Acute Stroke Triage & Management: Clinical Perspective

Multidisciplinary Neuroradiology, pt 1

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What the stroke clinician wants to know

The questions that the stroke clinician tries to answer are:

- Is it a stroke (cerebrovascular) or a stroke mimic?
- Is it hemorrhage or ischemia?
- What vessel (artery or vein) is involved?
- What brain regions are affected?
- What is the cause of the stroke?
  For ischemic stroke:
  - Embolus
    - Material
      - Red (fibrin rich)?
      - White (platelet rich)?
      - Mixed
    - Source
      - Cardiac
      - Aortic
      - Internal carotid or vertebral origin
      - Intracranial artery to artery
  - Atherothrombotic
  - Hypoperfusion
    - Systemic hypotension
    - Proximal (extracranial or intracranial) stenosis with relative hypotension causing distal hypoperfusion
  - Hypercoagulable

- What is the primary treatment to improve outcome?
  - What?
  - When?
  - How?

  - Established
    - iv rt-PA for ischemic strokes less than 4.5 hours from onset
    - Hemicraniectomy for malignant stroke
    - specialized stroke unit
      - control of clinical variables that may affect outcome
      - prevention of stroke complications
    - Rehabilitative services

  - Empirical/Investigational
    - iv or intra-arterial thrombolytics in selected patients beyond 4.5 hours from onset

        - Endovasculat therapy
        - Hypothermia
        - Induced hypertension
        - Neuroprotective drugs

- What is the best therapy for secondary prevention of stroke?
    - What?
    - When?
    - How?

- What is the prognosis?
    - For the Patient?
    - For the Brain?

These questions have not changed substantially over the last century, but the information available to address them has been enormously enhanced by neuroimaging methods. This diagnostic information is used to initiate specific therapies, guide further diagnostic work-up and determine the proper therapy for secondary stroke prevention.