

Serious complication 1 year after sacrospinous ligament fixation

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Abstract Myositis of the gluteal region caused by group A streptococci 1 year after a sacrospinous ligament fixation was recognised as a serious complication of this procedure. Most likely, the infection was spread to the gluteal region through a port d'entree caused by vaginal atrophy, via the non-resorbable sutures. The patient was treated successfully with antibiotics intravenous and local estrogens.

Keywords Sacrospinous ligament fixation · Prolapse · Myositis · Group A streptococci

Introduction

Sacrospinous ligament fixation (SSLF) with uterine preservation is a safe and effective procedure for the treatment of uterovaginal prolapse [1, 2]. Known complications of a sacrospinous fixation with or without uterine preservation for the treatment of pelvic organ prolapse or vaginal vault

prolapse are haemorrhage, cystitis, perforation of the bladder, rectum or small bowel, rectovaginal fistula, post-operative pain of the gluteal region and nerve injury [3, 4, 5].

Case

A 76-year-old woman without any comorbidity, para 4, presented to our hospital at the emergency ward with fever for 4 days, pain in the right buttock and lower abdomen. She also had noticed vaginal discharge for a few weeks. At the time of admission, she was sexually active.

One year ago, she underwent an unilateral sacrospinous fixation with uterine preservation as well as an anterior and posterior colporrhaphy for a stage 2 descensus uteri and a stage 3 cystocele (prolapse according to Baden Walker classification). During this procedure, two non-resorbable monofilament Prolene sutures were placed through the sacrospinous ligament and through the cervix. There had been no intraoperative complication, and following the protocol, the vagina had been prepped with Betadine[®], and pre-operatively, the patient had received 1 g of cefazolin and 500 mg of metronidazole intravenous.

At the time of admission, the patient had a temperature of 39°C, and a quick shallow breathing was seen. Her right buttock was very painful and indurated; the abdomen was soft and non-tender. Blood results showed a white blood cell count of $25.2 \times 10^9/l$ and a C-reactive protein of 284 mg/l.

The ultrasound of the right hip, made because of the pain in the right buttock and the signs of infection, showed an echodensity suspect for a myositis or fasciitis of the gluteus region on the right side. The magnetic resonance imaging performed supplementary, suspected myositis of the gluteus region extended or originated from the cervix (Fig. 1). It showed a fistula and scar tissue between the posterior

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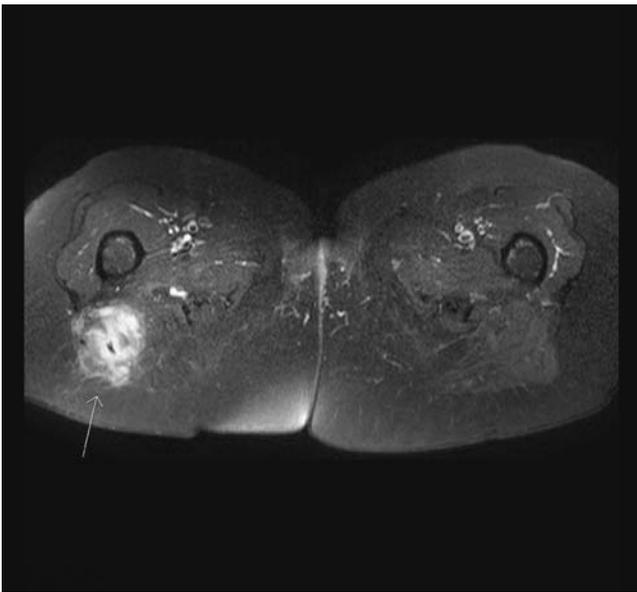


Fig. 1 Transversal Turbo Spin Echo T2 weighted image with fat saturation shows a large infiltrate in the gluteus maximus muscle on the right side

fornix and the posterior pelvic soft tissues paramedian to the right and a large infiltrate in the gluteus maximus muscle on the right side (Fig. 2).

