

AMSER Case of the Month

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Right Groin Pain and Swelling in a 45M with a PMH of
IVDU

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Patient Presentation

- 45M w/PMH of SUD (injects heroin), Hepatitis C, HIV (on ART), and prior appendectomy presents to the ED with right groin pain and swelling
 - Pain started 4 days prior after injecting into the area
 - Endorses subjective fevers
 - Denies N/V, Constipation
 - Endorses testicular pain

Pertinent Labs and Physical Exam

Physical Exam

- VS: T 98.6 BP 121/78 Pulse 89
- Abd: nontender nondistended
- R inguinal induration and tenderness. No drainage, crepitus, or scrotal involvement

Labs

- WBC: 14.9

What Imaging Should We Order?


ACR Appropriateness Criteria²

Variant 1:

Upper or lower extremity. Suspected vascular malformation presenting with pain or findings of physical deformity including soft-tissue mass, diffuse or focal enlargement, discoloration, or ulceration. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
MRA extremity area of interest without and with IV contrast	Usually Appropriate	0
MRI extremity area of interest without and with IV contrast	Usually Appropriate	0
CTA extremity area of interest with IV contrast	Usually Appropriate	Varies
US duplex Doppler extremity area of interest	Usually Appropriate	0
MRA extremity area of interest without IV contrast	May Be Appropriate	0
CT extremity area of interest with IV contrast	May Be Appropriate	Varies
MRI extremity area of interest without IV contrast	May Be Appropriate	0
US extremity area of interest with IV contrast	May Be Appropriate	0
CT extremity area of interest without IV contrast	May Be Appropriate	Varies
CT extremity area of interest without and with IV contrast	Usually Not Appropriate	Varies
Radiography extremity area of interest	Usually Not Appropriate	Varies
Arteriography extremity area of interest	Usually Not Appropriate	Varies

CTA Pelvis was ordered by the ER physician



CTA Pelvis, Axial Section - Findings (unlabeled)



CTA Pelvis, Coronal Section (unlabeled)



CTA Pelvis, Axial Section (labeled)

Fat stranding present
within the subcuticular
fat

Abnormal fusiform
dilation of the right
common femoral
artery with
nonocclusive
eccentric filling
defect



CTA Pelvis, Coronal Section (labeled)

Abnormal fusiform dilation of the right common femoral artery with nonocclusive eccentric filling defect

Areas of decreased attenuation in the musculature



Mycotic Pseudoaneurysm

“Large partially thrombosed pseudoaneurysm of the common femoral artery with associated with fat stranding and myositis concerning for superimposed infection”

Case Discussion:

Mycotic Aneurysms/Pseudoaneurysms

- While a true aneurysm is defined by a localized dilation or outpouching of a blood vessel involving all three layers of the vessel wall, a pseudoaneurysm does not involve all three layers of the vessel wall. A pseudoaneurysm is typically defined by presence of blood between adventitia and media, and it is commonly caused by trauma or infection.⁴
- Mycotic pseudoaneurysms are due to infection (bacterial or fungal).^{1,4}
- The most common location of pseudoaneurysm is the common femoral artery (CFA), and it is frequently associated with IVDU.¹

Diagnosis of Mycotic Pseudoaneurysm

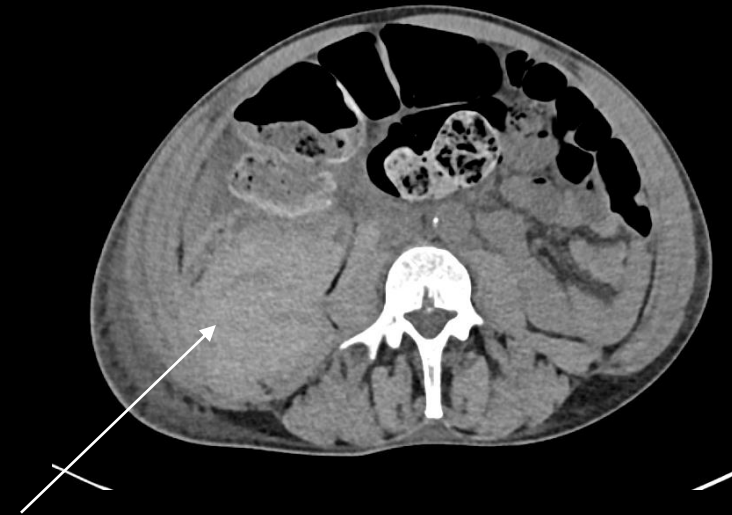
- Clinical Picture: May present with history of IVDU, injection site pain, and nonspecific signs of infection ranging from fever and white count to sepsis. Injection site erythema with possible sinus tract may also be present. Hip is often held in flexion (due to psoas irritation/retroperitoneal extension)⁴
- Diagnosis:
 - In mycotic pseudoaneurysm, CT angiography is typically recommended as it can also evaluate the retroperitoneum for potential extension of infection or bleeding⁴
 - Duplex ultrasound can play a role detecting pseudoaneurysm in general, with sensitivity and specificity of 94% and 97% respectively in patients catheterization pseudoaneurysm⁴

Management of CFA Mycotic Pseudoaneurysm

- All management options include IV antibiotics. No support in literature for conservative management with antibiotics alone⁴. Current management is controversial, and is composed of two options:
- Primary artery ligation without reconstruction^{3,4}
 - Most frequently used management option
 - Ligation of external iliac/CFA, superficial femoris (SFA), and/or profunda femoris
 - Results in acute symptoms of limb ischemia typically without need for amputation, though some case series report an amputation rate as high as 17%
 - Long term studies often not available as patients are lost to follow up
- Primary artery ligation with reconstruction^{3,4}
 - Potential for increased limb salvage and better long-term reduction in symptoms (claudication)
 - Some case series describe secondary hemorrhage as a result, leading to further surgical intervention
 - Potential for infection of graft

How was this patient managed?

- Surgical excision of pseudoaneurysm with ligation of the external iliac artery and SFA. Right external iliac to SFA bypass via cryopreserved artery.
- On POD#3 required transfusion due to a right retroperitoneal hematoma. Did not require surgical intervention.
- Became septic on POD#6, requiring extended admission before eventual discharge to skilled nursing facility.



Retroperitoneal
Hematoma

References

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