

A case of right bulbourethral artery pseudoaneurysm due to traumatic urethral catheterization

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ABSTRACT

Traumatic urethral catheterization leading to bulbourethral artery pseudoaneurysm is exceedingly rare. We here report a case of 32-year-old male, who developed pseudoaneurysm of bulbourethral branch of right internal pudendal artery after traumatic urethral catheterization. The patient was initially managed conservatively. However, in view of recurrent gross urethral bleeding, coil angioembolization of the pseudoaneurysm was done.

1. Introduction

Urethral bleeding after traumatic catheterization is usually self-limiting. Gross and recurrent urethral bleeding after urethral catheterization is exceedingly rare.

2. Case report

A 32-year-old male was operated for Grade IV hemorrhoids at a peripheral hospital. He underwent Stapler Hemorrhoidectomy. In post operative period, patient developed retention of urine for which urethral catheterization was attempted. An initial attempt of catheterization failed and patient had urethral bleeding. However, after urethral bleed subsided, catheterization was attempted again and this time catheterization was successful. Patient was discharged with urethral catheter on second post operative day.

The patient reported to the Emergency Department of our hospital with gross urethral bleeding on fifth postoperative day. He was still on urethral catheter. His pulse rate was 100 per minute and blood pressure was 110/70 mmHg. His hemoglobin was 12.2mg/dl. We managed him conservatively with intravenous fluids and tranexamic acid injections, bed rest and perineal compression dressing. Urethral bleeding stopped patient was discharge from our hospital after 24 hours.

Patient again reported to our hospital after two days with massive urethral bleed. After initial stabilization, bleeding subsided and patient was planned for CT angiography. His hemoglobin level dropped to

10.1mg/dl. CT angiography revealed pseudoaneurysm of bulbourethral branch of right internal pudendal artery associated with contrast leak (Fig. 1). Case was discussed with interventional radiologist. Decision was made to do embolization of the pseudoaneurysm and the same was communicated to the patient and his relatives. After proper counselling and consent, patient underwent the procedure. Under aseptic precautions, under local anesthesia, left common femoral arterial access was taken under fluoroscopic guidance. Subsequently right internal iliac artery was cannulated and selective angiography of right internal pudendal artery was performed. The study showed contrast leak from right bulbourethral artery with an eccentrically placed pseudoaneurysm (Fig. 2). Super selective catheterization and embolization of bulbourethral artery was carried out using 3mm and 4mm coils. Repeat angiogram after embolization showed did not show any contrast leak and other branches of the internal pudendal artery were patent (Fig. 3).

The patient was discharged 24 hours after the angioembolization. His catheter was removed 72 hours after the procedure. Patient is on our follow up for more than two months with no fresh bleeding, erectile dysfunction or any urinary complaints.

3. Discussion

Urethrorrhagia due to a traumatic pseudoaneurysm is an extremely rare event and it represents a potentially fatal event. Iatrogenic injury to the urethra can occur due to Foley's catheter insertion or instrumentation. Various classification systems have been proposed to define the

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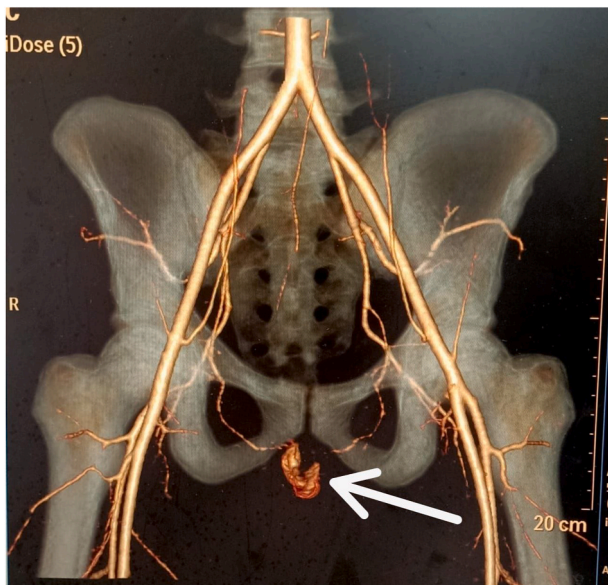


Fig. 1. Computed tomography images showing contrast leak with pseudoaneurysm from right bulbourethral artery.

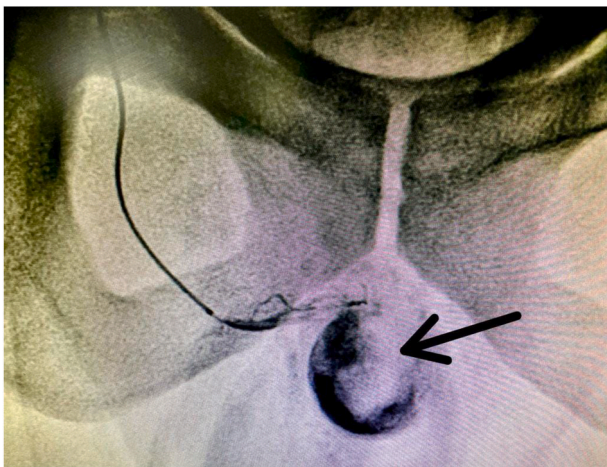


Fig. 2. Superselective angiography showing contrast leak with eccentrically placed pseudoaneurysm from right bulbourethral artery.

extent of urethral injuries.¹ Goldmans classification, Colapinto and McCallum classification and American Association of Surgery of Trauma (AAST) classification are commonly used classification systems. Most of these classification systems describe the urethral injury with respect to the pelvic trauma. As per the AAST classification, urethral injuries are classified into five categories:

- (I) Contusion: blood at urethral meatus and retrograde urethrography is normal
- (II) Stretch injury: elongation of the urethra with no extravasation on urethrography
- (III) Partial disruption: extravasation of urethrography contrast medium at the injury site, with visualization in the bladder
- (IV) Complete disruption: extravasation of urethrography contrast medium at the injury site with no visualization in the bladder; <2 cm of urethra separation
- (V) Complete disruption: complete transection with >2 cm of urethral separation or extension into the prostate or vagina



Fig. 3. Coil embolization of the right bulbourethral artery with other patent branches of the internal pudendal artery.

Bleeding from bulbar urethra is initially managed conservatively with intravenous fluids and tranexamic acid injections, bed rest and perineal compression dressing.² In case of recurrent or persistent bleeding or bleeding leading to hemodynamic instability or significant fall in hemoglobin, transcatheter arterial embolization should be considered.

About 10 cases of urethrorrhagia have been reported in literature which were successfully treated with endovascular embolization. These were due to urinary catheterization, endoscopic or surgical procedures, neoplasms or different kind of trauma.³

The internal pudendal artery is essential for erectile function⁴ and so it is important to preserve the patency of its arterial terminal branches while doing trans arterial embolization. The tip of the microcatheter is taken as close as possible to the vascular injury to avoid non-target embolization and to reduce the risk of subsequent iatrogenic erectile dysfunction. Moreover, embolization of unilateral bulbourethral artery carries less risk of impotence than bilateral embolization. In our case also, the interventional radiologist performed a super selective catheterization and embolization of bulbourethral artery and a repeat angiogram after embolization showed that all other branches of the internal pudendal artery were patent.

4. Conclusion

Urethral bleeding due to traumatic urethral catheterization can be life threatening. Endovascular embolization is an effective method to control the bleeding if conservative management fails.

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