

Stroke

Fang Feng, M.D., Ph.D.
Neurologist
Diplomate, American Board Psychiatry and Neurology

Stroke

- Symptoms
- Major Risks
- Prevention

Stroke

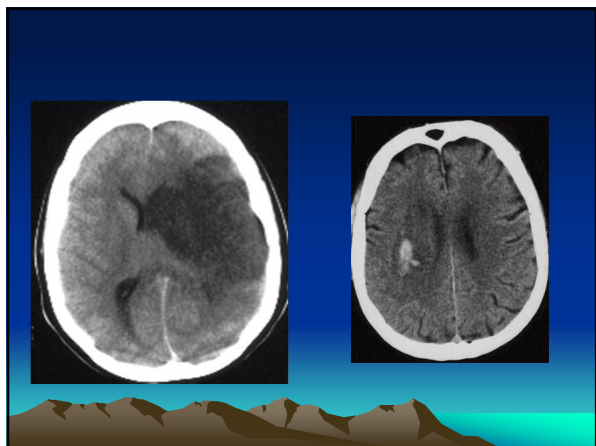
- Stroke: Cerebral vascular accident. Sudden onset of nonconvulsive, focal neurological deficit.
- Ischemic Stroke: Resulting from partial or completely occlusion of the cerebral blood vessels.
- Hemorrhagic Stroke: Resulting from rupture of the cerebral blood vessels.

Internal carotid artery: no branches
 external carotid artery: branches in neck
 common carotid artery
 R common carotid A
 L common carotid A
 R vertebral A
 L vertebral A
 R subclavian A
 L subclavian A
 brachiocephalic A
 aortic arch
 angiogram of the aortic arch

Anterior communicating artery
 Anterior cerebral artery
 Middle cerebral artery
 Internal carotid artery
 Posterior communicating artery
 Posterior cerebral artery
 Superior cerebellar artery
 Basilar artery
 Anterior inferior cerebellar artery
 Posterior inferior cerebellar artery
 Anterior spinal artery

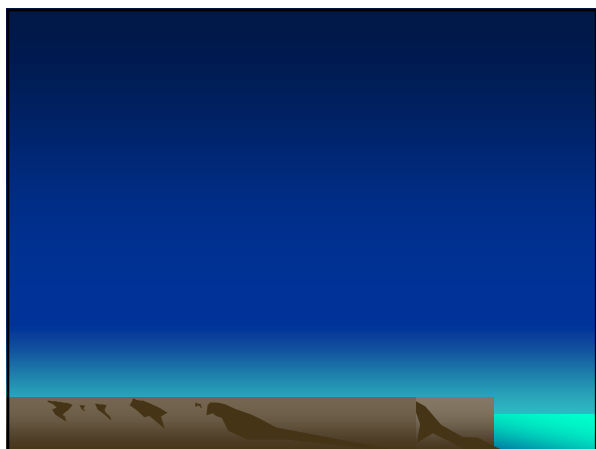
ICA stenosis

ADAM



Stroke

- Almost 750,000 / year
- Major cause of death in USA
- Most common cause of severe long-term disability.
- Occur at any age



Stroke Major Risks

- Nonmodifiable Risk Factors
 - Age-elderly
 - Sex-Male
 - Family history
 - Race- African American

Stroke Major Risks

- Modifiable Risk Factors
 - Cigarette smoking
 - Excessive alcohol use
 - Less physical activity
 - Oral contraceptives in women
 - Obesity

Stroke Major Risks

- Treatable Risk Factors:
 - Previous TIA or stroke
 - About 30% recurrence within 5 years.
 - More in the first 2 months

Stroke Major Treatable Risks

- Hypertension
 - Contribute up to 70% of all stroke.
 - BP > 160/95 mm Hg: 3-4 fold higher risk
 - Borderline HTN: 50% higher risk
 - Isolated Systolic HTN: 46% ↑ stroke incidence with every 7.5 mm Hg DBP ↑.

