Direct carotid puncture for mechanical thrombectomy in acute ischaemic stroke: A single centre experience and review of the literature

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Introduction Direct carotid puncture (DCP) as a bailout or primary vascular access technique for endovascular thrombectomy (EVT) has been sporadically described in the literature. The collective procedural risk profile and therapeutic outcomes remain unclear.

Objectives and Aims To establish the efficacy and safety profile of DCP.

Method We reviewed our prospectively maintained single-centre database of patients admitted for acute ischaemic stroke (AIS) who underwent EVT. 11 patients treated by DCP approach were identified. We also conducted a literature review on published cases of EVT performed via DCP.

Results 9 studies with a total of 106 cases (our data included) were reviewed. Initial NIHSS score ranges from 2 to 31 (average 17.1). DCP access was successful in 92.5%. Among this, 86% achieved satisfactory recanalization (mTICI ≥2b). Average post-procedural mRS is 3.8. Carotid access sites were managed with closure devices in 76.6%, with AngioSeal being the most commonly deployed device. Haemostasis was achieved by manual compression or combined method in 22.2% and 5.1% of the cases respectively.

Carotid access site-related complications were encountered in 19 cases (17.9%). These include puncture site haematoma (n=12), non-flow-dependent carotid artery dissection (n= 4), access site pseudoaneurysm (n=2) and retinal artery occlusion (n=1). 4 cases required further intervention(3.8%). No mortality related to access site complication was reported.

Conclusion Direct carotid puncture is an effective and generally safe approach for EVT, with major access-site related complications seen in <5% of the cases. It should be considered as a bailout technique or primary access approach in selected cases.

Disclosure Nothing to disclose

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