SHORT REPORT

A Case of Inflammatory Abdominal Aortic Aneurysm with Occult Aorto-caval Fistula Presenting as Inferior Vena Caval Obstruction

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Introduction

Inferior vena caval thrombosis is a rare complication of abdominal aortic aneurysm (AAA). Inflammatory abdominal aortic aneurysms (IAAA) represent 3–10% of aortic aneurysms encountered in clinical practice. Their rupture into the inferior vena cava (IVC), resulting in aortocaval fistula, is again rare.

Case Report

A previously healthy 82-year-old man presented with a 3-month history of bilateral lower limb oedema. Abdominal examination revealed prominent abdominal veins extending to the thigh. A large pulsatile abdominal aortic aneurysm (AAA) was noted in the epigastrium. Bilateral pitting leg oedema was noted along with a bluish discoloration of the feet. Clinical diagnosis of IVC thrombosis secondary to pressure from an AAA was made. A subsequent CT revealed a 10.5 cm infrarenal AAA compressing the IVC and the left ureter resulting in a left hydrenephrosis. The IVC distal to the aneurysm was found to be occluded with thrombus (Fig. 1). A Greenfield vena caval filter was placed in the IVC via the superior vena cava prior to surgery to prevent a pulmonary embolism during operative manoeuvres (Fig. 2).

Peroperatively a big thrombus was removed from a large IAAA sac, and an unexpectedly undiagnosed aorto-caval fistula of approximately 1.5 cm was revealed. This had been occluded and prevented from leaking by the thrombus in the aneurysm. A Foley catheter was inserted from the aneurysm sac into the IVC to control the bleeding. A purse string suture was applied to close the fistula. The aneurysm was repaired with a 22 × 11 mm bifurcated Dacron graft. Post operatively the patient recovered sufficiently well to be transferred from the ITU to the ward at 48 h.

Discussion

Inferior vena cava thrombosis secondary to an expanding aneurysm was initially reported by Snider
et al. described venous thrombosis secondary to compression by an AAA in three cases. Aorto-caval fistulae are an uncommon complication of infrarenal AAA, being found in 0.22–6.04% of all cases. Mostly these cases have an inflammatory component. IAAA are associated with a thick, rigid aortic wall which is often thin posteriorly and posterolaterally, which is usually the site of rupture. The periaortic adventitial inflammatory reaction leads to adherence to adjacent structures. Shearing of the aneurysmal wall across the adherent cava results in an aortocaval fistula. Expansion of the aortic aneurysmal thrombotic mass presumably triggers the thrombosis of the IVC as well. The aortocaval fistula, in this case was not clinically apparent because its lumen was occluded by aneurysmal mural thrombus, preventing any left-to-right shunt. Moreover the size of the aneurysm had also led to IVC compression leading to venous stasis (Fig. 1).

Placement of a vena caval filter prior to surgery should prevent embolic episodes from the IVC thrombus. van Keulen et al. have recommended either thrombectomy of a free floating thrombus or leaving the vena cava well alone if it is completely occluded. Coombe has recommended the insertion of a Greenfield filter only when pulmonary embolism occurs or in the case of recent or life-threatening caval thrombosis. The use of a temporary filter is recommended in all such cases.

References