

Iatrogenic urethrovaginal fistula from catheterization in labour

Introduction

Mild urethral trauma is a widely recognized sequela of urethral catheterization but the formation of urethrovaginal fistulae from inserting standard urethral catheters has never previously been reported. This article discusses a healthy young woman in whom catheterization during labour resulted in an iatrogenic urethrovaginal fistula.

Discussion

In prolonged labour, spontaneous voiding may become progressively difficult, increasing the risk of injury to the bladder and urethra by the advancing fetal head. The National Institute for Health and Clinical Excellence (2007) recommends urethral catheterization to empty the bladder and assist delivery when active maternal effort is ineffective.

A literature search on Medline found no reports of urethrovaginal fistulae resulting from urethral catheterization in labour or otherwise. The exact contributing factors to this patient's fistula are uncertain. A possible factor is a small pre-existing urethral diverticulum but this would have been impossible to confirm.

Another possibility relates to the relatively more common 'obstetric fistulae', which in the developing world are almost always the result of obstructed labour (Donnay and Weil, 2004). During prolonged obstructed labour, the soft tissues of the pelvis are compressed between the

descending fetal head and the maternal pubic bone. Decreased perfusion to these tissues leads to ischaemic necrosis and ultimately the formation of vesicovaginal or rectovaginal fistulae that result in urinary and faecal incontinence respectively. Similarly, pressure necrosis from prolonged labour with this patient may have led to weakening of her posterior urethral wall, allowing the catheter to perforate it.

Rare cases of women with postpartum urethrovaginal fistula formation resulting in urinary incontinence have been reported but these have not been associated with urethral catheterization (Golka et al, 2008). In the former example of 'physiological' obstetric fistulae, early intervention to relieve obstructed labour restores perfusion to ischaemic tissues and helps prevent fistula formation.

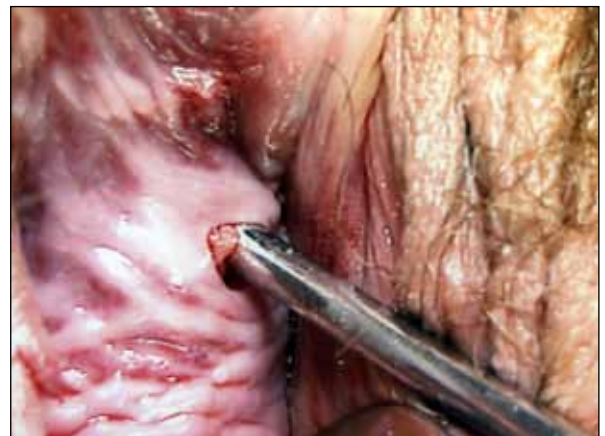
Conclusions

This case emphasizes the need for selecting well-fitting catheters of appropriate material, and good technique to minimize urethral trauma in all forms of catheterization. The functional disability imposed

by such an injury on the patient's quality of life is best tackled by a multidisciplinary team with a good appreciation of the situation. **BJHM**

Donnay F, Weil L (2004) Obstetric fistula: the international response. *Lancet* **363**(9402): 71–2
Golka KA, Klasa-Mazurkiewicz D, Milczek T, Emerich J (2008) A rare case of post-partum urethrovaginal fistula. Management of obstetric complications. *Ginekologia Polska* **79**(1): 56–9
National Institute for Health and Clinical Excellence (2007) Intrapartum care: management and delivery of care to women in labour. NICE clinical guideline 55. www.nice.org.uk/Guidance/CG55 (accessed 26 October 2009)

Figure 1. A 0.5 cm defect is noted in the vaginal epithelium, 1 cm left of the midline and 2 cm cephalad to the external urethral meatus. An element of urethral mucosa is seen protruding through the defect.



Case Report

A 29-year-old primigravida at 40 weeks' gestation was catheterized during a prolonged second stage of labour to assist a spontaneous vaginal delivery. No urine was drained from the standard semi-rigid Lofric catheter; on inspection, the tip was seen within the vagina. Upon reinsertion, 550 ml of clear urine was drained and normal delivery ensued. In view of the urethral perforation, the patient was discharged with oral analgesia, antibiotic prophylaxis and a size 14 Foley catheter in situ for 10 days post-delivery.

Subsequent examination under anaesthesia revealed significant vulval, perineal and vaginal oedema. A 0.5 cm defect was observed in the vaginal epithelium 1 cm left of the midline and 2 cm cephalad to the external urethral meatus, with a 0.75 cm polypoid piece of tissue resembling urethral mucosa protruding through it (Figure 1).

Urethroscopy demonstrated a 'cribbed' rather than obvious mucosal tear, raising the possibility of a pre-existing diverticulum. Considering the patient's reluctance for reparative surgery, the degree of oedema and potential for delayed repair, an indwelling Foley catheter was inserted with the hope of spontaneous fistula resolution. As the fistula persisted for 18 weeks, she eventually consented to surgery and was referred to an expert in urethral reconstruction. A successful repair was achieved vaginally and the patient was subsequently asymptomatic.

Mr Sri G Thrumurthy is Fourth Year Medical Student in the Department of General Surgery, Royal Preston Hospital, Lancashire Teaching Hospitals NHS Foundation Trust, Fulwood, Preston PR2 9HT, **Mr Simon R Hill** is Consultant in Obstetrics and Gynaecology in Women's Health Services, and **Mr Shahid Islam** is Consultant Urologist in the Department of Urology, Royal Blackburn Hospital, Blackburn

Correspondence to: Mr SG Thrumurthy