

Iatrogenic Rectal Perforation During Urethral Foley Catheterization

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Abstract Foley catheterization is a common daily procedure done in our practice. Iatrogenic rectal perforation during urethral Foley catheterization is a very rare complication. There are multiple underlying risk factors that can lead to this devastating complication, including friable rectal tissues due to underlying trauma, radiation. Additionally, the type of Foley catheter and the technique of insertion can lead to this complication. The presentation of the patient is always alarming and can aid in making the diagnosis. The management, always, depends on the whole patient clinical condition, and it ranges from conservative management and changing the catheter under vision, to laparotomy and rectal perforation repair. We are presenting a case report of a comorbid patient suffered this complication in our facility.

Keywords: *iatrogenic, rectal perforation, urethral Foley catheterization*

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1. Case Report

A 66-year-old male, known case of Glioblastoma Multiforme was admitted due to decreased urine output. During attempting to catheterize the patient by ER team, frank hematuria with some faecal debris were noted. Thereafter, Urology team was consulted and iatrogenic urethral injury due to urethral catheterization was suspected. A pelvis CT was requested (Figure 1 – Figure 6) and showed: the Foley catheter passing through the membranous urethra and into the rectum. The images obtained after injection of water-soluble contrast through the foley catheter, demonstrate the contrast completely opacifying the rectum, compatible with an urethrorectal fistula. No extravasation of contrast outside of the rectum, or surrounding structures is noted. Flexible Cystoscopy confirmed the membranous urethral injury. Subsequently a catheter was inserted over a guidewire at flexible cystoscopy. The patient was treated conservatively on antibiotics. The patient improved on conservative management, but unfortunately, he passed away later on due to his primary illness.



Figure 1.

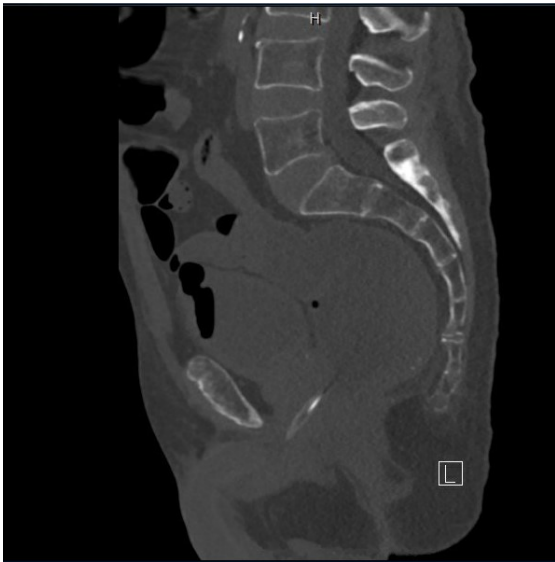


Figure 2.

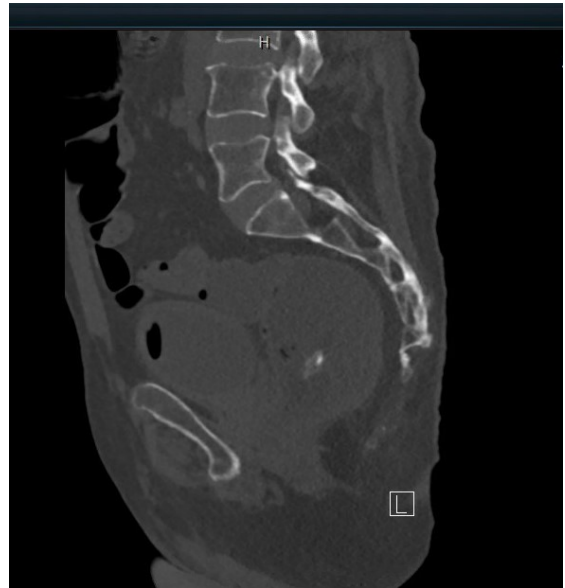


Figure 5.

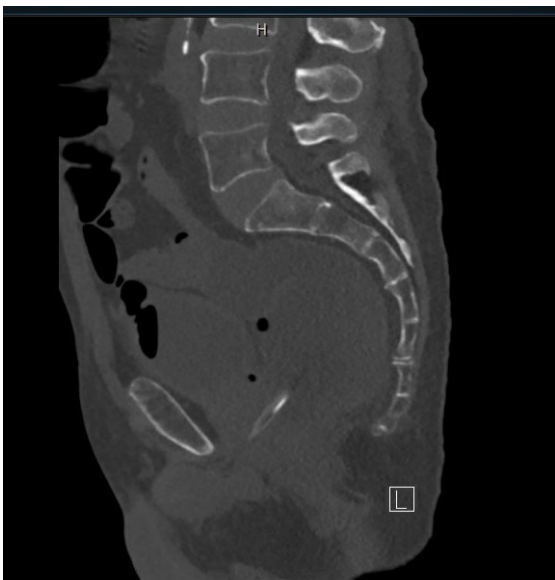


Figure 3.



Figure 6.



Figure 4.

2. Discussion

Urinary catheterisation is a common practice performed for a wide range of patients due to different medical and surgical reasons; including monitoring of urinary output, urinary retention and for many urology surgical cases [1]. Between 15% and 25% of hospitalized patients may receive short-term indwelling urinary catheters [2,3]. Despite the simplicity of catheterisation as a process, there are several complications reported to be associated with this intervention; including infections, trauma, hypersensitivity reaction, blockage, and fistula formation [4,5].

It has been recorded that genitourinary trauma due to catheterisation occurs in 1.5% of patients [5]. According to another study, the incidence of urethral injury during Foley catheterization is around 3.2 per 1000 patients during hospital admission [6]. The percentage itself is low,

but when we take into consideration the high volume of patients that need catheterization, then we can expect the total number of affected patients will be significant. Additionally, the cost burden on the medical field will be high [4].

Rectal perforation is indeed a rare complication of urethral catheter insertion [7,8,9]. We attribute the cause of our patient's rectal perforation to his previous radiotherapy treatment for his cancer. Radiation proctitis can induce tissue changes of endarteritis, inflammation, and fibrosis [10,11]. This can result in friable and ulcerated tissue, which can be more susceptible to injury, as it might happened to this patient. In some cases, the catheter may have been introduced too far into the bladder and infection may weaken the wall, making it more vulnerable. Additionally, viscous perforation is more likely to occur when the catheter material is not soft [9].

The most common signs and symptoms of the patient with rectal perforation are progressive abdominal pain with penile and/or perineal pain (100%) and, commonly, urethral bleeding (86%) [6]. Timely diagnosis with clinical examination, imaging, and surgical evaluation is critical to the patient recovery.

3. Management

The European Association of Urology Guidelines on Urethral Trauma recommends urethroscopy as the first-line investigation for suspected urethral trauma from catheterization [12].

Laparotomy and repair of the perforation is the standard of care for patients presenting with bowel perforation due to Foley catheterization [9]. In our case, we had a complete alleviation of the symptoms by simply changing the Foley catheter under guidance, and commencing conservative management with antibiotics.

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