SHORT REPORT

Abberant Sex Habits Leading to Acute Limb Ischemia and Hematuria

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We report a case of a 42 year-old man suffering from an acute limb ischemia. Upon urokinase treatment he developed gross hematuria. Finally, CT scanning revealed a self-inserted foreign body not only causing thrombosis of the external iliac artery, but also forming an arteriovesical fistula.

This case emphasises the importance of detailed history taking and thorough further investigation in recurrent macroscopic hematuria in a patient. Massive bleeding from the bladder should alert the doctor for a rare, but life-threatening arteriovesical fistula.

Keywords: Limb ischemia; Hematuria; Arteriovesical fistula.

Case Report

A 42 year-old healthy man was admitted to our emergency department with acute ischemia of the left lower limb. On examination he had a cold left foot and a minimal hyposensibility without motor loss. No pulses were palpable from the left femoral artery down to the foot arteries. A class IIa acute ischemia (Rutherford criteria) was diagnosed. With the intention to start thrombolytic therapy, an intra-arterial digital substraction angiography was performed, which demonstrated an acute occlusion of the left external iliac artery. A catheter was left behind in the iliac axis and intra-arterial urokinase was started. Unfortunately overwhelming hematuria developed after one hour so the urokinase was interrupted. On the operating room a balloon catheter thrombectomy of the iliac and femoral axis was performed through a groin incision. Crural arteries were cleared of thrombus through a separate infragenual exploration. Intraoperative 3000 IU intravenous heparin were given. However, massive hematuria reoccurred just after operation, leading to an overt shock state. The urologist catheterized the patient’s bladder for continuous irrigation. Cystoscopy at that time wasn’t possible because of massive bleeding. Finally, after administration of intravenous protamin and an estimated blood loss of two liters, the bleeding stopped. Intravenous ciproxine 400 mg twice a day was started and the patient was taken to the intensive care unit.

A carcinoma of the bladder was suspected, but a CT-scan surprisingly demonstrated the presence of a catheter-shaped radio-opaque foreign body that was wrapped around the bladder with its tip in close proximity to the left iliac axis (Fig. 1). Very curious of what this object might be and how it got there, we returned to the patient for an intimate conversation. Eventually, his wife told us that 4 months ago on a ‘party’ he had inserted a fluorescent bracelet in his penis, but never found the object back. His general practitioner had treated him for an urinary tract infection twice because of asymptomatic macroscopic hematuria.
A left retroperitoneal exploration was performed and the left external iliac artery was dissected free from fibrotic surrounding tissue. A pseudo-aneurysm with ample thrombus of the external iliac artery was found where the tip of the foreign body was located (Fig. 2a,b).

The bracelet, which wasn’t fluorescent anymore, could easily be removed. Inspection showed that it was intact and no leakage of chemical solution had occurred. The arterial defect was small (few millimetres) and no signs of infection were present. Because there was a sufficient quality of the arterial wall the defect could be oversewn. Postoperative recovery was uneventful and the patient was “delighted” he could be discharged 4 days after last operation.

During a follow up period of 4 months the patient returned for clinical control twice. A duplex scan was performed showing no stenosis or pseudo-aneurysm of the external iliac artery.

We postulate that the bracelet eroded through the bladder wall into the retroperitoneal space in close proximity to the left external iliac artery. Pulsations may have led to arterial perforation by constant friction and a consequent arteriovesical fistula was formed, which was responsible for repetitive massive blood loss, especially after administration of urokinase and heparin. A pseudo-aneurysm developed with acute occlusion of the external iliac artery and severe limb ischemia.

**Discussion**

Arteriovesical fistulae are extremely rare and we identified only a few cases in the world’s literature. One spontaneous case was caused by a ruptured common iliac artery aneurysm.1 Trauma of the bladder by a gunshot wound elicited an arteriovesical fistula due to a pseudo-aneurysm of respectively the external iliac artery and the hypogastric artery.2,3 Manipulation of the bladder, for example by cystoscopy or ureterolithotomy, may also cause fistulae.2,5

In this unique case presented, a self-inserted foreign body was not only responsible for an arteriovesical fistula, but also for acute limb ischemia.

The clinician should be aware that recurrent macroscopic hematuria in a patient always needs detailed patient’s history and a thorough investigation including cystoscopy or CT-scanning. Furthermore, a massive bleeding from the bladder should alert the
doctor for a possible rare, but life-threatening arteriovesical fistula.

At the moment of presentation our patient didn’t show hematuria. There was no evidence of a foreign body causing acute ischemia. Because the ischemic leg was not vitally threatened, we choose the intra-arterial digital substraction angiography as primary examination to make the diagnosis, but moreover to leave behind a catheter for thrombolytic therapy. Unfortunately the bracelet could not be seen on the initial angiograms. If this was the case, our decision making process would have been completely different, first making a CT angiography followed by operation. Maybe then gross, life-threatening hematuria could have been avoided.

References

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