

BACKGROUND

Acute kidney injury (AKI) is a common condition seen by primary care physicians and hospitalists, though rarely is an occlusion of the aorta on the differential. Given the high morbidity and mortality, early diagnosis is essential. We are presenting a case of anuric AKI secondary to complete abdominal aortic occlusion requiring revascularization.

CASE PRESENTATION

A 72 year old male with a history of CKD stage 3, atrophic left kidney due to ischemic nephropathy and significant cardiovascular disease presented to the hospital with intractable nausea, vomiting and anuria. He was found to have hypertensive urgency and his presenting labs were significant for an AKI (Cr 13.09 with baseline 1.39) with severe electrolyte derangements. He was started on hemodialysis, though continued to have intractable emesis without improvement in his kidney function. A CT abdomen & pelvis revealed occlusion of the abdominal aorta just below the takeoff of the superior mesenteric artery with distal reconstitution in the iliac artery branches via collaterals, causing right renal parenchymal hypoperfusion. An abdominal ultrasound was obtained revealing similar findings (Figure 1). Subsequent renal arterial ultrasound revealed non-visualization of the renal arteries.

IMAGING

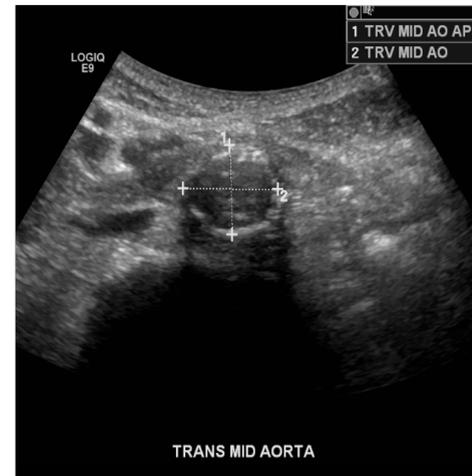


Figure 1. Abdominal ultrasound with total occlusion of abdominal aorta



Figure 2. Aortogram with total suprarenal occlusion of abdominal aorta

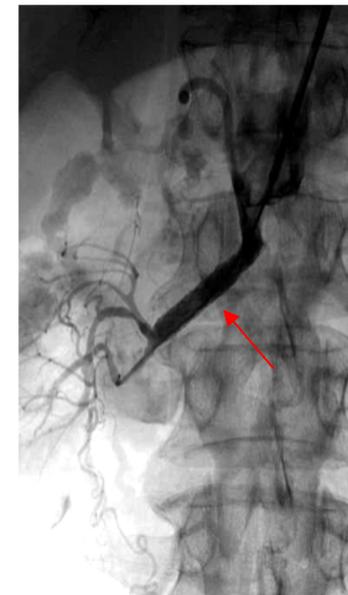
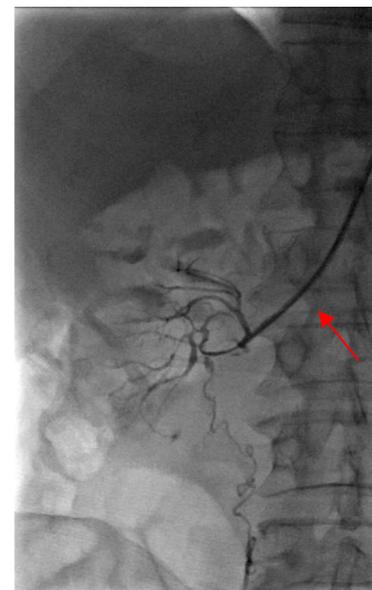


Figure 3. Image on left with arrow pointing to Roadrunner wire passing through occluded right renal artery. Image on right with arrow pointing to right renal artery post stent revealing brisk antegrade flow

INTERVENTION

He underwent an abdominal aortography (Figure 2) and a stent was deployed in the right renal artery. Post stenting, a right renal arteriogram and aortogram revealed brisk flow through the right renal artery (Figure 3). He was started on dual antiplatelet therapy (DAPT) with clopidogrel and aspirin. He had significant return of urine output on day 5, and his kidney function progressively improved while on hemodialysis.

DISCUSSION

This case illustrates that in patients with severe cardiovascular disease, an ischemic cause of acute kidney injury should be considered in those with nonspecific abdominal symptoms. Complete atherosclerotic aortic occlusion usually presents with bilateral acute limb ischemia, cardiac disease and hypertension; in our case, acute limb ischemia did not occur due to the extensive formation of collaterals. It may be prudent, therefore, to consider vascular imaging in this patient population, as acute total occlusion of the abdominal aorta is elusive and can be catastrophic. Prompt attention and intervention, including medical and possible surgical management is essential.