neonate which, while distinct from VOGM, mimicked the pathology by demonstrating a choroidal-type, arterio-arterial maze in the blood supply of the pial fistula. Notably, this procedure was performed through the umbilical vein and treatment was repeated through the same trans-umbilical catheter up to 17 days post-placement with no complication. Komiyama further reported, in 2004, a VOGM case treated with four rounds of coil embolization trans-umbilically with a combination of umbilical artery/vein access which was left with a slight developmental delay. Kürşöglu et al., in 2006, reported another case of VOGM, trans-umbilical embolization via the umbilical artery which allowed for complete obliteration of the lesion, but by 20 months showed a neurological deficit. Finally, in 2016, Komiyama et al. reported one additional case of trans-umbilical embolization for a pial AVF, though due to a combination of underlying, pre-interventional, brain damage and an intraoperative bleed the outcome resulted in a vegetative state.

Conclusion Trans-umbilical access for pial AVF, dural AVF, and VOGM is largely safe and effective throughout the literature, but this literature is limited. The benefits of trans-umbilical access are sparing of the femoral arteries for future treatments and potential applicability to other high-flow fistulas of the brain. Our practice is currently amassing data for a larger case series of trans-umbilical access for trans-arterial embolization in neonates in the hope of supplementing this review and furthering outcome research for the technique.

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95.3% of eCAS cohort, with no differences in complications in the eCAS subgroup between PFC only versus PFC and distal EPD (median follow-up 4.1 months).

**Conclusion** Walrus BGC for proximal flow-control is safe and effective during eCAS and tCAS. Procedural success was achieved in all cases, with favorable safety and functional outcomes on short term follow-up.


**Abstracts**

**E-007 IMMEDIATE POST-THROMBECTOMY DUAL-ENERGY CT VIRTUAL NON-CONTRAST IMAGING FOR FINAL INFARCT PREDICTION**

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**Purpose** Early detection of infarct volume immediately after mechanical thrombectomy may aid in prognostication and guiding post-treatment clinical management decisions. iodine-staining of infarcted tissue may mask low-attenuation changes and virtual non-contrast (VNC) reconstruction of post-procedure dual-energy CT (DECT) may improve visualization of infarcted brain. In mTICI 3 reperfused patients, we rated infarct extent using ASPECTS on immediate post-MT mixed energy DECT and VNC, compared to follow-up single energy noncontrast CT ASPECTS. We hypothesize that VNC ASPECTS would more closely approximate follow-up CT ASPECTS than mixed energy DECT that has not been post-processed.

**Materials & Methods** Institutional review board approval was obtained. Patients who underwent MT for treatment of anterior circulation ischemic stroke between January and September 2019 were consecutively reviewed. 28 patients (aged 68 ± 17 years, 16 female) with a mTICI score of 3 and without hemorrhagic transformation were included. Dual-energy CT imaging was obtained immediately post-MT and post-processed with vendor software (syngo.via, Siemens, Erlangen, Germany) to produce VNC images. ASPECTS was rated by two independent blinded assessors for the immediate post-MT DECT and VNC as well as for the follow-up conventional single energy CT at 24-48 hours. A Wilcoxon rank sum test was applied to compare the ASPECTS across DECT, VNC and follow-up CT studies. Cohen’s kappa was measured to assess inter-rater agreement.

**Results** ASPECTS for the DECT (rater A; median = 9 (IQR 8–9)), rater B; median = 8.5 (IQR 7.65–9)) were significantly different from the follow-up at 24–48 hours for both raters (p<0.001 for both). There was no statistical difference, however, between the VNC (rater A; median = 6.5 (IQR 6–8.25)), rater B; median = 6 (IQR 4–6)) and the follow-up CT (rater A; median = 7.5 (IQR 6–8)), rater B; median = 6 (IQR 5–7)) for both raters (rater A; p=0.985, rater B; p=0.058). Inter-rater agreement for VNC was low (κ = -0.029) and follow-up CT (κ = -0.031) and DECT (κ = 0.235). The caudate and lentiform nuclei were areas most commonly affected on the follow-up CT and demonstrated the greatest discrepancy between the VNC and the DECT. For rater A, VNC was 88.9% and 83.3% sensitive for caudate and lentiform infarcts, respectively, versus 22.2% and 27.8% for DECT. Similarly, for rater B, VNC was 88.2% and 90.9% sensitive for caudate and lentiform infarcts, respectively, versus 20% and 22.7% for DECT.

**Conclusions** Immediate post-thrombectomy DECT with VNC post-processing may more accurately visualize infarcted tissue and aid in prognostication and guiding treatment decisions despite suffering from low inter-rater agreement. Further larger scale studies are warranted.

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**E-008 AGE-RELATED DIFFERENCES IN MECHANICAL THROMBECTOMY OUTCOMES**

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**Introduction** Large vessel occlusion (LVO) is estimated to account for up to 39% of all ischemic strokes with around 50–60% of them resulting in post-ischemic stroke dependency and 96% of all post-ischemic stroke mortality. Advanced imaging modalities and efficient stroke systems of care have resulted in faster reperfusion times. There is limited data on the outcomes of thrombectomy as a function of age. We present a retrospective analysis on thrombectomy in younger (age 18–49 years) versus older (age ≥50 years) patients.

**Method** Retrospective single center analysis Using the ‘SlicerDicer’ tool and our Cerebrovascular Stroke Database, we identified patients treated between 2017–2021, and performed an analysis of thrombectomy outcomes and predictors by age.

**Results** We have identified 48 patients between the age of 18–49 (‘younger’ group), and 436 over the age of 50 (‘older’ group). There were more males in the younger group (64.6% vs 48.1%; p=0.03) Younger versus older patients showed higher rates of favorable reperfusion (TICI2b-3) at 93.7% vs. 72.9% (p = 0.0016) and better clinical outcomes (mRS 0–2) at 77.1% vs. 32.3% (p<0.0001). The older group required more passes to achieve recanalization (4 or more passes: 4.3% vs 16.2%; p=0.035). Mortality rate was significantly less in the younger population (8.3% vs. 22.1%; p=0.026). We found that median groin puncture to reperfusion time was lower in younger population (32 vs. 69 mins; p=0.0044). The median groin puncture to first pass time was lower in younger population (32 vs 69 mins; p=0.056), but it failed to show statistical significance.

**Conclusion** Younger patients had better outcomes than their older counterparts after mechanical thrombectomy in our analysis. Other than younger age, higher rates of reperfusion, earlier recanalization, and less passes to recanalization were seen in association with better observed outcomes. A larger analysis is planned to identify further predictors of outcome in different age groups.

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