



Internal pudendal artery embolization: A minimally invasive approach for bulbar artery pseudoaneurysm

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ABSTRACT

We report a case of 20-year-old young male with hematuria caused by bulbar artery pseudoaneurysm. There was neither history of trauma nor prior bladder catheterization. Nontraumatic, non-iatrogenic bulbar artery pseudoaneurysm is a very rare cause of hematuria. Endovascular management by gel foam embolization after selective catheterization of bulbar branch of internal pudendal artery was done. The reason behind gel foam embolization was that gel foam provides temporary arterial occlusion to allow time for mucosal healing and so erectile function will not be affected.

Keywords: Urethral bleeding; bulbar artery pseudoaneurysm; endovascular management; hematuria.

Introduction

Urethral bleeding due to bulbar artery pseudoaneurysm is usually iatrogenic during catheterization of bladder or secondary to trauma. Pseudoaneurysm due to chronic inflammation is a rare entity. Minimally invasive endovascular management in these patients provides both symptomatic relief without any possible morbidity associated with surgery. In this report, we have described a 20-year-old male with bulbar artery pseudoaneurysm who presented with hematuria and was managed with gel foam embolization of the bulbar artery.

Case presentation

A 20-year-old young male with a history of recurrent dysuria, presented with complaint of intermittent gross but painless urethral bleeding since 7 days. There was no history of urethral instrumentation or catheterization or trauma. His total leucocyte count (TLC) was 20,000/

μL (normal: 4,000-11,000/ μL). He underwent abdominopelvic computed tomography angiography (CTA) which revealed a small pseudoaneurysm arising from bulbar branch of right internal pudendal artery (Figures 1 and 2). Digital subtraction angiographic (DSA) examination of the right internal iliac artery was performed for the evaluation of the exact site of pseudoaneurysm and its endovascular management. DSA revealed a small pseudoaneurysm arising from bulbar branch of internal pudendal artery with pooling of contrast material surrounding it (Figures 3 and 4). The bulbar artery was superselectively cannulated using microguidewire and microcatheter. Angiograms obtained with the aid of microcatheter revealed active leak of contrast material into urethra and blood coming out per urethra suggestive of rupture of the pseudoaneurysm (Figure 5). The bulbar artery was embolized using gel foam slurry. Control angiogram revealed lack of filling of pseudoaneurysm or contrast leak into urethra suggestive of complete emboliza-

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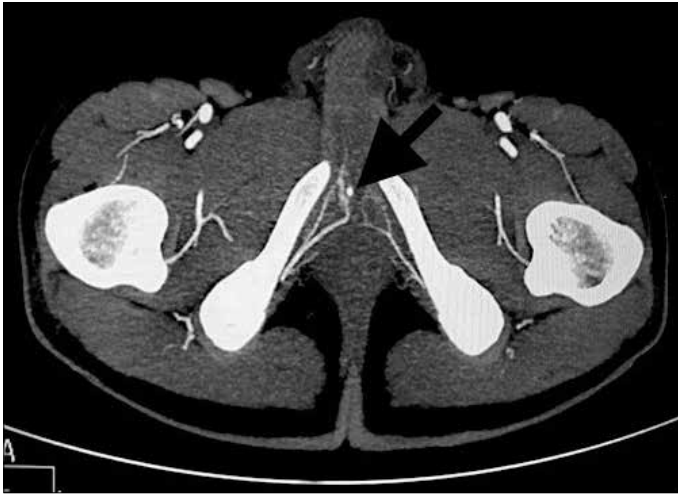


Figure 1. Arterial phase of CT angiogram (MIP axial image) at the level of bulbar region of penis reveals a small rounded contrast filled structure arising from the prominent right bulbar artery (arrow)

