

Glycoprotein IIb/IIIa Inhibitor Therapy for Large Vessel Occlusion due to Intracranial Atherosclerotic Stenosis

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## Introduction

There is currently no consensus on the optimal treatment for acute ischemic stroke (AIS) large vessel occlusions (LVOs) or near occlusions with underlying intracranial atherosclerotic stenosis (ICAS). We report the first American series using intra-arterial (IA) Glycoprotein IIb/IIIa inhibitors (GPIs) as an LVO revascularization technique in the presence of ICAS.

## Methods

Records of 74 patients at two comprehensive stroke centers presenting with AIS who underwent acute stroke intervention from January 2017 to June 2018 were retrospectively reviewed. Patients with IA GPIs were identified. Baseline factors, imaging, procedural characteristics, hospital course, and neurological outcomes were collected. When administered, patients received weight-based coronary syndrome GPI dose via IA infusion.

## Results

Five patients with ICAS underlying their acute LVO or near occlusion were treated with IA GPI; all lesions were in the middle cerebral artery. Three near occlusions were treated with IA GPI as a first-line therapy, while 2 LVOs were treated with IA GPI as an adjunct therapy to thrombectomy. Mean age was 66 years (range 51 -79), presentation NIHSS was 11.2 (5–18), time from last seen well to treatment was 263.4 minutes (164–371), and time to revascularization was 70 minutes (26-94). Three of the 5 patients received IV tPA, and all patients received IA GPI infusion followed by maintenance GPI drip and subacute transition to oral antiplatelet therapy. Four patients had TICI 3, and one patient had









Thrombectomy opened the left MCA, however the artery reoccluded secondary to underlying atherosclerotic plaque and reformation of the thrombus on the plaque

## Conclusions

Our results highlight the utility of IA GPI administration as either first-line therapy or as a rescue technique after failed thrombectomy for acute stroke LVO patients suspected to have underlying ICAS. Future trials to study this treatment approach may be warranted.