Endovascular treatment of distal internal carotid artery pathologies with covered stents.

Konstantinos Spanos, MD, Christos Karathanos, MD, MSc, PhD, Ioannis Vasilopoulos, MD, Stylianos Koutsias, MD, PhD, Aikaterini Drakou, Konstantinos Stamoulis, MD, MSc, Athanasios D Giannoukas, MD, MSc, PhD, FEBVS.

Department of Vascular Surgery and Anesthesiology, University Hospital of Larissa, Faculty of Medicine, School of Health Sciences, University of Thessaly, Larissa, Greece

Distal internal carotid artery (ICA) lesions either traumatic or atheromatic are challenging pathologies to treat because of the difficult surgical access. We describe two cases, one from each category.

In the first case, CT scan of a 25-year-old male with head and neck injuries after a traffic accident showed a left ICA pseudoaneurysm due to mandibular fracture. We performed endovascular repair with a covered stent 6x50 mm (Viabahn, GORE) under general anaesthesia, with cerebral oxygenation monitoring (INVOS™ system), through a proximal common carotid artery (CCA) cut-down access. The patient was discharged on dual antiplatelet therapy (clopidogrel 75 mg and aspirin 100 mg). After a year the patient is doing well and on CT scan the pseudoaneurysm remains excluded with patent covered stent.

In the second case, a 69-year-old male with history of transient ischemic attack had a CT scan that revealed a significant left distal ICA stenosis. Because of previous neck radiotherapy (left ear cancer), tortuosity of the carotid and calcification of the aortic arch we treated him similarly as it was described in the first case. The patient was discharged on dual antiplatelet therapy and in first year post-op CT scan the covered stent remains patent with no restenosis.

Covered stents might offer an effective option to treat distal ICA pathologies. CCA cut-down access in the presence of severe arch calcification and anatomical challenges may offer an alternative approach for covered stent deployment.