Major Stroke Syndromes

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TERMINAL LEARNING OBJECTIVE

At the conclusion of the lesson, learners will be able to identify the signs and symptoms of stroke as it relates to location of the lesion in the brain.
ENABLING OBJECTIVES

Review
- The major divisions of the brain and the describe the functions of each section.

Review
- The major arteries of the brain and differentiate large vessel vs. small vessel stroke.

Describe
- The 2 categories of stroke.

Introduce
- The major stroke syndromes and their associated signs and symptoms.

Introduce
- The major stroke mimics.

Discuss
- How neuro assessment tools can help determine the location of the lesion.

Discuss
- Clinical clues that can be used to differentiate between stroke and stroke mimics.
Major Divisions of the Brain

Cerebral Cortex – Gray Matter (Computer Center)

Cerebral Subcortex – White Matter (Wires / myelinated axons)

Cerebellum (Coordination Center)

Brainstem (Funnel of the Brain)
Major Arteries of the Brain
Stroke is a sudden brain dysfunction due to a vessel problem

85% Ischemic – 15% Hemorrhagic
5 Stroke Syndromes

- Left Hemisphere
- Right Hemisphere
- Cerebellum
- Brainstem
- Hemorrhagic
I am the left brain.  
I am a scientist.  A mathematician. 
I love the familiar. I categorize. I am accurate. Linear. 
Analytical. Strategic. I am practical. 
Always in control. A master of words and language. 
Realistic. I calculate equations and play with numbers. 
I am order. I am logic. 
I know exactly who I am.
Left Hemisphere

RIGHT SIDE WEAKNESS.

RIGHT SIDE SENSATION LOSS.

RIGHT SIDE VISUAL FIELD DEFICIT

LEFT SIDE GAZE PREFERENCE

APHASIA (EXPRESSIVE OR RECEPTIVE).
A patient seems to understand what you are asking them, but just can't get the right words out when answering your questions. What is the likely response if you give them a pen and paper to write answers to your questions?

The patient is experiencing expressive aphasia and has trouble speaking but will be able to write.

The patient is experiencing expressive aphasia and has trouble speaking but will be able to write.

The patient is already incredibly frustrated and will probably throw the pen back at you!

B and C are both correct.
Aphasic Dystextia as Presenting Feature of Ischemic Stroke in a Pediatric Patient

Aphasia is an important presenting symptom of acute stroke. With increasing reliance on electronic communication, incoherent texting or “dystextia,” which is a subset of aphasia that is reflected in text messages, can be a useful tool for symptom recognition and analysis. It can be a red flag for the family and therefore can help in early identification of an acute neurological deficit. It is also useful for providers to reliably analyze the deficit as well as establish a timeline of evolution... CONTINUE READING

Dystextia
Acute Stroke in the Modern Age

A healthy 25-year-old right-handed pregnant woman, gravida 1, para 0 at 11 weeks’ gestational age, was brought to the emergency department after sending her husband a series of confusing text messages regarding their baby’s due date (August 4). At the time, she had just concluded a routine visit to her obstetrician’s office, where she was retrospectively noted to have difficulty accurately completing her intake form. She additionally recalled an episode of acute weakness of her right arm and leg earlier in the morning that had lasted for a few minutes before resolving and for which she did not seek medical attention.
Right Hemisphere

Right Hemisphere

- Left Side Weakness
- Left Side Sensation Loss
- Left Side Visual Field Deficit
- Right Side Gaze Preference
- Neglect
WHO IS THIS GUY?
Cerebellum

LACK OF COORDINATION.

LACK OF BALANCE.

NORMAL SPEECH AND STRENGTH

DIZZY / NYSTAGMUS

OFTEN MISSED
Brainstem

- BILATERAL WEAKNESS / SENSATION LOSS
- DYSARTHRIA (SLURRED SPEECH)
- DECREASED CONSCIOUSNESS
- VERTIGO / TINNITUS
- BLURRED VISION
  - DOUBLE VISION
  - ABNORMAL EYE MOVEMENTS
Brainstem

- Crossed signs are possible!
- Example: one side of the face is drooping, opposite side of body is weak.
- Symptoms don’t make sense.
All stroke patients are at risk for aspiration. However, brainstem stroke patients will often have a markedly increased risk of aspirating.

True

False
A hemorrhagic stroke happens when a blood vessel in the brain bursts and spills blood into or around the brain. Most commonly the hemorrhage is intracerebral or subarachnoid.
Signs and Symptoms - Hemorrhagic

**Subarachnoid**
- Headache
- Nausea / Vomiting
- Loss of Consciousness
- Stiff / Sore Neck
- Light Sensitivity

**Intracerebral**
- Headache
- Nausea / Vomiting
- Loss of Consciousness
- Focal deficits similar to Ischemic Stroke
Hypoglycemia – always assess BGL in all patients with neuro changes

Seizure with postictal state – Question family/witnesses

Migraine - patient should have prior experience

Tumor - onset is gradual

Abscess - onset is gradual

Subdural hematoma – assess for trauma

Todd's Paralysis - epilepsy

Bells Palsy - facial nerve paralysis
Questions?