

A Palpable Thrill at the Base of the Neck After Inadvertent Arterial Puncture: Successful Management of a Carotid–Jugular Fistula

Yanlışlıkla Arteriyel Ponksiyon Sonrası Boyun Tabanında Palpe Edilebilir Bir Tril: Karotis–Juguler Fistülün Başarılı Yönetimi

A 43-year-old woman was referred to the cardiology clinic for evaluation of an arteriovenous fistula. She had a history of hypertension and stage V chronic kidney disease. One month earlier, she had been hospitalized because of hyperkalemia and reduced urine output, and hemodialysis was scheduled. During the placement of an internal jugular vein (IJV) catheter, a hematoma occurred due to the puncture of the right carotid artery (CA). Therefore, the catheter was inserted into the right femoral vein, and hemodialysis was initiated. The neck hematoma resolved after manual compression at the puncture site. Approximately one week later, the patient reported feeling vibrations in her neck. Physical examination revealed a pronounced thrill at the puncture site. Doppler ultrasonography showed a fistula between the right CA and the right IJV. Contrast-enhanced computed tomography revealed a fistula, measuring 18 mm in length and 7.5 mm in width, between the proximal part of the right common CA and the right IJV (Figures 1A and 1B). Due to the carotid–jugular fistula, she was referred to the cardiovascular surgery clinic. A decision for endovascular therapy was made because the patient refused to undergo surgery. The patient underwent peripheral angiography (Figure 1C, Video 1). The vessel diameter was determined by angiography and tomography images. After administration of 600 mg of clopidogrel and 300 mg of Acetylsalicylic Acid (ASA), a 9.0 × 38 mm balloon-expandable graft stent (Advanta V12) was implanted in the right common CA (Figures 1D and 1E). We did not use a filter because there were no atherosclerotic lesions. Digital subtraction angiography showed a complete occlusion of the fistula with no residual flow (Video 2). On the third hospital day, she was discharged uneventfully on dual antiaggregant therapy.

Arteriovenous fistulae arising from the common CA to the IJV are rare complications of central venous catheterization, usually occurring due to an inadvertent puncture. Although surgical ligation may seem simple, it has the risk of bleeding, nerve injury, and fistula recurrence. There are no randomized studies showing that surgical treatment is superior to the endovascular approach. Endovascular therapy may be an alternative to surgery in eligible patients.

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Video 1: Digital subtraction angiography demonstrated a fistula between the proximal end of the right common CA and the right IJV.

Video 2: Digital subtraction angiography showed complete occlusion of the fistula with no residual flow.

CASE IMAGE OLGU GÖRÜNTÜSÜ

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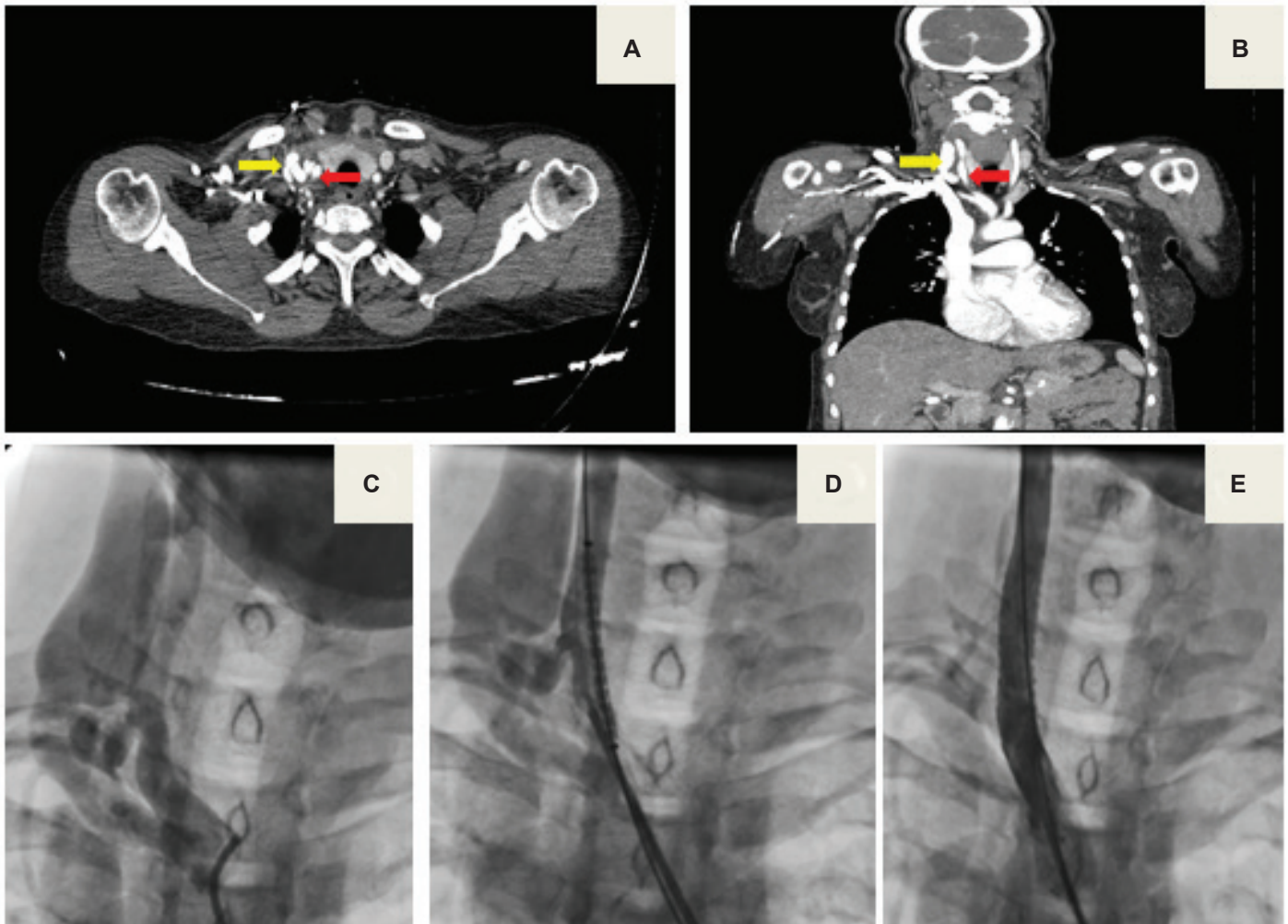


Figure 1. (A) Contrast-enhanced computed tomography revealed a fistula between the proximal end of the right common carotid artery (CA) (red arrow) and the right internal jugular vein (IJV) (yellow arrow). (B) The coronal plane of a computed tomography angiogram showed a carotid-jugular fistula (red arrow: the right common CA; yellow arrow: the right IJV). (C). A carotid-jugular fistula was noted on a carotid angiogram. (D) A 9.0 x 38 mm balloon-expandable graft stent was implanted in the right common CA. (E) No residual flow was seen after the implantation of the graft stent.