for repair, one of personal preference. In general, rapidly absorbed

suture material is not appropriate for third and fourth-degree tears.¹ Chromic catgut has been largely replaced by synthetic, delayed absorbable materials, such as polyglactin 910 and polyglycolic acid, as these materials are associated with less pain, less need for analgesia and less resuturing for dehiscence.^{1,13-15} Diameter of the suture should be considered; 2/0 and 3/0 sutures are suitable for soft tissue repair.^{1,2,5} Monofilament sutures may cause less tissue reaction than braided sutures, thus may minimize discomfort and infection risk.

The patient was diagnosed with an old third-degree perineal rupture (grade 3C) as both EAS and IAS torn.^{1,4,5,9,10} The optimal repair consists of a multilayer closure. The IAS should be repaired as a separate layer.^{1,2,4,10} It often retracts laterally and superiorly and appears as thickened, pale pink, shiny tissue just above the anal mucosa. Reapproximation of this layer is important for the strength and integrity of the repair and for achieving anal continence. The repair of EAS begins by identifying and grasping the two severed ends of the dark red external anal sphincter muscle with Allis clamps, and it may be necessary to push the clamp deep into the surrounding connective tissue to locate the sphincter since one or both ends typically retract when it ruptures. The repair of the muscle consists of either an end-to-end or overlapping plication of the disrupted muscle and its capsule using interrupted or figure-of-eight sutures.^{2,4,6} In this patient, we use the end-to-end technique due to the extension of the retraction, thus making us unable to overlap the muscle. Proper overlap is possible only when the full length of the torn ends of the EAS is identified. By contrast, an end-to-end technique can be performed without identifying the full length of EAS, giving rise to incomplete apposition.⁴ The end-to-end technique is used to bring the ends of the sphincter together at each quadrant. (12, 3, 6, and 9 o'clock) using interrupted sutures placed through the capsule and muscle.² Compendiously there was no significant advantage between overlap repair and approximation technique concerning faecal incontinence at one year.^{16,17}

The perineal muscles should be sutured to reconstruct the perineal body to provide support to the repaired anal sphincter. Furthermore, a short deficient perineum would make the anal sphincter more vulnerable to trauma during

a subsequent vaginal delivery.⁴ A continuous non-locking suturing technique to oppose each layer (vaginal tissue, perineal muscle, and skin) is associated with less short-term pain compared to traditional interrupted method.^{1,2,5} It is important to do a rectovaginal examination to confirm complete repair and ensure that all tampons or swabs have been removed after finishing the procedure.⁴

For the post-repair management, A Foley catheter should be inserted for about 12-24 hours before bladder sensation returns or until the swelling subsides.^{2,4} Administration of laxatives for a few days (2-10 days) is recommended in order to reduce the mechanical stress on the sutures and wound dehiscence.²⁻⁴ Should be remembered that postoperative pain, rate of wound infections, continence, and dyspareunia are not affected by the administration of the laxatives.³ The rate of wound complications after third-degree perineal tears (wound infection, dehiscence, reoperation, readmission to the hospital) amounts to 7,3%.³ Analgesia is required to reduce the postsurgical pain. Avoid codeine containing analgesics as they may lead to constipations, leading to excessive straining and possible disruption of the repair.^{1,3,4}

CONCLUSION

There is no difference in methods and postoperative managements between primary and secondary sphincter repair. A good understanding of perineal and anal sphincter anatomy is essential to diagnose OASIS. The aim of reconstructive surgery is to restore the continuity of both the external and internal anal sphincters. Ideally, the repair should be performed as soon as possible after the injury.

CONSENT

Written informed consent was obtained from the patient for the case report and any accompanying images publication.

DISCLOSURE POLICY

The authors declare that there is no conflict of interest regarding the publication of this paper.

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