Stroke Care 2006: Critical Issues in Emergency Medicine

Stroke Care after the 3 Hour Window for IV tPA Use: What are the Diagnostic and Therapeutic Options?

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Learning Objectives

- Discuss what diagnostic modalities should be used in the diagnosis of acute ischemic stroke who are treated greater than three hours after symptom onset.
- Determine the role of pharmacologic, interventional radiology, and operative techniques in the management of ischemic stroke patients after the three hour IV tPA window.

Background

There have been numerous advances in the acute diagnosis of patients with acute ischemic stroke. The availability of CTA, MRI, MRA, as well as traditional cerebral angiography may allow the diagnosis for stroke to be made more accurately, and also may allow for therapeutic modalities to be used more effectively and efficiently based on the findings of these neuroimaging techniques. How have these new modalities changed the way in which we diagnose or should diagnose acute stroke patients in the ED, especially those who are being treated after the three hour IV tPA window?

Additionally, devices such as the mechanical clot removal device have been FDA approved as a therapeutic modality for the treatment of acute ischemic stroke patients. Other devices are being studied that may enhance perfusion of the ischemic penumbra. However, how and when patients should be directed to these and other pharmacologic interventions and operative intervention remains uncertain. What should Emergency Medicine physicians know about these new therapies and interventions so that they can appropriately obtain consultation and plan disposition for ED ischemic stroke patients so as to minimize ischemic stroke volume and maximize patient outcome?

Key Clinical Questions

What are optimal neuroimaging modalities when evaluating acute ischemic stroke patients who may not quality for IV tPA or whose symptoms have exceeded the three hour IV tPA window?

What pharmacologic, interventional radiology and operative techniques should be considered when managing stroke patients who do not receive IV tPA or present late after symptom onset?