

Introduction

- Femoral anastomotic aneurysms (FAA) are well-known late complications of aortofemoral grafting.
- Most are asymptomatic and detected incidentally or by surveillance imaging.
- FAAs may thrombose and lead to graft limb thrombosis secondary to poor outflow.
- Ruptured FAAs are relatively uncommon and may present as a palpable pulsatile groin mass or hematoma. They require immediate surgical repair.



Figure 1: Right groin hematoma of patient who developed a right femoral anastomotic aneurysm 5 years after aortobifemoral bypass.

- Other indications for repair include a size threshold of 3cm in transverse diameter (similar to native femoral artery aneurysms) and the presence of symptoms (ex. pain and/or paresthesias secondary to compression of the adjacent femoral nerve).

Methods

- We present a retrospective, observational case series of patients who presented with ruptured femoral anastomotic aneurysms from 1997-2019 at two mid-sized suburban teaching hospitals.
- Of note, during the same time interval 45 patients underwent repair of unruptured femoral anastomotic aneurysms.

Results

Table I Characteristics of five patients who developed femoral anastomotic aneurysms.

Initials	Age	Original Surgery	Indication	Elapsed Time	Presenting Symptom	Repair	Outcome
MM	62M	ABF bypass	AIOD	5 years	Right groin hematoma	Interposition Dacron graft (8mm)	Satisfactory functional outcome
JN	64M	ABF with left limb revision	Iliac artery occlusive disease	7 years	Left groin hemorrhage	Removal of infected left limb of ABF graft with suture ligation of proximal graft; subsequent crossover right common femoral to left popliteal bypass	Patent crossover graft for past 3 years without evidence of recurrent infection
JD	77M	ABF bypass	Iliac artery occlusive disease	10 years	Right groin mass	Interposition PTFE graft	Death at 3 years from respiratory failure
PB	81F	Aorto- right femoral, left external iliac bypass	Infrarenal AAA (4.5cm)	11 years	Right groin hematoma	Interposition Dacron graft (8mm)	Death at 3 months from cardiac arrest
MJ	91F	Aorto-right femoral, left common iliac bypass	Infrarenal AAA (6 cm)	14 years	Right groin mass	Interposition Dacron graft (8mm)	Made hospice and died on POD 2

ABF= Aortobifemoral bypass
AIOD= Aortoiliac occlusive disease
AAA= Abdominal aortic aneurysm

Figure 2: CT angiography demonstrating an aneurysm at the right femoral anastomosis of aortobifemoral bypass graft.



Discussion

- Femoral anastomotic aneurysms usually occur due to degeneration in the arterial wall with repeated hip flexion and extension resulting in gradual disruption of the anastomosis. They may also develop in the setting of an infection and present as a mycotic aneurysm as in our one patient.
- Rupture of such aneurysms is a rare event and may present with a painful pulsatile mass, groin hematoma, or hemorrhage.
- These require operative repair with a prosthetic interposition graft between the proximal prosthesis and a patent distal artery (usually common femoral, profunda or superficial femoral artery) and generally have satisfactory outcomes.
- Ernst et al demonstrated that repaired FAAs may even recur especially if there is history of wound complications following the initial aortofemoral bypass or FAA repair.

Conclusions

- Femoral anastomotic aneurysms are a late complication of aortofemoral grafting which may lead to rupture.
- Most are asymptomatic and can be diagnosed clinically with confirmation on duplex imaging.
- Thrombosis of the aneurysm with thrombosis of the graft limb is more common than rupture. However, both require emergent intervention.
- These patients should undergo long term surveillance imaging indefinitely following aortofemoral grafting.

References

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