An Unusual Case of Vaginal Bleeding in a Patient with an Indwelling Foley Catheter

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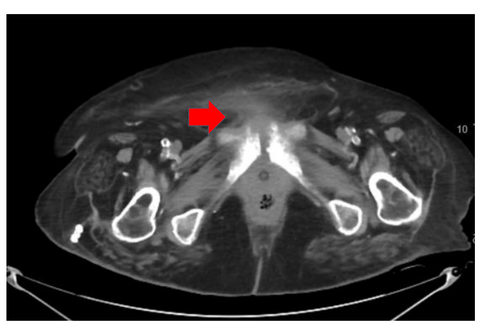
Background

- Foley catheter placement should be avoided whenever possible in both the acute and long-term settings. Even acute foley catheter use has been associated with longer hospital stays, increased discomfort, and decreased return to ambulation.
- Chronic foley use should only be considered in bladder outlet obstruction, intractable skin breakdown, neurogenic bladder, and for reasons of comfort in the palliative care setting.
- Urethrovaginal fistulas are a rare complication occurring secondary to inappropriate foley balloon placement during vaginal delivery, sling procedures, pelvic malignancy or urethral repair attempts.

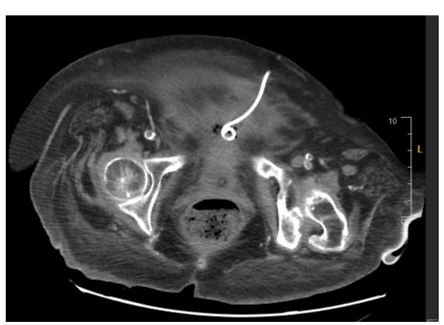
History of Present Illness

A 65-year-old female with a past medical history of diabetes mellitus, dyslipidemia, morbid obesity, chronic kidney disease stage 4, congestive heart failure, and neurogenic bladder with chronic indwelling foley presented to the ER complaining of two days of vaginal bleeding. She had an elevated white blood cell count and a CT abdomen/pelvis revealed an abscess of the pelvis (shown in the image below) and underlying bilateral pubic symphysis osteomyelitis. Urinalysis and culture were indicative of a urinary tract infection. The patient was admitted for IV antibiotic treatment and further monitoring.



Hospital Course

Interventional Radiology was consulted for placement of a drainage tube into the suprapubic soft tissue collection (image shown below). During this intervention, there was concern for possible bladder involvement, and Urology was consulted for further input. During the course of her admission, she continued to have purulent vaginal drainage and bleeding of unknown source. Methylene blue was injected into the tube during a routine drainage tube check and was expected to be found in the foley as the bladder was suspected to be involved. Instead, dye was found in her labial area.



Purpose

- Identify a vesicocutaneous fistula as a possible complication of an indwelling catheter.
- Review appropriate indications for chronic foley use and avoid indwelling catheters when possible, especially in those with diabetes who may not experience discomfort with complications.
- Discuss treatment of a pelvic abscess including interdisciplinary surgery for drainage and IV antibiotics

Outcome

Gynecology Oncology was consulted due to the patient's continued postmenopausal bleeding, purulent drainage from the vagina, and plausible tract between the suprapubic abscess and vagina. The patient was taken to the OR for an examination under anesthesia, D&C with hysteroscopy and cystoscopy with cystogram. A urethral vaginal fistula was found and implicated as the primary event with resulting tissue breakdown and necrosis. This in turn led to secondary infection which tracked superiorly to the retropubic space causing pubic osteomyelitis and a vesicocutaneous fistula. The mid urethra was also found to be necrotic with bladder content draining from the proximal urethra into the vagina.

This patient was not a candidate for fistula repair due to her age, decreased kidney function, and cardiac risk factors. It was concluded that this patient did not experience pain or even discomfort as this fistula was forming secondary to severe nerve damage from her diabetes. She did, however, experience pain from the pubic osteomyelitis and this was treated appropriately. She was discharged to a skilled nursing facility for completion of IV antibiotics.

Discussion

Urethrovaginal fistulas are a complication occurring secondary to inappropriate foley balloon placement during vaginal delivery, sling procedures, pelvic malignancy or urethral repair attempts. In our patient, the formation of the fistula was secondary to chronic foley catheter removal and replacement causing repetitive abrasion and stress to the urethra. This was further complicated by the patient's advanced diabetic neuropathy that precluded that patient's ability to feel discomfort or urinary symptoms, thus allowing fistula formation and infection to advance to pubic osteomyelitis.

The most validated repair for a urethrovaginal fistula is the Martius flap procedure, which involves interposing the labial fat pad between the urethra and vagina. Unfortunately, our patient was not a candidate for this procedure.

References

- Leach GE. Urethrovaginal fistula repair with Martius labial fat pad graft. Urol Clin North Am. 1991 May;18(2):409-13. PMID: 2017821.
- Pushkar DY, Sumerova NM, Kasyan GR. Management of urethrovaginal fistulae. Curr Opin Urol. 2008 Jul;18(4):389-94. doi: 10.1097/MOU.0b013e3282feedd4. PMID: 18520760.