Delayed Appearance of Aortic Pseudoaneurysm

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Introduction

A pseudoaneurysm off of the abdominal aorta is an extremely rare, yet potentially fatal, diagnosis following trauma to the abdomen. This case describes a delayed complication following spinal surgery.

Patient Description

A 49 year old female patient presents with back pain and a pulsatile mass in her abdomen five years after spinal surgery following a motor vehicle accident. CT scan of the abdomen and pelvis demonstrated an abdominal aorta infrarenal pseudoaneurysm.

Methods

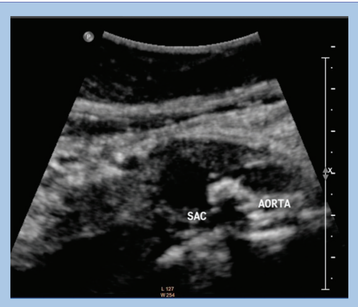
Duplex ultrasound was performed to confirm the abdominal infrarenal pseudoaneurysm previously seen on CT scan. Color Doppler images, along with measurements, of the abdominal aorta were taken from the proximal aorta through the iliac bifurcation in both sagittal and transverse planes. Waveforms were obtained in the aorta and pseudoaneurysm neck.

Results

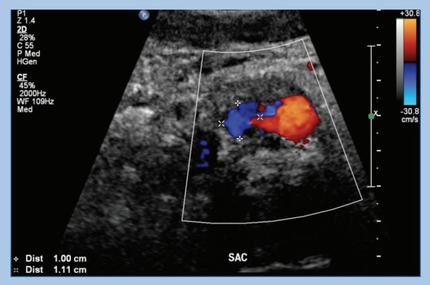
There was no abdominal aortic aneurysm. Ultrasound confirmed arterial flow outside of the distal aorta. The lumen of the pseudoaneurysm measured 1.31 x 1.4 cm.

There was no defined neck between the aorta and the pseudoaneurysm. To-fro flow was not seen likely due to the short neck.

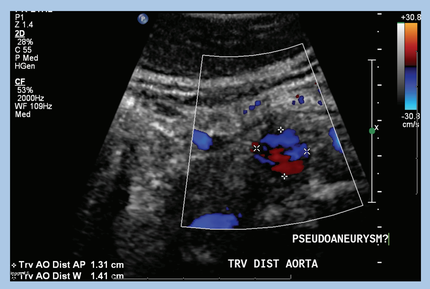
There was successful repair of the aorta via placement of an endovascular graft.



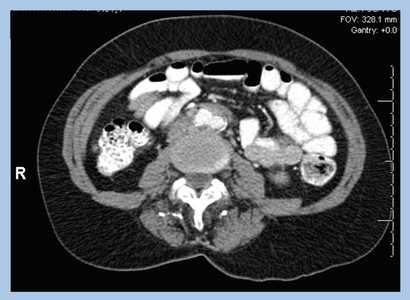
Grayscale image of pseudoaneurysm connected to aorta by its neck



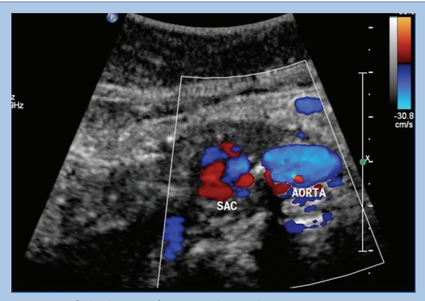
Color Doppler image of pseudoaneurysm sac arising from aorta



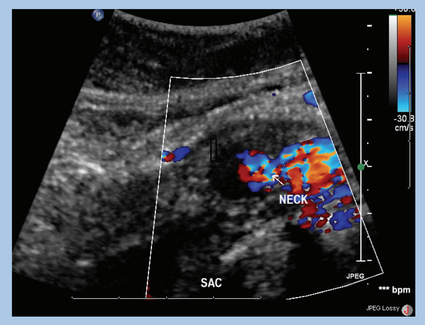
Color Doppler image of sac measuring 1.3 cm x 1.4 cm



CT image showing pseudoaneurysm off of distal aorta

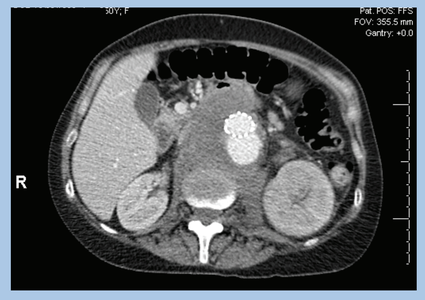


Color image of aorta and pseudoaneurysm sac



Color Doppler image of aorta, neck, and sac of pseudoaneurysm

Duplex at region of short pseudoaneurysm neck



CT image of aorta after placement of endovascular graft

Discussion

The patient's physicians suspect that a surgical screw, inserted into the patient's spine five years prior, injured the distal aorta, eventually producing a pseudoaneurysm.

A pseudoaneurysm is a contained perforation of a vessel following trauma to the vessel. A pseudoaneurysm off of the abdominal aorta is an extremely rare diagnosis and is only seen in about 0.05% of cases of trauma to the abdomen. More common post-traumatic injuries to the aorta are frank rupture or dissection. Surgery, or more recently, endovascular surgery is performed to treat aortic pseudoaneurysm due to its 100% mortality rate if it ruptures.

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Sources

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Warshauer, D. (n.d.). Case 115: Aortic pseudoaneurysm from penetrating superior vena cava stent. (2007). Radiology, (243), 901-904. Retrieved from http://radiology.rsna.org/content/243/3/901.long