Stroke in Young People

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Disclosures

• None
Aetiological diagnosis of ischaemic stroke in young adults

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What is “young”?

• About 27% of all stroke in Ontario occurs in patients under 65 years of age

• The causes of stroke and the approach to treatment is a little different than for “older” people
Incidence increases with age

- 20-24 yo: 2.4/100000
- 45-49 yo: 32.9/100000
  - In Finland

Mortality is significant:
  - Approaches same 5 year mortality as for diagnosis of breast cancer in women under 50
Stroke is common in young people

- Migraine: 400/100,000
- Stroke: 25/100,000 (in U.S.)
- Multiple sclerosis: 11/100,000
Stroke etiologies

The image shows a bar chart titled "Stroke etiologies." The chart compares the frequency of stroke subtypes across different studies. The X-axis represents various stroke subtypes: Large-vessel disease, Cardioembolic disease, Small-vessel disease, Other cause, and Undetermined. The Y-axis represents the frequency of TOAST subtypes (%). The chart includes data from different sources: Leys, 2002; Musolino, 2003; Cerrato, 2004; Varona, 2004; Putaala, 2009.
Figure 3: Frequency of some specific diseases in the stroke subtype other identifiable causes in studies of young adults with stroke.
Some common etiologies that you can screen

- Dissection
- Hypercoagulable state
  - Antiphospholipid antibody syndrome
- Vasculitis
- Cardioembolism
- Drugs
- Reversible cerebral vasoconstrictive syndrome
- Infection
Some less common etiologies that you can screen

- CADASIL
- MELAS
- Fabry’s disease
Dissection

- Probably one of the most common causes of stroke in young people
- Can happen with trauma, even sometimes trivial events
- Can occur spontaneously
Figure 4: Dissection of the internal carotid artery (site B) causes a mural hematoma to form in the tunica media of the vessel wall (site A).
Dissection prognosis

• Generally excellent if patient escapes initial event without major stroke
  – About 2% risk of stroke in first 90 days with antiplatelet agents as treatment

• Treat with antiplatelet agent
  – Duration???
Hypercoagulable state

- Lupus anticoagulant
- Anti-cardiolipin antibody
- Anti-β2 glycoprotein 1 antibody
- Homocysteine
- B12, RBC folate
- Fibrinogen
- Protein C, S, AT III, Factor V Leiden, Prothrombin mutation, JAK2 if concerned for myelodysplastic syndrome
- Cryoglobulins
Vasculitis screen

- Extractable nuclear antigen
- ANA, C3, C4, RF, ESR, CRP
- ? GCA
Drugs

- Methamphetamine
- Cocaine
Cardioembolism

- Endocarditis (IVDU)
- Arrhythmia (atrial fibrillation, less common in younger people but still screen)
Infections

- HIV
- Hepatitis B, C
- Lyme disease
- Zoster
- Syphilis