

Urethro-venous intravasation: a rare complication of retrograde urethrogram

Ankur Bansal, Manoj Kumar, Sunny Goel, Ruchir Aeron

Department of Urology, King George's Medical University, Lucknow, Uttar Pradesh, India

Correspondence to

Dr Ankur Bansal,
ankurbansaldmc@gmail.com

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DESCRIPTION

Case 1: A 53-year-old man presented with acute urinary retention for which suprapubic catheterisation was performed after failed multiple attempts of per urethral catheterisation. Retrograde urethrogram (RUG) revealed an anterior urethral stricture and dense intravasation and a cavernosogram and spongiosogram showed a deep dorsal vein of penis along with pelvic vasculature (figure 1). The patient developed high-grade fever, chills, rigour, tachycardia and hypotension (septicaemia) after the RUG. He was managed with broad spectrum intravenous antibiotics and inotropes. He underwent excision and primary anastomosis of the anterior urethral stricture 3 weeks later.

Case 2: A 46-year-old man presented with progressive lower urinary tract symptoms for the past 1 year. Uroflowmetry revealed a stricture pattern with peak flow of 3 mL/s. He underwent an RUG, which revealed a stricture at the level of the bulbar urethra with intravasation of contrast into the peno-pelvic venous arcade (figure 2). He did not develop any signs or symptoms of sepsis and had no contrast allergy. He underwent trocar suprapubic catheterisation under regional anaesthesia. After 3 weeks, he underwent an optical internal urethrotomy.

Anterior urethral disease is best demonstrated by RUG. Urethro-venous intravasation is defined as visualisation of tributaries of veins draining the penis, a rare finding reported on RUG. The incidence of contrast intravasation on RUG is 1%.¹ The reason for urethro-venous intravasation is breach of integrity of urothelial mucosa due to injection of the contrast agent under pressure in an inflamed and strictured urethra. Local vascularity is increased due to inflammation. Intravasation of contrast media may lead to introduction of uropathogens into the circulation resulting in bacteraemia or even sepsis.^{1 2} The other

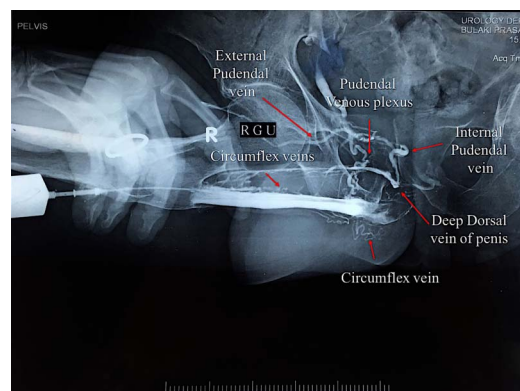


Figure 2 Retrograde urethrogram, apart from delineating just the urethra, also showing stricture at the level of the bulbar urethra with intravasation of contrast into the peno-pelvic venous arcade.

complications of urethro-venous intravasation include contrast nephropathy, allergic reactions to contrast media³ and pulmonary oedema.⁴ It is necessary to take the history of previous urethral trauma, urethral instrumentation and allergy prior to performing an RUG. RUG should be carried out after an interval of 2–3 days if there is a history of prior urethral instrumentation or trauma. Urethral trauma can be minimised by performing gentle urethral catheterisation with adequate instillation of 2% lignocaine jelly (local anaesthetic) in the urethra. This complication can be averted by giving peri-procedural antibiotics; urine should be sterile before the procedure and injection of the contrast agent should be carried out at low pressure under dynamic fluoroscopy.

Learning points

- ▶ Urethro-venous intravasation is a rare finding on a retrograde urethrogram and can result in unusual complications.
- ▶ These rare events elicit the importance of obtaining a history of allergies, urethral instrumentation or urethral trauma, which can be minimised by performing gentle urethral catheterisation with adequate lubrication of the urethra under local anaesthetic.
- ▶ We also suggest performing the study under antibiotic coverage, achieving sterile urine before contrast study, injecting the contrast agent under low pressure and performing the study under dynamic fluoroscopy.

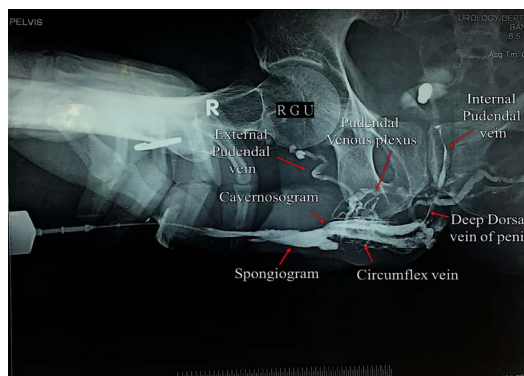


Figure 1 Retrograde urethrogram showing dense intravasation and a cavernosogram and spongiosogram showing deep dorsal vein of penis along with pelvic vasculature.



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