At first, the patient was submitted to the internal ward and was treated with three daily 1.2 g amoxicillin/clavulanic acid intravenous. Because of the suspicion of a gynaecologic cause of the infection, clindamycin 600 mg intravenous was added three times a day, and she was presented to our department. Vaginal examination and transvaginal ultrasound strengthened the presumption of the myositis caused by a gynaecological cause, possibly the sacrospinous ligament fixation performed 1 year ago. The patient continued her antibiotic treatment and started with local and oral estrogens to reduce vaginal atrophy, which could have been the cause of a port d'entree for the infection with a group A streptococci, which was found in the vaginal culture. Although the admission was complicated by a lower respiratory tract infection, wherefore the antibiotics were changed to three daily 1 g ceftazidime instead of amoxicillin/clavulanic acid, She made a good recovery at the conservative treatment with antibiotics intravenous. The fever lowered the first day after admission, the pain in her right buttock diminished and the white blood cell count and C-reactive protein decreased.

After 18 days of admission, the patient was in a good clinical condition without any pain or fever, her white blood cell count was decreased to $4.1 \times 10^9/l$ and the C-reactive protein was decreased to 8 mg/l. The magnetic resonance imaging showed a regression of the myositis, but there was still an infiltrate visible in the gluteal region with a fistula from the cervical canal to the gluteal region. The same day the patient was discharged with a prescription for

two daily 500 mg ciprofloxacin, three daily 600 mg clindamycin and local estrogens. After her admission, the patient was reviewed at the gynaecology clinic several times and was well with no reported symptoms of pain, fever or vaginal discharge. The magnetic resonance imaging has not been repeated, but during vaginal examination and ultrasound, there were no clear signs of the fistula or myositis seen.

Discussion

The causes of a myositis can be multiple and can be divided into those in which a causative infective organism can be identified and those in which the cause is unknown. In this case, two reasonable explanations of the myositis should be considered. Because a group A streptococci was found in the vaginal culture and suspect to have caused the myositis and because the magnetic resonance imaging indicates a fistula between the vaginal apex and the infected gluteal region, the possibility of a port d'entree in the vagina through vaginal atrophy via the non-resorbable sutures to the gluteal region would be the most reasonable explanation. But there is also a chance that the disinfection and prophylactic use of antibiotics during the original sacrospinous fixation failed and a late onset post-operative infection could be the case.

This report is the first case describing a myositis of the gluteal region as a late onset complication of a sacrospinous ligament fixation with uterine preservation. Furthermore,

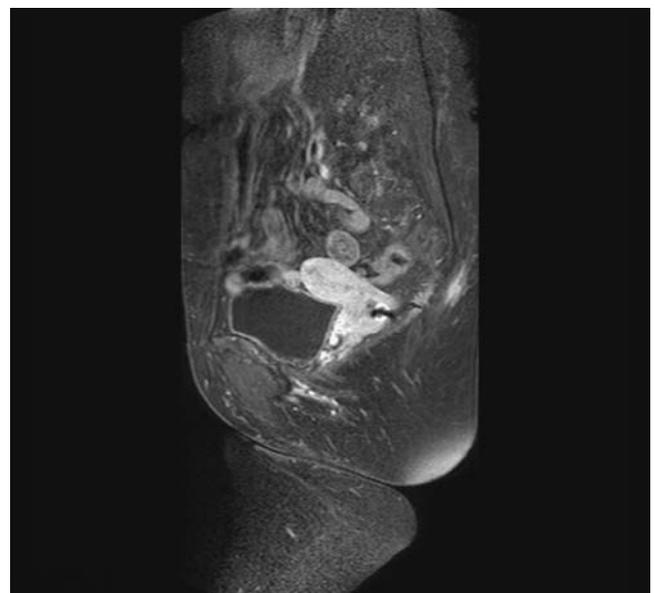


Fig. 2 Sagittal Turbo Spin Echo T2 weighted image with fat saturation demonstrates a fistula between the posterior fornix and the perineum slightly paramedian to the right. The *black stripe* at the level of the cervix is suture material

there are no cases found describing myositis as a complication of other surgical repair of pelvic organ prolapse.

