

Reducing Mortality in AIS Patients After EVT: Challenges and Prospective Strategies [Letter]

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Dear editor

The recent study by Wang on the characteristics of mortality after endovascular thrombectomy (EVT) for acute ischemic stroke (AIS) sheds light on an important clinical issue.¹ Despite the efficacy of EVT in reducing mortality and improving functional outcomes, the high rates of post-procedural mortality emphasize the need to address complications such as malignant cerebral edema (MCE), pneumonia, and symptomatic intracranial hemorrhage (sICH). Here, we would like to suggest directions for future research to improve patient outcomes.

First, Wang identified MCE as the leading cause of death within the first week post-EVT, particularly in anterior circulation strokes. This finding aligns with prior research demonstrating the critical impact of successful reperfusion on reducing MCE-related mortality.² However, the study's retrospective design limits its ability to establish causal relationships. Future prospective studies are warranted to evaluate whether advancements in EVT techniques, such as optimized reperfusion strategies, can further mitigate this risk.

Moreover, pneumonia emerged as the predominant cause of death beyond the first week, especially in older patients with posterior circulation strokes. The study's emphasis on enhanced respiratory monitoring and early interventions is vital. Since previous systematic review and meta-analysis found a significantly higher incidence of pneumonia in dysphagic stroke patients compared to non-dysphagic patients,³ early dysphagia screening and tailored rehabilitation programs may have a role in reducing the incidence of pneumonia and improving prognosis in high-risk patients.

Furthermore, the association between sICH and procedural complications highlights the importance of surgical expertise. This study noted that less experienced interventionalists and procedural complications, such as arterial dissections, are key contributors to sICH-related mortality. This underscores the need for standardized training programs and centralized care models to ensure consistent procedural quality. Comparative analyses of outcomes between high- and low-volume centers could provide further insights into optimizing EVT care.

Although the study provides a comprehensive overview of mortality causes, it lacks data on the impact of patient comorbidities and preoperative health status. Factors such as pre-existing cardiovascular conditions and frailty may significantly influence mortality risks.^{4,5} Incorporating these variables into future analyses could refine risk stratification models and guide individualized treatment plans.

Lastly, the study's focus on early mortality excludes mid- to long-term outcomes. Understanding the factors influencing long-term survival and functional recovery post-EVT is critical for holistic patient care. Longitudinal studies are needed to bridge this gap and inform comprehensive management strategies.

In conclusion, the study provides valuable insights into the causes of mortality following EVT for AIS, emphasizing the roles of MCE, pneumonia, and sICH. Future research should prioritize prospective designs, enhanced preventive measures, and standardized procedural training to reduce mortality rates. Additionally, a broader focus on long-term outcomes and comorbidity-driven risk assessments could further optimize care for AIS patients undergoing EVT.

Disclosure

The authors report no conflicts of interest in this communication.

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