Management of Patients With Cerebrovascular Disorders

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FAST Recognition Of A Stroke

Face - Are both sides equal? Is the smile equal?

Arms - Can the client raise both arms equally?

Speech - Is speech slurred? Can the client make a sentence?

Time - Get help now. There is a small window of opportunity.
Two Major Types

**Ischemic stroke**
- A clot blocks blood flow to an area of the brain

**Hemorrhagic stroke**
- Bleeding occurs inside or around brain tissue
Major Types of Stroke (Con’t)

**Thrombotic stroke.** Cerebral thrombosis is a narrowing of the artery by fatty deposits called *plaque*. Plaque can cause a clot to form, which blocks the passage of blood through the artery.

**Embolic stroke.** An embolus is a blood clot or other debris circulating in the blood. When it reaches an artery in the brain that is too narrow to pass through, it lodges there and blocks the flow of blood.

**Hemorrhagic stroke.** A burst blood vessel may allow blood to seep into and damage brain tissues until clotting shuts off the leak.

Fig. 58-3, pp. 1505
Ischemic Strokes (Con’t)

- Atherosclerosis: narrowing of the arteries in neck or head
- Thrombus (Clot) or Embolism: Blocks blood flow to an area of the brain
- Tissue death is called an infarct
Common sites for the development of atherosclerosis in extracranial and intracranial arteries

Above the common carotid bifurcation and the start of the branches from the aorta, innominate, and subclavian arteries
PARALYSIS

- Quadriplegia (Tetraplegia)
- Paraplegia
- Hemiplegia
Plaque, a potential source of emboli in TIA and stroke, is surgically removed from the carotid artery.
Intracranial Aneurysms
HEMORRHAGIC CVA
Common sites of cerebral hemorrhage

Intracerebral hemorrhage

Lacunar infarcts

Microaneurysm

Arterioles

Subarachnoid hemorrhage

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Figure 58-5, pp. 1508

**Right-brain damage**
(stroke on right side of the brain)
- Paralyzed left side: hemiplegia
- Left-sided neglect
- Spatial-perceptual deficits
- Tends to deny or minimize problems
- Rapid performance, short attention span
- Impulsive, safety problems
- Impaired judgment
- Impaired time concepts

**Left-brain damage**
(stroke on left side of the brain)
- Paralyzed right side: hemiplegia
- Impaired speech/language aphasias
- Impaired right/left discrimination
- Slow performance, cautious
- Aware of deficits: depression, anxiety
- Impaired comprehension related to language, math
Stroke
BRAIN ACCIDENT - CVA

- Headache
- Mental Changes
  - Confusion
  - Disorientation
  - Memory Impairment
- Aphasia (CVA Left Hemisphere)
- Resp Problems
  (↓ Neuromuscular Control)
- ↓ Cough / Swallow Reflex
- Agnosia (↓ Sensory Interpretation)
- Incontinence
- Seizures
- Hemiparesis or Hemiplegia
- Emotional Lability
  - Visual Changes
    (Homonymous Hemianopsia)
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  - Horner’s Syndrome -
    Ptosis of Upper Lid
    - Vomiting
    - Perceptual Defects
      (CVA Right Hemisphere)
    - Hypertension
      - Apraxia
        (↓ Learned Movements)

TIA:
- Confusion
- Vertigo
- Dysarthria
- Transient
  Hemiparesis
- Temporary Vision Changes
- Lasts a Few Minutes → 24 hrs.

Focal Neurological S & S:
- Paralysis
- Sensory Loss
- Language Disorder
- Reflex Changes
LEFT CVA

- Paralyzed Right Side Hemiplegia
- Impaired Speech and Language
- Slow Performance
- Visual Field Deficits
- Aware of Deficits Depression, Anxiety
- Impaired Comprehension

What do I eat with a spoon?

Left brain damage...Right body weakness

2+2=5?
RIGHT CVA

- Paralyzed Left Side Hemiplegia
- Spatial-Perceptual Deficits
- Tends to Minimize Problems
- Short Attention Span
- Visual Field Deficits
- Impaired Judgment

- Impulsive
- Impaired Time Concept

I don’t feel where my left side is.

What Problem?

Right Brain Damage...Left Body Weakness
Positioning to Prevent Shoulder Abduction
Prone Positioning to Help Prevent Hip Flexion
**Risk Factors**
- Smoking
- Obesity
- Salt Intake
- Sedentary Life
- Stress
- O.B.C.
- Partially Reversible: Sex, Age, Race, Heredity
- Non-Reversible: BP, Cardiac Valve Disease, Dysrhythmias, Diabetes Mellitus, Cholesterol

**Diagnosis**
- Neuro Exam
- LP
- CT
- MRI
- Angiography
- PET

**Assessment**
- Stroke (Brain Accident, CVA)
- TIA
- Temporary Vision Loss
- Transient Hemiparesis
- Vertigo & Confusion
- Lasts a few minutes but < 24 hrs

**Causes**
- Hypotonia
- Hypertonia
- Perceptual Defects
- Apraxia
- Loss of Voluntary Movement On One Side
- ↓ Neuromuscular Control
  - Resps
  - Swallow - Cough
  - Bladder - Bowels
- Communication Problems
- Emotional Lability
- Impaired Judgment and Memory
- Atherosclerosis
- Thrombosis
- Embolism
- Cerebral Hemorrhage (Tissue Damage/Trauma)

**Pupillary Abnormalities**
- Typically Larger on the Side Opposite the Lesion
- Conjugate Deviation (Looks toward lesion)
- Homonymous Hemianopsia

**Nursing Goals**
- Airway - Oxygenation
- ↓ ICP
- Nutrition
- Preserve Function
- Rehabilitation
- Safety
- Education

**Left Hemisphere**
- Right-Sided Weakness
- Aphasia

**Right Hemisphere**
- Left-Sided Weakness
- Perceptual Deficits (Vulnerable to Accidents)

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FUNCTIONING
CVA

Assist CVA client to get out of bed on the functioning vs affected side.