

A 57-year-old woman, with end-stage renal failure managed with continuous ambulatory peritoneal dialysis (CAPD), developed CAPD peritonitis and a pleuro-peritoneal fistula in August 2007. A right internal jugular venous line had been inserted for haemodialysis 1 month earlier. She was admitted

to hospital for investigation of fever and suspected catheter-related sepsis. Her right internal jugular line was removed after admission. On physical examination, a pulsating mass with a continuous thrill, and a palpable and audible bruit, was found in the right subclavicular region. There were no neurological deficits or signs of heart failure.

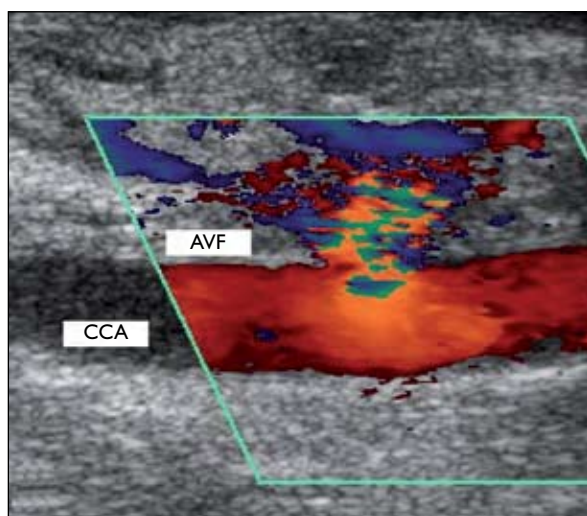


FIG 1. Initial colour Doppler ultrasonogram of the right neck shows an arteriovenous fistula connecting the proximal right common carotid artery to the right internal jugular vein. AVF denotes arteriovenous fistula, and CCA common carotid artery.

Colour Doppler ultrasonography of the neck confirmed the presence of an arteriovenous fistula (AVF) connecting the proximal right common carotid artery (CCA) to the right internal jugular vein (Fig 1). The peak systolic velocity within the fistula was 260 cm/s. Endovascular treatment was considered the safest means of managing the fistula, in view of the patient's medical co-morbidities and the fistula being located so close to the supraclavicular fossa. The diagnosis was further confirmed during catheter angiography (Fig 2). An endovascular stent graft (Advanta V12 PTFE-covered stent; Atrium, US) was performed to cover the CCA pseudoaneurysm under local anaesthesia. A post-procedure right common carotid arteriogram showed a significant reduction in the blood flow through the fistula (Fig 3).

Due to her underlying thrombocytopenia (related to renal failure), the patient was put on oral aspirin 80 mg daily for 4 weeks to reduce her risk of thromboembolism. A follow-up colour Doppler ultrasonogram performed 1 month after the stent placement showed a patent stent within the right



FIG 2. The right common carotid arteriogram showing rapid filling of the pseudoaneurysm (arrow) and internal jugular vein (arrowheads) via the arteriovenous fistula at T1 level.



FIG 3. The post-procedural right common carotid arteriogram shows a satisfactory stent position with significant reduction of flow into the pseudoaneurysm and internal jugular vein.

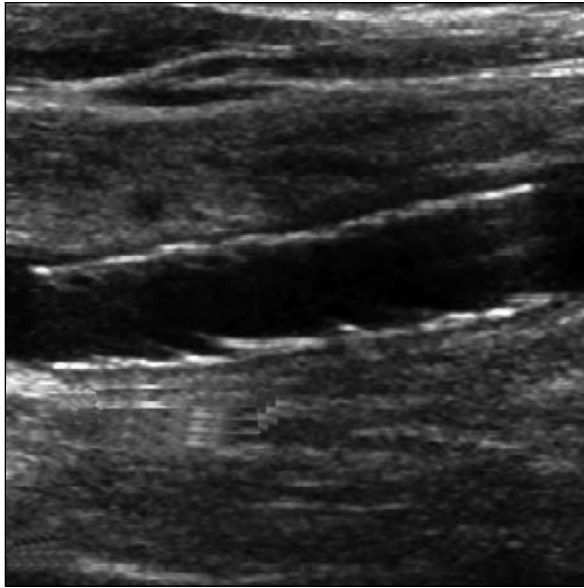


FIG 4. A colour Doppler scan of the right common carotid shows a patent stent with no evidence of any pseudoaneurysm or arteriovenous fistula

proximal CCA and normal blood flow at the right CCA and right internal carotid artery. There was no evidence of an AVF (Fig 4). Clinical follow-up 9 months after the stent placement revealed no evidence of a recurrent fistula. She did not experience any strokes

or transient ischaemic attacks.

A carotid-jugular AVF is a rare complication following cannulation of the internal jugular vein.¹⁻³ If left untreated, the fistula may lead to high-output heart failure or thromboembolism.⁴ Traditionally, these fistulae are often surgically ligated.⁵ An endovascular stent graft can be a safe alternative, especially in patients with medical co-morbidities or fistulas in locations inconvenient for surgical access, as illustrated by our case.

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