Stroke Major Treatable Risks

- Internal Carotid Artery Stenosis
- Diabetes Mellitus
- Hematologic abnormalities, coagulopathies
- Infection: Chlamydia, gingivitis

Stroke Major Treatable Risks

- Heart Disease
 - Previous MI
 - Atrial fibrillation: about 5 fold
 - CHF: about 4 fold
 - Left ventricular dysfunction

Stroke Major Treatable Risks

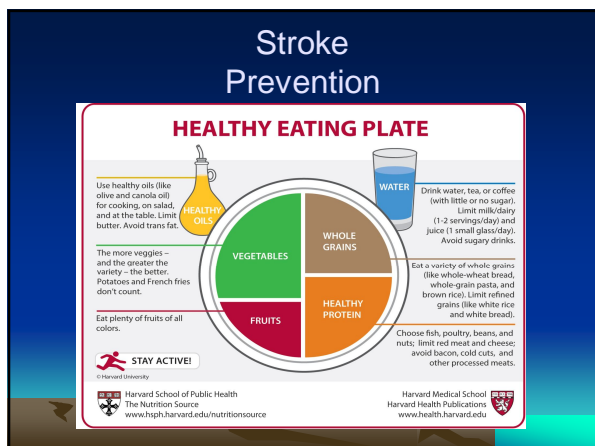
- Internal Carotid Artery Stenosis
 - Stenosis > 75%
 - Asymptomatic: stroke risk 2% to 5%
 - With stroke: stroke risk 12% /1st year, 30%-35 % /5yrs

Stroke Prevention

- Lifestyle change to decrease risk
 - Smoking cessation:
 - Risk fell within 1-2 years
 - by 5 years same as nonsmoker
 - Weight management
 - Exercise
 - Stop heavy alcohol drink

Stroke Prevention Tips for exercise

- Choose activities you like.
- Piece your workout together
- Keep it brisk: 120 to 135 steps per minute
- Take the stairs
- Walk an extra stop
- Hunt for the farthest parking space



Stroke Prevention

- Treatment of HTN:
 - Isolated High SBP: ↓ SBP with ↓ 36% stroke
 - ↓ DBP 5.8 mm Hg with ↓ 42% stroke

Stroke Prevention

- Recognition and treatment of cardiovascular disease
 - CAD
 - CHF
 - Atrial fibrillation
- Screening for carotid stenosis
- Treatment of elevated cholesterol

Stroke Prevention

- Treatment of previous TIA or stroke:
 - ASA
 - Aggrenox (Dipyridamole-ER/Aspirin)
 - Plavix (Clopidogrel)
 - Ticlid (Ticlopidine)
 - Coumadin (Warfarin)

Stroke Prevention

- In patients with Atrial Fibrillation:
 - High Risk (stroke rate 8%/yr): Coumadin
 - Age > 75 years
 - Prior cardioembolic event or TIA/stroke
 - LV dysfunction
 - HTN or DM
 - Women

Stroke Prevention

- In patients with Atrial Fibrillation:
 - Moderate Risk (stroke rate 4%/yr): Coumadin or ASA
 - Age 65-75 years
 - HTN
 - Or DM
 - Or previous TIA / stroke

Stroke Prevention

- In patients with Atrial Fibrillation:
 - Low Risk (stroke rate 1% /yr): ASA
 - Age < 65 years
 - No risk factors

Stroke Prevention

- Screening for carotid artery stenosis.



Stroke Prevention

- Carotid endarterectomy
 - Stenosis >70% with symptoms: ↓17%/2yrs.
 - Stenosis 50-69% with symptoms: ↓6.5%/2yrs.
 - Stenosis 60-90% asymptomatic: ↓5.9%/5yrs
 - CEA is consider when surgical risks <3% and patient's life span >5 years.

Stroke Prevention

- Treatment of the treatable risk factors
 - Treatment of DM
 - Recognition and treatment of hematologic abnormalities and coagulopathies
 - Treatment of lipid abnormality with statins
 - Treatment of infections.

Stroke Symptoms

- Stroke symptoms
 - Depend on the brain location and the extend of stroke
 - Sudden onset of nonconvulsive, focal neurological deficit.
 - Weakness, Numbness, aphasia
 - Vertigo/ dizziness, diplopia, swallow difficulty, slurred speech.
 - Ataxia, unsteady in walking
 - Decreased level of consciousness, coma
 - Headache, confusion, seizure

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