Introduction Ischemic stroke secondary to acute extracranial internal carotid artery (EC-ICA) occlusion accounts for approximately 20% of all stroke cases. Pure EC-ICA lesions account for only a minority of cases as a larger subgroup of people who experience these occlusions, concomitantly develop an intracranial anterior circulation large vessel occlusion (ACLVO), i.e. a tandem lesions. Endovascular management includes acute carotid artery stenting (CAS) with or without balloon angioplasty for pure EC-ICA occlusions and concurrent mechanical thrombectomy (MT) for tandem lesions. In lieu of the scarcity of randomized data and abundance of observational studies, we intend to perform a systematic review and pooled analysis of the data over the past decade to evaluate clinical outcomes, safety and feasibility of endovascular management of acute EC-ICA strokes.

Methods Systematic search of the Pubmed, MEDLINE, and EMBASE databases was conducted based on Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines. We performed a systematic review of all acute EC-ICA stroke papers (including tandem lesions) published between January 2010 and December 2020. A pooled analysis of the extracted data was performed.

Results Data from 1153 patients from 22 studies were pooled and analyzed. Mean age after pooling was 66.9 years, mean NIHSS at admission was 15.9, % IV tPA use before endovascular intervention was seen 56.1% of studies. 82.8% of subjects had a tandem lesion involving both Extracranial and intracranial part of ICA and only 17.2% had a pure and isolated EC-ICA lesion. Angioplasty + stenting (both) was done in 77.6% of cases. Pooling was also done for any and all approaches taken in case of a tandem lesion i.e. antegrade or retrograde. Antegrade approach was taken in 61.7% of cases whereby CAS was performed first followed by MT. Outcome measures were reported as successful recanalization (TICI $\geq$ 2B) in 80.0% of cases, with good outcome (90-day mRS $<$ 2) in 49.6% and a mortality rate of 12.9%.

Conclusion Our systematic review for endovascular treatment of EC-ICA strokes found a high rate of good outcomes and an impressive rate for recanalization, with low mortality rates. Since these results are from observational, retrospective studies, more rigorous randomized trials are required to establish the best approach.

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E-136 EFFECT OF INFRACED BRAIN AREA FRAGMENTATION ON PATIENT OUTCOME

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Purpose Stroke is the 5th leading cause of death in the US. 87% of strokes are ischemic in nature caused by large vessel occlusion. It is established in the literature that the infarct volume directly relates to patient's outcome. We aim to study the effect of fragmentation of the total infarct volume on DWI on patient outcome.

Materials and Methods Data was collected as part of the Blood And Clot Thrombectomy Registry And Collaboration (BACTRAC) protocol. DWI sequences were integrated into ITK-SNAP software where areas of infarction were manually segmented to measure infarction volume and distribution. Demographic and outcome data were extracted from the BACTRAC database.

Results A total of 66 individuals were included in the analysis. The median NIHSS score at discharge was 7.0 and the median mRS score at discharge was 4.0. When adjusting for infarcted brain volume, number of infarcted areas didn't have a statistically significant effect on NIHSS and mRS scores at discharge. (P= 0.681 and 0.475 respectively).

Conclusion Infarcted brain volume on DWI is the main imaging predictor of patients' outcome regardless of number of fragments contributing to the total volume.

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E-137 ENDOVASCULAR COIL OCCLUSION OF ARTERIOVENOUS FISTULA: A CASE REPORT

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Objectives The aim was to provide a method of closing high-flow the vertebral arteriovenous fistulas (VAVF) and