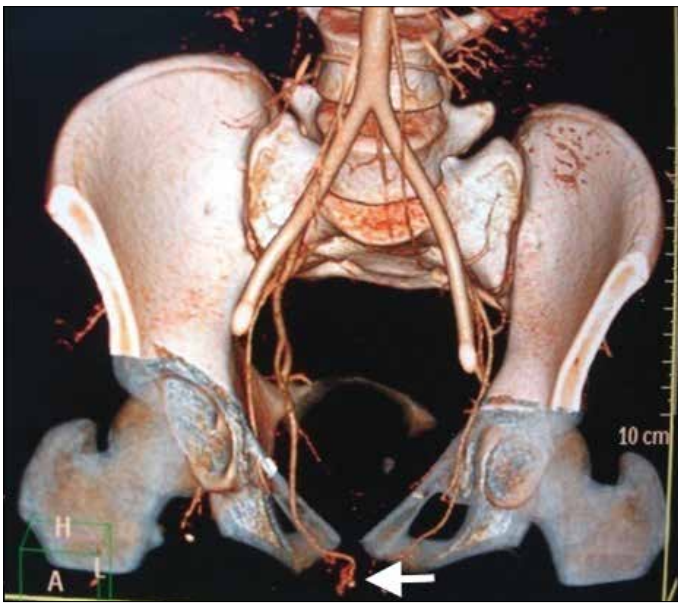


Figure 2. Volume rendered CT image showing a small pseudoaneurysm arising from the bulbar branch of right internal pudendal artery (arrow)

tion (Figure 6). After the procedure, there was no bleeding per urethra. The patient was discharged 2 days later and still remains asymptomatic at 18 months of follow-up.

Discussion

Pseudoaneurysm of any artery can develop after physical injury or inflammation to the vessel wall.^[1] Iatrogenic pseudoaneurysms are significantly more common than primary pseudoan-

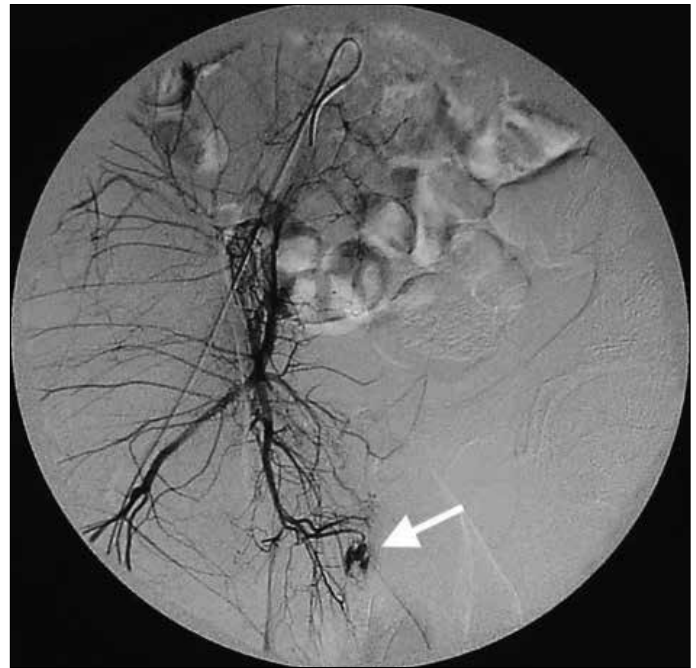


Figure 3. Angiogram done after selective cannulation of right internal iliac artery reveals a small rounded pseudoaneurysm arising from the bulbar branch of right internal pudendal artery (arrow)

eurysms. Non-iatrogenic etiologies are less common and include vasculitis, inflammation, or infection of an adjacent organ or trauma (both blunt and penetrating).^[2]

In our case the likely cause of pseudoaneurysm formation was non-iatrogenic i.e., urethral infection as there were increased TLC with history of recurrent dysuria. Pseudoaneurysm of bulbar artery can be a rare source of urethral bleeding. Superselective embolization can control the hematuria in such cases.

