FEASIBILITY FOR EXTRACRANIAL CAROTID ARTERY STENTING IN ACUTE ISCHEMIC STROKE PATIENTS AFTER IV-TPA TREATMENT

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Purpose The clinical benefit of endovascular thrombectomy (EVT) after intravenous recombinant tissue plasminogen activator (IV rt-PA) has been demonstrated in several studies. Near 10% of acute ischemic stroke (AIS) patients are accompanied with carotid artery atherosclerotic occlusion. The MR CLEAN study in the Netherlands reported that acute carotid artery stenting (CAS) was performed in 30 patients in the intervention group (12.9%). However, there is no evidence of the benefit for emergent CAS in AIS patients, and there are no clear guidelines for specific medications as an adjunctive therapy within 24 hours of IV rt-PA.

Methods We analyzed single-center registry data retrospectively for 2006 to 2018. Emergent CAS during EVT was performed in select patients according to the operator’s decision. Most patients for emergent CAS was not used to antithrombotic medications routinely within 24 hours of IV rt-PA. Only some complicated cases were used intra-arterial or oral antithrombotics within 24 hours of IV rt-PA. Recanalization results were assessed by TICI grade immediately after the procedure. The clinical outcome was evaluated using the 3 months modified Rankin Scale.

Results Among 177 consecutive patients with AIS treated with rt-PA and EVT from 2006 to 2018, twenty-three (12.9%) patients underwent CAS as an EVT. Eighteen patients (78.3%) were accompanied with tandem occlusion. Median age was 68. Median NIHSS was 13. During the emergent carotid artery stenting, pre-stent balloon angioplasty was performed in 20 patients. Carotid Wallstent (Boston Scientific, Natick, USA) was used in all patients who treated with emergency CAS. Successful installation of CAS was achieved in 22 patients (95.6%). One case of CAS was failed. Two patients were installed multiple carotid stent for carotid dissection. And embolic protection device was used in 13 patients. However, four cases of CAS experienced thromboembolic complications including in-stent thrombosis and distal migration of emboli. In those cases, IA glycoprotein IIb/IIIa infused as a rescue method, and early antiplatelet within 24 hours of rt-PA was administered in one patient. Final successful recanalization (mTICI 2b-3) was achieved in 16 patients (69.5%). Eleven patients (47.8%) had a good functional outcome (modified mRS 0–2). Intracranial hemorrhage was occurred in 4 cases. The mortality case was two. The accompanying tandem occlusion was 61%.

Conclusions In this analysis, successful rate of emergency CAS and intracranial EVT after IV rt-PA was high as 95.6% and 69.5%. The good functional outcomes (mRS 0–2) were 46.7% in patients treated with emergency CAS and the overall clinical outcome would be acceptable.

Disclosures J. Seo: None. E. Kim: None.

VECTA 071 AND 074 LARGE BORE ASPIRATION CATHETER: INITIAL MULTI-CENTER EXPERIENCE

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Background and objective New large bore aspiration catheters are being used as first line therapy for mechanical thrombectomy in patients with emergent large vessel occlusions. We present the largest combined experience with the new Stryker Neurovascular Vecta 071/074 aspiration catheters. Vecta 074 represents the largest available aspiration catheter in the U.S. We sought to assess the safety, efficacy, direct aspiration first pass success, need for rescue with stent retriever, and clinical improvement.

Methods Multi-institution retrospective review of all Vecta aspiration catheter cases performed at 2 comprehensive stroke centers between January 1, 2019 and March 25, 2019 yielded 26 patients. Key metrics were recorded including pre-procedural ASPECTS score, presenting NIHSS score, last seen normal to groin access, groin access to first device deployment, time to recanalization, recanalization TICI grade, thrombectomy technique (successful direct aspiration, need for rescue stent retriever and number of passes), and outcomes (NIHSS at discharge, rate of symptomatic intracranial hemorrhage sICH, and death prior to discharge).

Results Eighteen 071 and six 074 Vecta aspiration catheters were used (figures 1/2). The average pre-procedure ASPECTS, NIHSS, and time from last seen normal were 8, 17.7, and 5.3 hours, respectively. Time from vascular access to first device delivery was 25.9 minutes. Direct aspiration was attempted as first line technique in all cases and was successful in 72% of cases. 28% of cases required use of a stent retriever to deliver the aspiration catheter (grappling hook technique-figure 3), or for rescue thrombectomy (direct aspiration unsuccessful or to target residual small, distal emboli). TICI 3 recanalization was achieved in 46%, TICI 2C in 23%, TICI 2B in 26%, and 5% with unsuccessful TICI 2A recanalization. The average NIHSS on discharge was 6.1 with two patients expiring prior...