

# EMBOLIZATION OF A RUPTURED DORSAL PENILE ARTERY PSEUDOANEURYSM FOLLOWING PERINEAL BALLISTIC INJURY: A CASE REPORT

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## INTRODUCTION

- A pseudoaneurysm (PSA) is the disruption of an arterial wall causing an outpouching, or sac, that communicates with the vessel lumen and is often seen in the setting of trauma.
- Early recognition is key, as PSA rupture is associated with high morbidity and mortality. Historically, surgical repair was required, but with the rise of image-guided endovascular interventions, superselective embolization has become a recognized and established treatment for symptomatic PSAs.
- Superficial PSA with a narrow communication with the downstream arterial tree can be embolized percutaneously.
- Superselective embolization of a deep PSA requires the donor artery to be accessible and expendable.
- Risks of non-target embolization can be mitigated with selective embolization of the distal artery.

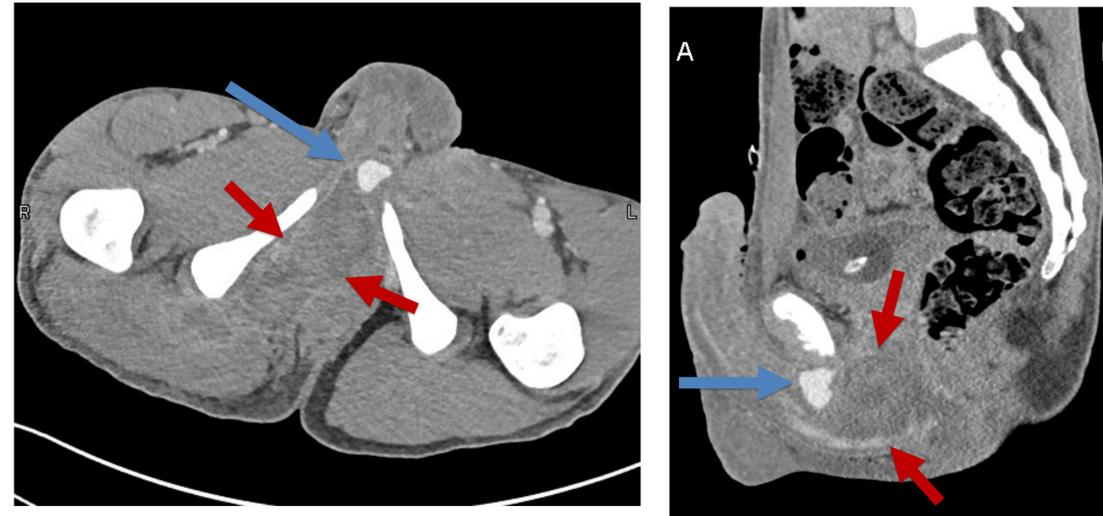
## CASE HISTORY AND DIAGNOSIS

A 19-year-old male with recent history of a single gunshot wound to the right perineum seen at an outside hospital presented three weeks later with acute onset urethral bleeding and severe anemia. CTA showed a 14 cm perineal hematoma with intramuscular extension, as well as a 2.2 cm PSA with surrounding hematoma near the left penile shaft. Given the severe anemia and active bleeding, a ruptured PSA was suspected, and interventional radiology was consulted.

