

Title: Patient Selection for Intra-Arterial Therapy in Acute Ischemic Stroke: Concordance between Prior Practice Patterns at Strong Memorial Hospital and Current Evidence from Randomized Clinical Trials

Authors:

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Abstract:

Until recently, IAT had not been shown to be more effective than intravenous tissue plasminogen activator (IV tPA) in AIS. Despite the lack of evidence, many centers continued to offer IAT, with patient selection guided by expert opinion and physician discretion. Since December 2014, five randomized trials have confirmed a benefit from IAT compared to IV tPA alone in selected AIS patients. While the trials differ in their patient selection criteria, they generally included patients with good pre-morbid functional status, confirmed proximal vessel occlusion, and favorable imaging, presenting soon after symptom onset. We determined the level of concordance between our prior practice and the current evidence by applying the inclusion and exclusion criteria of these trials retrospectively to a prospectively collected cohort of 90 consecutive AIS patients who presented to our institution with a proximal vessel occlusion before December 2014. Thirteen of these patients (14%) were treated with IAT. Patient selection for IAT was most concordant with MR CLEAN and EXTEND-IA in the subgroup treated with IAT and IV tPA (100%), and with ESCAPE in the subgroup treated with IAT alone (71%). Of note, a significant subset of our 13 patients treated with IAT would have been found ineligible to participate in these trials. Specifically, 3 (23%) would have been excluded from ESCAPE, 4 (31%) from MR CLEAN, and 7 (54%) from EXTEND-IA. Conversely, 12 of our 77 patients not treated with IAT (16%) would have been eligible for ESCAPE, 31 (40%) for MR CLEAN, and 7 (9%) for EXTEND-IA. Further analysis of the outcomes in these patient groups and improvement of our door-to-groin puncture times will maximize the benefit of IAT in our AIS population.