Unexpected outcome (positive or negative) including adverse drug reactions

Gluteo-vaginal fistula: a long-term complication of posterior intravaginal slingplasty

Vernon Sivarajah,¹ Sean OZ Bello,² Chu Yiu Yiu,¹ Olatokunbo Oke³¹Department of General Surgery, Queen Elizabeth Hospital, London, UK;²Department of Cardiothoracic Surgery, Papworth Hospital, Cambridge, UK;³Department of General Surgeon, Queen Elizabeth Hospital, London, UK**Correspondence to** Mr Vernon Sivarajah, vernonsivarajah@nhs.net**Summary**

A 67-year-old lady presented to the surgical outpatient clinic with a 4 month history of recurrent purulent discharge from her left buttock. Four years and 4 months prior to this she underwent a posterior intravaginal slingoplasty for vaginal prolapse and urinary stress incontinence. An MRI demonstrated a long gluteo-vaginal fistula tract from the posterior wall of the vaginal vault through the left ischiorectal fossa to the skin. An examination under anaesthesia revealed that the fistulous tract was surrounding the intact mesh used for the posterior intravaginal slingoplasty. The mesh was removed, the fistula tract excised and the perineal wound marsupialised. The patient was discharged 5 days later. The wound healed within 4 weeks and she remains sepsis free 2 years on.

BACKGROUND

The posterior intravaginal slingoplasty (PIVS) is a simple, minimally invasive alternative to the traditional vaginal vault suspension used for vaginal vault prolapse. Despite limited comparable studies, there are concerns regarding its efficacy and safety. Several complications have been reported but there are no reports of delayed fistula formation. This report, describes for the first time a case of a lady who developed a gluteo-vaginal fistula 4 years following the PIVS. The case recognises fistula formation as an important and often late complication related to the PIVS procedure and highlights the importance of prompt investigations and management.

CASE PRESENTATION

A 67-year-old lady was referred to the surgical outpatient clinic with a 4 month history of recurrent purulent discharge from her left buttock. Four years and 4 months prior to presentation she had a PIVS inserted for Grade II vault prolapsed, Grade III recto/enterocele and urinary stress incontinence. The procedure totally alleviated her symptoms.

On examination, she looked well though anxious. There was a suppurating external opening overlying her left ischiorectal fossa (figure 1). A provisional diagnosis of a fistula-in-ano was made.

INVESTIGATIONS

An MRI scan was performed to define the anatomy. It demonstrated a long fistula tract from the left side of the natal cleft running through the left ischiorectal fossa and communicating with the posterior wall of the vaginal vault (figure 2).

TREATMENT

The results were discussed with the patient and an examination under anaesthetic was carried out. At operation,

hydrogen peroxide was instilled into the external opening of the fistula tract on the left buttock, this demonstrated an internal opening in the vault of the vagina. There was no fistulation into the rectum. Vaginal examination showed the posterior intravaginal sling and an ethibond suture eroding through the left lateral fornix (figure 3). The sling and suture were removed. The fistula tract was excised and the perineal wound was marsupialised. The wound was packed. A vaginal pack was inserted later due to reactionary bleeding.

OUTCOME AND FOLLOW-UP

The patient was discharged 5 days later. The wound healed within 4 weeks and she remains sepsis free 2 years on. Her prolapse has recurred and she is currently seeking advice for this.

DISCUSSION

The posterior intravaginal slingoplasty is a relatively new technique used to repair vaginal vault/apical prolapse. It uses a type III multifilament polypropylene tension-free tape to create an artificial uterosacral neoligament thus anchoring the apex of the prolapsed vaginal vault.¹ Cure rates show wide variation, being reported to be between 71% and 91%.^{2–4} Likewise complication rates show great variability. In the most recent and comprehensive review of the literature,⁴ common complications included vaginal and rectal erosions (8.5%), apical recurrence (6.1%), posterior recurrence (4.6%), de novo stripsis (5.3%), dyspareunia (5.2%), buttock pain (3.3%) and haematoma formation (2.6%). Rarer complications include rectal injury (0.8%) and 'abscess and fistula' formation (1.4%).

Although reports of fistula formation following this procedure are rare, several different types have been reported, including rectovaginal,⁵ urethral-vaginal² and ischiorecto-vaginal.⁶ Only a few cases of gluteo-vaginal fistulas have been described. In these cases however, fistula formation did not occur as late as 4 years after the procedure.

Figure 1 External opening of fistula overlying her left ischioanal fossa.

Figure 2 Pelvic MRI showing long fistula tract along the pathway of the posterior intravaginal sling tape.

Figure 3 Posterior intravaginal sling and an ethibond suture eroding through the left lateral fornix.

