Hemoscrotum Development Following Elective Femoral Endarterectomy and Iliac Stenting

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INTRODUCTION

The incidence of vascular complications has been previously reported in literature varying from 0.1% to 6.1%, and include arterial dissections, thrombosis, pseudoaneurysm formation, retroperitoneal bleeding, but also on a rarer occurrence, a penoscrotal hematoma. While vascular surgery is comprised of both open and endovascular procedures, adverse procedural events are shared among all specialties performing percutaneous interventions.

We report a patient who developed massive penoscrotal hematoma after elective femoral endarterectomy with contralateral femoral artery antegrade access for diagnostic angiography leading to bleeding into the fascial plane.

CASE DESCRIPTION

A 60-year-old male with a 30 pack-year smoking history, coronary artery disease, ischemic cardiomyopathy (recent ejection fraction of 35%), paroxysmal aflutter status post cardioversion four months prior, an NSTEMI five months prior with subsequent three-vessel CABG and mitral valve repair was followed in the office for bilateral lower extremity short-distance claudication progressing to rest pain. Initial non-invasive testing with ankle-brachial indices demonstrated moderate and severe ischemia at rest in the right and left lower extremities respectively (Right: 0.72 and Left: 0.49).

The patient underwent a left common femoral endarterectomy with bovine pericardial patch, and bilateral 'kissing' common iliac stents with an additional left external iliac stent (Figure 1), that was complicated by the loss of pulses in the right foot at the conclusion of the case

CASE CONTINUED

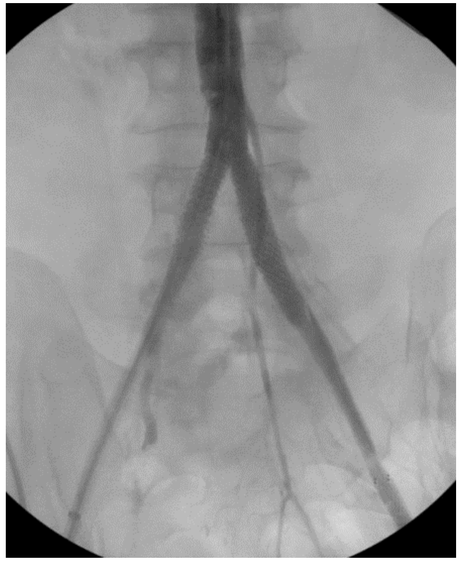


Figure 1. Completion angiogram of index procedure

This finding warranted a right lower extremity angiogram via antegrade right femoral access that demonstrated patent single vessel runoff, which was consistent with the patient's preoperative axial imaging. Four hours later in the recovery room, he was noted to forcefully cough and sit up, immediately developing a large hemoscrotum (Figure 2). Due to the concern for active bleeding, the patient was taken back to the operating room for an exploration of the right femoral artery, with completion angiography via direct access to the right common femoral artery. Upon investigation, there was no active extravasation or hematoma in the right groin.

RESULTS

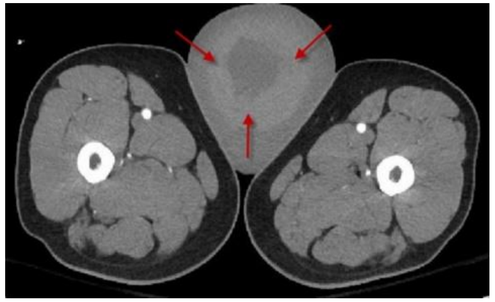
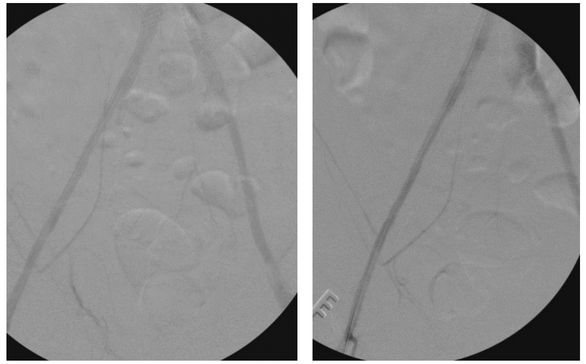


Figure 2. Example of penohemoscrotum on CT imaging

Urology was called intra-operatively for evaluation of the scrotum with eventual scrotal hematoma evacuation and bilateral orchiopexy. On postoperative day one the patient continued to have no audible doppler signals in the right foot but remained neurovascularly intact with adequate drainage of the scrotum via a penrose drain. He was started on therapeutic anticoagulation with intravenous heparin and on postoperative day two, and was noted to have regained doppler signals in his right foot. The patient was discharged on postoperative day three with outpatient clinic follow up with vascular surgery and with urology, with planned delayed removal of the penrose drain in the office. He has since been since in clinic and is doing well.



Figures 3 and 4. Angiograms from OR take-back

DISCUSSION

Complications of endovascular procedures are well-known, including local hematoma formation, arterial dissection, pseudoaneurysm formation, arteriovenous fistula creations, access site infections, thrombosis, and retroperitoneal bleeding, however, the development of hemoscrotum is quite rare and especially unusual following percutaneous transluminal angioplasty. Scrotal hematoma may occur if bleeding occurs between anatomic fascial planes. Operative evacuation of the hematoma was necessary to avoid the development of necrotizing fasciitis of the scrotum·

Though the management of scrotal hematoma is primarily conservative, including pain control, rest, and a scrotal support, more serious presentations may require blood transfusion for hemodynamic instability or surgical intervention for concern of active bleeding or compromised blood supply to testes. Hemostasis is critical in any surgical procedure irrespective of the nature of surgery, and drains should be considered in open surgery to potentially avoid hematoma and scrotal swelling. Fortunately, patients often completely recover if detected early and the source of bleeding is controlled.

CONCLUSIONS

Our case adds to the limited literature regarding endovascular procedural complications resulting hemoscrotum formation. This serious complication should be diagnosed promptly, with the appropriate management in a timely fashion to avoid further risk of blood loss or irreversible testicular tissue loss.