Tandem occlusion stroke due to internal carotid artery dissection: choose your strategy

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Abstract

Introduction: Internal carotid artery dissection (ICD) is a major cause of stroke, mainly in young patients. Intracranial clot migration represents the most frequent cause. The medical approach is known to be sparse, with poor clinical outcomes regarding intravenous thrombolysis. Clinical deficits and Circle of Willis patency represent crucial criteria for endovascular management. The mechanical treatment of choice in ICD is under debate.

Case report: We present a 45 years-old male, admitted due to sudden left central facial palsy, dysarthria and numbness in the left hand. Four days before admission he had hemicranial headache followed by right palpebral ptosis. Neurological evaluation revealed right Horner Syndrome and a NIHSS of 2 (1 facial palsy and 1 dysarthria). Brain CT showed a hyperdensity on the right MCA, with ASPECTS 10 and CT perfusion with an area of increased MTT and decreased CBF (with normal CBV) in this territory. CT angiography was suspicious for right ICD. DSA confirmed the dissection, a thrombus near the right MCA bifurcation and collateral flow through the ACoA. Mechanical thrombectomy with stent-retriever was performed with a TICI 2b revascularization. He progressed with a NIHSS of 1, without new clinical deficits. The extended blood workup was negative. He started single antiplatelet therapy. Brain MRI two days later showed small cortical infarcts in right parietal and temporal lobes.

Discussion: This clinical case illustrates the challenges of tandem stroke related to ICD. The decision to move for an endovascular approach was made, despite the poor NIHSS, due to evidence of acute intracranial thrombus. Endovascular mechanical thrombectomy was effective and the good collateral pathways moved us away from stent placement in the acute phase.

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