The reason behind gel foam embolization was that gel foam provides temporary arterial occlusion to allow time for mucosal healing and so erectile function will not be affected. Use of autologous clots and gelatin has been used in similar situations like arteriocavernosal communication but as these agents are not radio-opaque precise localization of the lesion is difficult.^[3]

Selective embolization using micro platinum coils are also described but there is no consensus about use of coil embolization in young patients where erectile dysfunction has to be restored.^[4] We used gel foam as we needed only temporary embolization to allow time for mucosal healing and treatment for infection responsible for the pseudoaneurysm using antibiotics. Less selective embolization can interfere with erectile

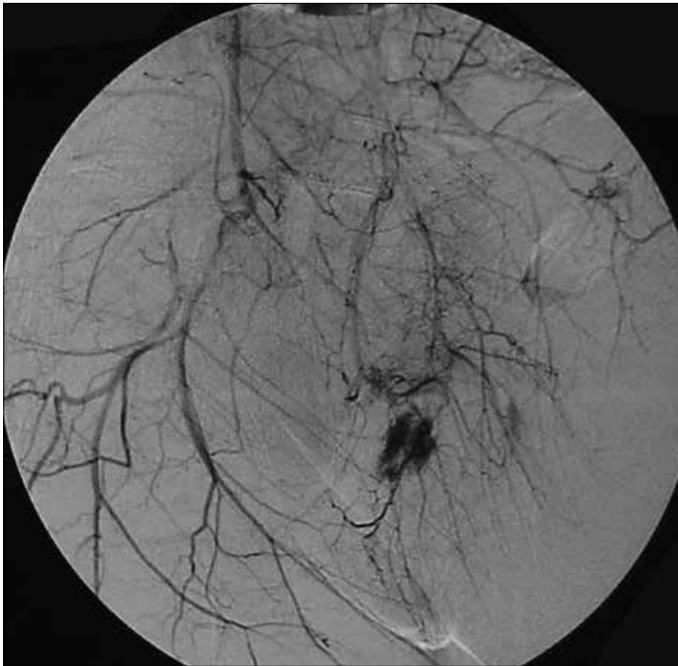


Figure 4. Surrounding contrast extravasation after angiogram (Figure 3)

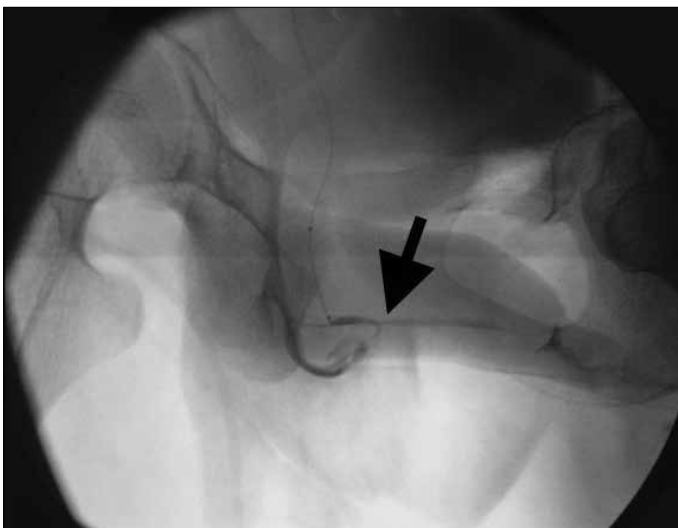


Figure 5. Angiogram after selective cannulation of bulbar artery using microcatheter reveals free leakage of contrast material into urethra (arrow)

function and may also lead to perineal tissue necrosis and infection which should be considered. Besides the patient should be counseled before undertaking embolization.

Nontraumatic, and non-iatrogenic pseudoaneurysm is a very rare entity and we have highlighted the importance of endovascular management using gel foam in such cases.



Figure 6. Postselective gel foam embolization angiogram shows no leakage of contrast or filling of pseudoaneurysm

Informed Consent: Written informed consent was obtained from the patient who participated in this case.

Peer-review: Externally peer-reviewed.

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Conflict of Interest: Authors have no conflicts of interest to declare.

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