

Biology and Pathology

Central Nervous System

Mechanisms of stroke and imaging modalities relevant in humans

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Learning Objectives:

- Stroke mechanism
- Conventional neuroimaging modalities
- Neuroimaging protocol for acute stroke management

Stroke is one of the most common causes of death in the world. Stroke has diverse mechanism of etiologies including large artery atherosclerosis, small artery occlusion, cardioembolic infarction, or stroke of other determined etiology. Neuroimaging in acute stroke is performed to diagnose the underlying etiology of stroke and to exclude stroke mimics. In the clinical setting of acute stroke management, urgent neuroimaging is mandatory to triage patients for treatment with intravenous thrombolysis. Non-contrast CT or MRI can exclude any contraindications to acute thrombolysis treatment. Stroke imaging such as angiography and perfusion imaging using CT or MRI are increasingly available in an acute stroke management. In this educational session, an overview of comprehensive multimodal stroke imaging is presented to affirm its clinical relevance in stroke management.