

**P017 INTRACRANIAL DOTTER ANGIOPLASTY USING TENZING 7 FOR SYMPTOMATIC ATHEROSCLEROTIC STENOSIS: INITIAL MULTICENTER EXPERIENCE**

<sup>1,2</sup>Fabio Settecase, <sup>3</sup>Rajkamal Khangura, <sup>4</sup>Omar Kass-Hout, <sup>1,2</sup>Warren Kim, <sup>3</sup>Matthew Alexander, <sup>1</sup>Ashish Gajjar, <sup>1</sup>Jaehyun Kim, <sup>3</sup>Mubashir Pervez, <sup>1,2</sup>Joey English, <sup>5</sup>Guilherme Dabus. <sup>1</sup>California Pacific Medical Center, San Francisco, USA; <sup>2</sup>Mills Peninsula Medical Center, Burlingame, USA; <sup>3</sup>Sutter Sacramento Medical Center, Sacramento, USA; <sup>4</sup>University of North Carolina Rex, Raleigh, USA; <sup>5</sup>Baptist Hospital, Miami, USA

10.1136/jnis-2024-ESMINT.54

**Introduction** Traditional endovascular treatment of intracranial atherosclerotic disease (ICAD) includes balloon angioplasty and stenting. Catheter-mediated (“Dotter”) angioplasty has been previously described for extracranial arteries. The Tenzing 7 (Route 92 Medical, San Mateo, CA) shelf-reducing delivery catheter has an atraumatic tapered distal tip that progressively enlarges to a 0.062 inch (1.6 mm) outer diameter (figure 1).

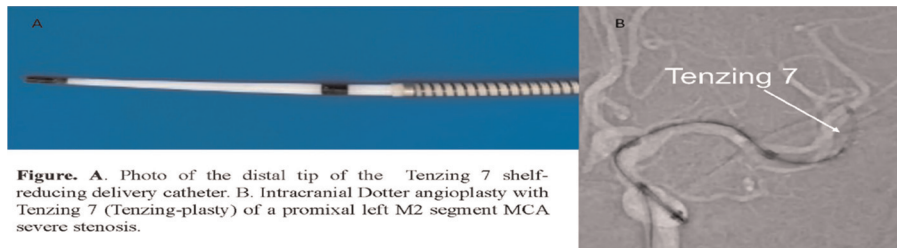
**Aim of Study** We report our initial multicenter experience in treating symptomatic ICAD steno-occlusive lesions using Dotter angioplasty/Tenzing-plasty.

**Methods** After local IRB approvals, we retrospectively reviewed consecutive patients undergoing endovascular treatment for symptomatic ICAD with off-label Tenzing-plasty, as a first approach at our stroke centers from 2021-2024. Subsequent adjunctive balloon angioplasty and/or stenting were performed at operator discretion.

**Results** Twenty-eight consecutive underwent Tenzing-plasty, either as part of an emergent large vessel occlusion mechanical thrombectomy procedure, or if medical management of ICAD had previously failed. Median age was 63±12 years and 13 were female (46%). Stenosis location was: 12 M1, 7 M2, 2 ICA, 6 vertebral V4 segment, 1 basilar. The average pre-treatment ICAD stenosis was 95±7%, including 13/28(46%) with complete occlusion on initial angiogram. In 28/28(100%), Tenzing-plasty resulted in improvement in arterial caliber after median 1 pass (IQR 1-1), with average stenosis improving to 64±15%. Subsequent balloon angioplasty was performed in 5/28(18%). Stenting was performed in 12/28(43%) cases using a variety of self-expanding or balloon-mounted stents. There were no instances of arterial perforation or symptomatic intracranial hemorrhage.

**Conclusion** Tenzing-plasty is a feasible and safe alternative technique for improving luminal caliber and flow restoration for symptomatic ICAD lesions. Further study is warranted.

**Disclosure of Interest** yes Consultant: Route 92 Medical, Stryker Research grants: Stryker, Microvention Equity interest: Route 92 Medical.



**Figure.** A. Photo of the distal tip of the Tenzing 7 shelf-reducing delivery catheter. B. Intracranial Dotter angioplasty with Tenzing 7 (Tenzing-plasty) of a proximal left M2 segment MCA severe stenosis.

**Abstract P017 Figure 1**

**P018 ISCHEMIC STROKE WITH ESTABLISHED LARGE INFARCTS: HOW MUCH OF FUNCTIONAL OUTCOME IMPROVEMENT AFTER MECHANICAL THROMBECTOMY IS EXPLAINED BY FOLLOW-UP INFARCT VOLUME REDUCTION AND BY THE POST-ACUTE NEUROLOGICAL STATUS? – A TENSION SECONDARY ANALYSIS**

<sup>1</sup>Helge Kniep, <sup>1</sup>Fabian Flottmann, <sup>1</sup>Laurens Winkelmeier, <sup>1</sup>Susanne Gellißen, <sup>1</sup>Götz Thomalla, <sup>2</sup>Martin Bendszus, <sup>1</sup>Jens Fiehler, <sup>1</sup>Lukas Meyer. <sup>1</sup>University Medical Center Hamburg Eppendorf; <sup>2</sup>University Medical Center Heidelberg

10.1136/jnis-2024-ESMINT.55

**Introduction** The interplay between thrombectomy-related infarct volume reduction, post-acute neurological improvement and functional outcome has been described[1-4]. However, pathophysiological mechanisms might be different in patients with large established infarcts.

**Aim of Study** To evaluate how much of the thrombectomy-related treatment effect is explained by follow-up infarct volume and the post-acute neurological status in patients with large ischemic core enrolled in the TENSION RCT[5]. We hypothesize that the proportion of the treatment effect explained by infarct volume reduction is lower in patients with established large infarctions.

**Methods** Main inclusion criteria of the TENSION RCT were anterior circulation stroke and ASPECTS 3-5. All patients with availability of relevant data points were included. Two causal treatment effect models (ordinal logistic regression) were defined to quantify the effect of endovascular therapy on improvement in functional outcome (90d-mRS) explained by a) follow-up infarct volume and b) 24h-NIHSS.

**Results** 188 patients were included (table 1). For both models, MT was associated with a 25 percentage-points higher probability of 90d-mRS 1-4 (cumulative treatment effects mRS 1-4, figure 1). Follow-up infarct volume explained 28% and 24h-NIHSS explained 64% of the MT-related improvement in functional outcome.

**Conclusion** In patients with large established infarct core, follow-up infarct volume explained 28% of the MT-related improvement in functional outcome, while NIHSS at 24h reflected 64% of the effect. Compared to follow-up infarct volume, other pathophysiological factors such as topography, selective neuronal loss, neural plasticity and effectiveness of rehabilitation may play a more important role in outcomes of patients with large established infarct cores.