There is one case known with a late onset infection after a sacrospinous ligament fixation; it describes a patient who presented with an ischiorectal abscess 9 months after the procedure treated with incision and draining and with removal of the suture [6].

The overall complication rate for sacrospinous ligament fixation with or without uterine preservation or for vaginal vault prolapse described is 6.8%–29.0% depending on the study design and mean age of the study group [1, 3, 4, 7, 8]. Major intraoperative complications during sacrospinous ligament fixation are relatively uncommon; rectal injury occurs in 0.6%–1.7% of the patients during the procedure, and 0.3%–4.2% of the patients needed blood transfusion during or post-operative [1, 5, 7].

More common complications are post-operative urinary tract infection (4.5%–12.7%) and post-operative buttock discomfort, described in 2.5%–7.5% of the patients [1, 2, 4, 5, 7].

Other post-operative complications described are vault haematoma (2.5%–6.3%), thromboembolism (0.5–2.1%) and voiding dysfunction (2.8%–8.3%) [1, 4, 5, 7]. In addition, nerve injury and febrile morbidity is described.

One study about the safety and quality of life after bilateral SSLF described that the peri-operative complication occurred during surgery; not all occurred during the SSLF itself but as concomitant prolapse surgery [8]. This indicates that possibly some of the complications occurring during a sacrospinous ligament fixation with or without uterine preservation and pelvic floor repair are caused not during the ligament fixation itself but during one of the other procedures. Hefni et al. [1] found that the patients who underwent sacrospinous ligament fixation with uterine preservation had significant less complications than the patients who underwent sacrospinous fixation with a hysterectomy (11.5% vs 31.2%).

This case presents a patient with a very rare but serious complication 1 year after she underwent a sacrospinous

ligament fixation with uterine preservation. The overall major complication rate of sacrospinous ligament fixation with or without uterine preservation and pelvic floor repairment is relatively low. Nevertheless, major complications are described and should always be discussed with the patient pre-operative.

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References

- Hefni M, El-Toukhy T, Bhaumik J, Katsimanis E (2003) Sacrospinous cervicocolpopexy with uterine conservation for uterovaginal prolapse in elderly women: an evolving concept. *Am J Obstet Gynecol* 188(3):645–650
- Dietz V, de Jong J, Huisman M, Koops SS, Heintz P, van der Vaart H (2007) The effectiveness of the sacrospinous hysteropexy for the primary treatment of uterovaginal prolapse. *Int Urogynecol J Pelvic Floor Dysfunct* 18:1271–1276
- van Brummen HJ, van de Pol G, Aalders CI, Heintz AP, van der Vaart CH (2003) Sacrospinous hysteropexy compared to vaginal hysterectomy as primary surgical treatment for a descensus uteri: effects on urinary symptoms. *Int Urogynecol J Pelvic Floor Dysfunct* 14(5):350–355
- Lantzsch T, Goepel C, Wolter M, Koelbl H, Methfessel HD (2001) Sacrospinous ligament fixation for vaginal vault prolapse. *Arch Gynecol Obstet* 265(1):21–25
- Demirci F, Ozdemir I, Somunkiran A, Topuz S, Iyibozkurt C, Duras Doyran G, Kemik Gul O, Gul B (2006) Perioperative complications in abdominal sacrocolpopexy and vaginal sacrospinous ligament fixation procedures. *Int Urogynecol J Pelvic Floor Dysfunct* 18(3):257–261
- Hibner M, Cornella JL, Magrina JF, Heppell JP (2005) Ischiorectal abscess after sacrospinous ligament suspension. *Am J Obstet Gynecol* 193(5):1740–1742
- Hefni MA, El-Toukhy TA (2006) Long-term outcome of vaginal sacrospinous colpopexy for marked uterovaginal and vault prolapse. *Eur J Obstet Gynecol Reprod Biol* 127(2):257–263
- David-Montefiore E, Barranger E, Dubernard G, Nizard V, Antoine JM, Darai E (2007) Functional results and quality-of-life after bilateral sacrospinous ligament fixation for genital prolapse. *Eur J Obstet Gynecol Reprod Biol* 32(2):209–213