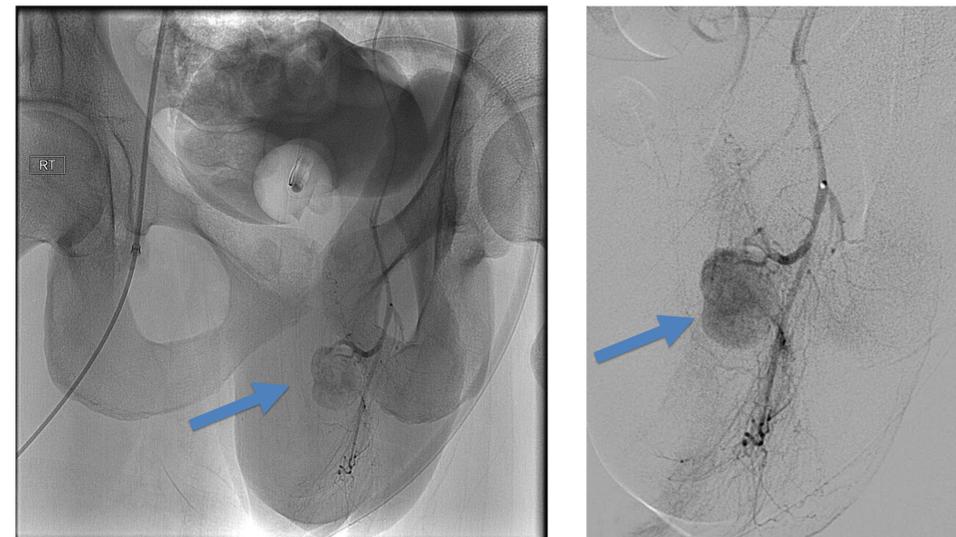
## INTERVENTION

Interventional Radiology performed a selective angiogram of the left internal iliac artery which demonstrated a large PSA off the dorsal penile artery. Selective angiogram of the terminal branch of the left dorsal penile artery confirmed active extravasation of a bleeding PSA. Embolization was performed with 2mm coils. On subsequent ipsilateral and contralateral internal iliac angiograms, no further filling of the ruptured PSA was appreciated. Following stabilization, suprapubic catheter exchange and surgical evacuation of the large ischioanal fossa hematoma were performed. The patient was discharged home with outpatient follow up.

## FIGURES

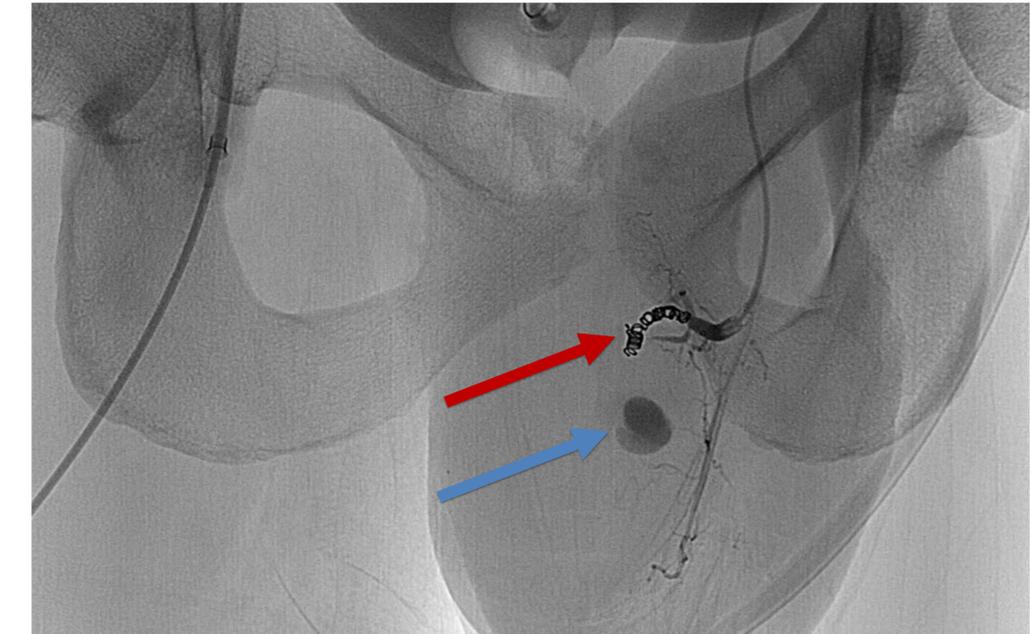


**Figure 1:** Axial (Fig 1a) and Sagittal (Fig 1b) CTA of the pelvis demonstrates arterial contrast extravasation at the left penile base (Blue arrows). Adjacent ischioanal fossa hematoma can also be seen (Red arrows).



**Figure 2:** Conventional Angiography (Fig 2a) and Digital Subtraction Angiography (Fig 2b) of the left internal iliac artery shows a large PSA filling off the left dorsal penile artery (Blue Arrows) with active contrast extravasation.

## FIGURES CONTINUED



**Figure 3:** Follow up angiogram following coil deployment (red arrow) demonstrated no further filling of the PSA. Retained contrast is seen within the now excluded PSA (Blue Arrow).

## DISCUSSION

- Following detection of an asymptomatic PSA, elective therapy should be considered, as untreated PSAs carry a high risk of rupture with associated increases in morbidity and mortality.
- Symptomatic PSA requires urgent intervention.
- Percutaneous embolization was not considered because of PSA location.
- This case demonstrates an example of successful superselective arterial embolization of a symptomatic deep PSA off the dorsal penile artery.
- Treatment options include coil embolization, gelfoam embolization, stent-assisted coil embolization and covered stent placement.
- Nonspecific embolization of the internal iliac arteries carry risks of long-term erectile dysfunction and/or buttock claudication.
- By avoiding nonspecific embolization of the internal iliac arteries, these risks of non-target embolization can be reduced.