EMERGENT INTRACRANIAL STENTING FOR SYMPTOMATIC BASILAR ARTERY AND INTRADURAL VERTEBRAL ARTERY STENOSIS

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Introduction/Purpose To evaluate the feasibility and safety of basilar artery stenting in patients with symptomatic basilar artery or intradural vertebral artery stenosis in the setting of acute stroke intervention.

Material and Methods Review of our neurointerventional database and identification of all patients who underwent emergent intracranial stenting of the basilar artery or intradural vertebral artery, either as the first line treatment for emergent stroke intervention or as rescue treatment after mechanical thrombectomy between July 2017 and November 2021. Patient characteristics and outcomes, procedural and imaging follow up information was collected.

Results A total of 14 patients (9 males) with mean age of 67 years (range 44 to 89 years) were identified. Median mRS at baseline was 0 (range 0 to 3). Patients’ NIHSS at presentation ranged from 1–24 with mean NIHSS of 7. Seven patients underwent mechanical thrombectomy using a combination of stent-retriever and aspiration immediately prior to stent placement. Passes performed ranged from 1 to 4 with TICI 2c and 3 achieved in 5 cases, TICI 2b in 1 case and TICI 2a in another case. Two patients received intra-arterial tPA. Vessel stenosis in all cases ranged from 50 to 99%. After the stenting procedure TICI 3 was seen in 12 cases, TICI 2b and 2a in one case each. Neuroform EZ and Onyx Resolute were the most used stents. Eight patients were initiated on intravenous antiplatelet medication (either integrilin or cangrelor) after stent placement. One patient was loaded with aspirin post stenting procedure and 5 patients were already on dual antiplatelet medication prior to presentation. Three procedure related complications were seen with 2 subarachnoid hemorrhages due to vessel injury and one in-stent thrombosis withing 24 hours. Two of these patients unfortunately passed away. Another patient expired due to poor neurological status (NIHSS 24 at presentation). One more patient expired after discharge due to a cardiac arrest. At 3 months, follow up was available for 7 patients (50%). Four patients had died, 1 patient was lost to follow up and 2 patients did not yet reach the time point for clinical/imaging follow-up. For the 7 patients available, mRS at 3-months was 0–2 in all cases. Follow up imaging was available between 3 and 18 months (either CT angiogram or conventional angiogram) and showed patent stents in 6 cases. One patient showed complete occlusion of the stent without associated symptoms.

Conclusion Emergent intracranial stenting for symptomatic stenoses in the posterior circulation is feasible and safe when compared to the natural history of the disease.

TRENDS IN ELECTIVE TREATMENT STRATEGIES FOR BRAIN ANEURYSMS

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Introduction Elective treatment of intracranial aneurysms comprises a large share of neurointerventional practice, with a proliferation of new devices contributing to the tremendous growth of this area. Traditionally, endovascular treatment of intracranial aneurysms was limited to coiling and coiling with
adjunct strategies. However, the development of flow-diverting stents such as Pipeline and endosaccular devices such as Woven endobridge (WEB) have diversified the treatment options for these aneurysms. Here, we review elective endovascular brain aneurysm treatments over time at a high-volume neurointerventional center.

**Methods** Clinical data and device type for elective aneurysms treatments were retrospectively obtained from a high-volume center from 2002 to 2021. Treatment types recorded included coiling, balloon-assisted coiling, flow diversion, liquid embolization, parent vessel sacrifice, stent-assisted coiling, stent-assisted coiling with an X or Y configuration, and WEB. Gross trends from initial years of analysis were compared to 2019 due to the limitation of elective cases in 2020 due to the ongoing pandemic and an incomplete data set for 2021 due to the timing of data collection. Clinical data and device type for elective aneurysms treatments were retrospectively obtained from a high-volume center from 2002 to 2021. Treatment types recorded included coiling, balloon-assisted coiling, flow diversion, liquid embolization, parent vessel sacrifice, stent-assisted coiling, stent-assisted coiling with an X or Y configuration, and WEB. Gross trends from initial years of analyses were compared to 2019 due to the limitation of elective cases in 2020 due to the ongoing pandemic and an incomplete data set for 2021 due to the timing of data collection.

**Results** In total, 1329 elective aneurysm treatments performed were available for review in the study period. In 2002, 82% of aneurysms were treated with coiling, 13% with balloon coiling, and 5% with parent vessel sacrifice. In 2019, 47% of aneurysms were treated with flow diversion, 17% with stent-assisted coiling, 16% with WEB, and 15% with coiling. Complete overall trends and counts over time are demonstrated in Figure 1.

**Conclusions** Our data demonstrates an expected trend of increased flow diversion and endovascular device use as these treatment options became readily available over time. The availability of these treatments have led to standalone coiling being less frequently pursued.

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**E-159 NEUROINTERVENTION ON DISTAL MCA OCCLUSIONS: A MULTI-CENTER STUDY DEMONSTRATING SAFETY AND EFFICACY**

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**Introduction/Purpose** While there is robust evidence for endovascular treatment (EVT) for large vessel occlusions, evidence for EVT in peripheral and more distal occlusions is lacking. The benefit in proximal vessel intervention with EVT suggests that similar intervention may be beneficial in distal occlusions. Treatment in stroke patients with distal to M2 segment occlusions of the middle cerebral artery presenting with mild neurological deficits has been met with mixed evidence regarding effectiveness of intervention. This is a multi-center study examining the safety and effectiveness of intervention in the treatment of strokes distal to the MCA bifurcation, at the M2 and M3 segments.

**Materials and Methods** Data on 229 patients from years 2014–2021 presented to one of four academic institutions was