Materials and Methods Patients were divided into three groups: current smoker, previous smoker (defined as having quit greater than 6 months prior to the ischemic event), and non-smoker. NIHSS scores were recorded upon admission and at discharge. The change in NIHSS score was defined as score at admission minus the score at discharge. Infarct and cerebral edema volumes were measured. Linear regression analysis was performed based on infarct or edema volume versus the change in NIHSS score.

Results Eighty-eight adult subjects (>18 years) were included in the study, of which 48 (55%) were female. Median age was 69 years (25–101). Twenty-three (26%) were active smokers, 14 (16%) were previous smokers, and 51 (58%) were non-smokers. Mean infarct time, or mean time from last known well, was 508 ± 347 minutes. Mean infarct volume was 67,882 ± 90,632 mm³. Mean edema volume was 69,432 ± 93,878 mm³. Mean NIHSS score on admission was 16.9 ± 7.5 and mean NIHSS score at discharge was 8.9 ± 8.4. Mean age at time of infarct for the smoking population was 10 years earlier when compared to the non-smoking population, 61.9 versus 71.6 years. Linear regression was significant (p<0.0001) when comparing infarct or edema volume versus change in NIHSS score for current smokers only.

Conclusion On average, smokers had stroke 10 years earlier than non-smokers, which is consistent with previously published findings. Smokers also had a statistically significant correlation between infarct or edema volume and worsening change in NIHSS score, when compared to both previous smokers and non-smokers who had no significant correlation. These findings are valuable in patient counseling for smoking cessation. Patients who continue to smoke are more likely to have a stroke earlier in life with potentially more significant disability and worse prognosis.

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increased pressure can lead to rupture of the arterial wall at the weakest spot, which may be just past the distal dural ring where the ICA travels intracranially within the subarachnoid space.

Conclusion We highlight a newly encountered mechanism for potential injury to the distal ICA during mechanical thrombectomy. Sudden increase in pressure affecting the ICA in a system that is closed when performing angiography can rupture the distal ICA as it goes intracranially resulting in subarachnoid hemorrhage. It is important to be aware of this fatal complication when performing mechanical thrombectomy in patients with ICA terminus occlusion especially with proximal tandem carotid stenosis. Awareness of this complication will help operators to avoid performing angiographic runs in this potential closed space if not deemed necessary to avoid this potentially devastating complication.


### E-114 MIDDLE MENINGEAL ARTERY EMBOLIZATION FOR TREATMENT OF CHRONIC SUBDURAL HEMATOMA: A PROSPECTIVE INSTITUTIONAL CASE SERIES


Background Embolization of the middle meningeal artery (MMA) has emerged a potential treatment for chronic subdural hematoma (cSDH), either as a stand-alone therapy or an adjunct to surgical evacuation.

Methods Information on patients with a cSDH at least 10 mm in maximal thickness selected for MMA embolization was entered into a prospectively collected database. The embolization procedure consisted of MMA catheterization followed by injection of 150–250 μm polyvinyl alcohol (PVA) particles until occlusion of the MMA distal to the sphenoid ridge. For patients who also underwent surgical evacuation, MMA embolization was performed after surgery in all cases. Descriptive statistics of treatment outcomes, which included cSDH size on final head CT and the incidence of cSDH surgical evacuation after MMA embolization, are provided.

Results MMA embolization was performed in 23 patients with 29 cSDHs. The mean age of the cohort was 72.3 years (Standard deviation (SD) = 9.2) and a majority of patients were male (n=24, 82.8%). History of anti-coagulation use was present in 14 patients (60.9%). Mean maximal dimension and associated midline shift of treated cSDHs were 18.1 (SD=4.9) and 4.6 mm (SD=3.9). Surgical evacuation prior to MMA embolization was performed for 12 cases (41.4%). A thromboembolic complication during MMA embolization resulting in a new minor neurologic deficit occurred in a single patient (4.3%). Overall, 27 cSDHs (93.1%) were reduced in size on final follow-up CT, and 10 were completely resolved (34.4%). Stratified by initial medical versus surgical management, 88.2% (n=15/17) and 100.0% (n=12/12) of cSDHs were reduced in size and 33.3% (n=4/12) and 35.3% (n=6/17) were completely resolved on last follow-up CT. Two cSDHs (6.9%) in a single patient initially treated with surgery required repeat surgical evacuation after MMA embolization. Mean time between MMA embolization and last follow-up head CT was 3.7 months (SD=3.1).

Conclusion Our preliminary results suggest MMA embolization may be an effective treatment for cSDHs. Randomized trials are indicated.

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