Letter by Lahiri et al Regarding Article, “Endovascular Thrombectomy for Anterior Circulation Stroke: Systematic Review and Meta-Analysis”

To the Editor:

We read Yarbrough et al’s systematic review and meta-analysis on Endovascular Thrombectomy for Anterior Circulation Stroke with great interest and appreciation. The authors should be congratulated on a comprehensive review of the data that addresses efficacy of endovascular thrombectomy (ET) for acute ischemic stroke.

Based on the data presented, we note a potential error in the Abstract and Discussion sections, which suggests that patients who were not treated with intravenous tissue-type plasminogen activator (IV-tPA) benefited significantly after ET. The study reports an odds ratio of 1.59 (95% confidence interval, 0.86 to 2.95) for good outcome among ET-treated patients who did not receive IV-tPA before ET. The confidence interval includes unity, and therefore, it is not appropriate to infer that these patients had increased odds for good outcome and that the improvement in outcome remained significant regardless of whether patients received IV-tPA before therapy or not. This is in clear distinction to the patients who received IV-tPA before ET whose odds ratio for good outcome was significant: 1.83; 95% confidence interval, 1.46 to 2.31.

There is biological plausibility to explain this difference. Pretreatment with IV-tPA may promote microvascular thrombolysis and distal reperfusion and supplement the benefit of macrovascular recanalization that is achieved with ET. The results of this meta-analysis support administration of IV-tPA for patients with acute ischemic stroke who are potential candidates for ET. The data do not support any inference regarding patients treated outside the boundaries of the foundational clinical trials supporting the use of ET for acute ischemic stroke. Thus, ET remains indicated for appropriate patients, with or without prior IV-tPA.

After a successful clinical trial(s), the temptation to attempt additional parsing of the data always captures the imagination. Unfortunately, subgroup analysis rarely if ever yields meaningful clinical guidance and more often than not leads to erroneous at best, and tragic at worst, consequences. We support the general interpretation that ET provided within the established clinical guidelines and inclusion/exclusion criteria of the original studies offers the most rigorous opportunity to benefit our patients.

Disclosures

None.

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