In the earliest case reported, the patient developed ‘continuous offensive vaginal discharge, constant pain in the buttocks and draining perianal lumps’ after 3 months of the procedure. Despite this, the diagnosis of gluteo-vaginal fistula was not made until the tenth month when it was noted intraoperatively following a subtotal hysterectomy and sacrocervicopexy. Radiological imaging was not performed.⁷ In the only other case described, the patient presented with right perianal suppurative discharge at the perineal insertion point of the IVS tunneler 13 months following the procedure. A gluteo-vaginal fistula was only diagnosed on the 27th month postoperatively with the aid of a pelvic MRI.⁸ In more recent observational studies, gluteo-vaginal fistulas were either not recognised as a complication or the time at which they occurred was not specified.²

The described cases demonstrate a significantly earlier presentation compared to our case and highlight significant delays in diagnosis and treatment of the gluteo-vaginal fistulas. MRI is the best imaging modality to assess perianal fistulas and should be performed promptly with an examination under anaesthesia of the ano-rectum and vagina when there is any suspicion of fistula formation.

The similar intraoperative findings to other cases of a fistulous tract forming around an intact tape, from the posterior-lateral vaginal wall, through the ischioanal fossa to the gluteal skin, without tissue integration or invasion would suggest that the properties of the tape itself were partly responsible for the fistula to form. The type III polypropylene macroporous mesh with multifilaments used in our case and many other PIVS has small interstices and pore size (<10 µm) which limits macrophage and fibroblast infiltration, collagen deposition and neovascularisation resulting in poor tissue integration⁹ and a subsequent granulomatous reaction.¹⁰

In the case presented, the perineal incisions healed fully postoperatively. We can therefore speculate that the initial defect arose at the posterior vaginal fornix where mesh erosion initiated the process of fistula formation. Coupled with poor tissue integration of the tape and passage of resident vaginal flora into deeper tissues, the sinus progressed and eventually fistulated through the gluteal skin at the site of the initial incision. The vaginal defect may have gone unnoticed because of its relatively small size. The patient had no other comorbidities such as diabetes, was not immunocompromised and did not have a history of smoking, which may have accounted for poor tissue healing.

Learning points

- From this case there are three lessons to be learnt. (1) Medical practitioners should be aware of potentially late complications of fistula formation following PIVS. (2) These complications should be discussed with the patient during the consent process. (3) Rapid diagnoses can be achieved with the aid of MRI and examination under anaesthesia of the ano-rectum and vagina.
- It is also important to note that this complication occurred much later than the follow-up periods of many published prospective studies. This highlights the need for further long-term studies evaluating the efficacy and safety of the PIVS procedure.

Competing interests None.

Patient consent Obtained.

REFERENCES

1. **Petros PE**. Vault prolapse II: Restoration of dynamic vaginal supports by infracoccygeal sacropexy, an axial day-case vaginal procedure. *Int Urogynecol J Pelvic Floor Dysfunct* 2001;**12**:296–303.
2. **Prien-Larsen JC**, Hemmingsen L. Long-term outcomes of TVT and IVS operations for treatment of female stress urinary incontinence: monofilament vs. multifilament polypropylene tape. *Int Urogynecol J Pelvic Floor Dysfunct* 2009;**20**:703–9.
3. **Novara G**, Ficarra V, Boscolo-Berto R, *et al*. Tension-free midurethral slings in the treatment of female stress urinary incontinence: a systematic review and meta-analysis of randomized controlled trials of effectiveness. *Eur Urol* 2007;**52**:663–78.
4. **Cosma S**, Preti M, Mitidieri M, *et al*. Posterior intravaginal slingplasty: efficacy and complications in a continuous series of 118 cases. *Int Urogynecol J* 2011;**22**:611–9.
5. **Hilger WS**, Cornella JL. Rectovaginal fistula after Posterior Intravaginal Slingplasty and polypropylene mesh augmented rectocele repair. *Int Urogynecol J Pelvic Floor Dysfunct* 2006;**17**:89–92.
6. **Chen HW**, Guess MK, Connell KA, *et al*. Ischiorectal abscess and ischiorectal-vaginal fistula as delayed complications of posterior intravaginal slingplasty: a case report. *J Reprod Med* 2009;**54**:645–8.
7. **Mikos T**, Tsalikis T, Papanikolaou A, *et al*. Gluteo-vaginal sinus formation complicating posterior intravaginal slingplasty followed by successful IVS removal. A case report and review of the literature. *Int Urogynecol J Pelvic Floor Dysfunct* 2008;**19**:449–52.
8. **Grynberg M**, Teyssedre J, Staerman F. Gluteo-vaginal fistula after posterior intravaginal slingplasty: a case report. *Int Urogynecol J Pelvic Floor Dysfunct* 2009;**20**:877–9.
9. **Slack M**, Sandhu JS, Staskin DR, *et al*. *In vivo* comparison of suburethral sling materials. *Int Urogynecol J Pelvic Floor Dysfunct* 2006;**17**:106–10.
10. **Ricetto C**, Miyaoka R, de Fraga R, *et al*. Impact of the structure of polypropylene meshes in local tissue reaction: *in vivo* stereological study. *Int Urogynecol J Pelvic Floor Dysfunct* 2008;**19**:1117–23.

This pdf has been created automatically from the final edited text and images.

Copyright 2011 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit

<http://group.bmj.com/group/rights-licensing/permissions>.

BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Sivarajah V, Bello SOZ, Yiu CY, Oke O. Gluteo-vaginal fistula: a long-term complication of posterior intravaginal slingplasty. *BMJ Case Reports* 2011; 10.1136/bcr.09.2011.4823, date of publication

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow