

Hypoglossal canal dural arteriovenous fistula

Percutaneous transcranial puncture, embolisation and occlusion of a very symptomatic hypoglossal canal/anterior condylar vein dural arteriovenous fistula (DAVF) using syngo iGuide navigational software in a patient in whom transarterial and transvenous embolisation and surgery had failed.

After unsuccessful arterial and venous embolisation and surgical treatment of a symptomatic hypoglossal canal DAVF, a 47-year-old man was transferred for further management. With exquisite anatomic detail provided by C-arm cone-beam computed tomography (CBCT) equipment (Artis zee Biplane, Dyna CT VC21H, Siemens Healthcare GmbH, Germany) and syngo iGuide needle guidance navigational software (Siemens Healthcare GmbH) for planning a safe direct approach, the hypoglossal/anterior condylar vein, the dominant outflow vein of the fistula, was needle punctured percutaneously at the hypoglossal foramen and occluded with ethylene vinyl alcohol copolymer liquid embolic agent (Onyx, Medtronic, Minneapolis, Minnesota, USA) after placing two anchoring platinum coils (Target detachable coils, Stryker Neurovascular, Fremont, California, USA).

After a year of progressively severe left eye proptosis, chemosis and increased intraocular pressure, the symptoms quickly subsided after this embolisation and the patient was symptom free at his 3-month and later checkups.

With guidance and imaging provided by CBCT and syngo iGuide navigational software, an otherwise untreatable DAVF was successfully embolised and obliterated by an aggressive unique percutaneous trans-cranial needle puncture of the dominant outflow vein in the hypoglossal canal ¹⁾.

¹⁾

Diaz OM, Toledo MM, Roehm JOF, Klucznik RP, Chinnadurai P, Lopez GV, Britz GW. Unique percutaneous direct puncture technique for occlusion of a hypoglossal canal dural arteriovenous fistula. J Neurointerv Surg. 2018 Jun 16. pii: neurintsurg-2018-013845. doi: 10.1136/neurintsurg-2018-013845. [Epub ahead of print] PubMed PMID: 29909379.

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