

Evaluating the Management and Outcomes of Acute Extracranial Occlusions of Internal Carotid Arteries with Patent Intracranial Vasculature

William Liu, B.A., B.S.¹, Vince Galate, M.D.¹, Sivani Lingam, MBBS², Sabreena J. Slavin, M.D.²

¹University of Kansas School of Medicine-Kansas City, Kansas City, KS

²University of Kansas Health System, Kansas City, KS, Department of Neurology

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Introduction. Acute occlusion of the internal carotid artery (ICA) is implicated in a significant proportion of ischemic strokes and associated with severe outcomes. Extracranial ICA occlusion without tandem intracranial occlusion lacks standardized management guidelines. Endovascular recanalization risks distal embolization or hemorrhagic transformation, yet medical management may not prevent deterioration. This study aims to understand the natural history, management trends, and outcomes of isolated extracranial ICA occlusions.

Methods. Retrospective chart review of patients aged ≥ 18 with isolated extracranial ICA occlusion treated at one academic center between 2021-2023 was conducted. Outcome measures included mortality, symptomatic intracranial hemorrhage (sICH), and modified Rankin scale (mRS) at discharge; univariate analysis was conducted.

Results. 35 patients were included, with mean age 62.1 (37% female). 45.7% underwent endovascular therapy (EVT) with angioplasty; 20% additionally received intravenous thrombolysis (IVT). Most who underwent EVT received it promptly upon arrival, whereas 18.8% received it after a delay. Discharge mRS of patients who received EVT promptly was significantly worse versus those who received it after a delay (5 vs. 2.3; $p = 0.042$). Also, in those who received EVT versus medical management alone, there was a nonsignificant trend towards higher admission NIHSS (16.5 vs 12.7), sICH (25% vs 5.3%), and mortality (37.5% vs 15.8%).

Conclusions. This study with limited numbers suggests that there may be improved discharge outcomes in those who receive EVT after a delay as opposed to promptly upon arrival. Further research is needed to identify clinical criteria in those with isolated extracranial ICA occlusions who would benefit from EVT.