Applied Anatomy

Lec 2 :

-Lumbar puncture is done at the intervertebral disc of L3/L4 to avoid injury of the spinal cord.

-Dermatome is the area of the skin supplied by the single spinal nerve.

- Lumbago: pain in the lower back due to press on the sacral nerve by prolapse of the intervertebral disc. This pain is radiated to the lower limb with weakness of muscles and loss of sensation (Sciatica).

Lec 3 :

Lumbar puncture is done at the intervertebral disc of L3/L4 or L4/L5 to avoid injury of the spinal cord. It is done for:

1. Injections of drugs or anesthesia.
2. Diagnosis of certain diseases.
3. Relief of high intracranial pressure

Lec 7 : cerebellum (dr. Ayman)

Cerebellar lesions are usually vascular. It is manifested by;

1. Disturbance of equilibrium.
2. Hypotonia of the muscle.
3. Cerebellar ataxia, in the form of intermittent jerky movements
4. Intention tremor, absent at rest, best seen at the end of the finger-nose test.
5. Nystagmus, in the form of jerky movements of the eyes.
6. Dysdiadokokinasis, which is evident by asking the patient to do rapidly alternating movements as supination and pronation of the forearm.

✓ The movement appears jerky, slow and incomplete

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lec 8+9 :
Lesion of the area 4 results in contra-lateral hemiplegia (UMNL).
Why trunk not affected during hemiplegia ?
because it has a bilateral cortical innervation by two halfs of hemisphere

-Damage here (area 6) results in an apraxia, a disruption of the patterning and execution of learned motor movements. Individual movements are intact, and there is no weakness, but the patient is unable to perform movements in the correct sequence.

- A lesion here(area 8) results in an inability to make voluntary eye movements toward the contralateral side.

area 44,45

- Lesion in this area produces Motor Aphasia-higher-order language deficit (inability to understand/produce/use language appropriately); caused by pathology in dominant cerebral hemisphere (usually left in righthanded people).
- Damage of Broca area and primary motor cortex = full loss of language
- Dysarthria—partial loss of language (difficulty speaking), damage to the muscles or nerves that control speech.

-Writing area (Exner's area) Lesion leading to Agraphia (loss of ability to write)

-prefrontal area (areas 9,10,11, & 12) Lesions in the prefrontal area produce what is called the frontal lobe syndrome.

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lec 8+9 :

- Somatosensory (Primary sensory) cortex corresponds to postcentral gyrus (areas 1,2,3), posterior part of paracentral lobule Lesion in this area leads to loss of sensation in opposite side of the body.

-Secondary (Association) sensory area (area 5, 7) Lesion results in asteriognosis

-Sensory speech area (Wernicke's- area 39, 40).
Lesion Associated with impaired language comprehension.
Patients do not have insight. Wernicke is a word salad and makes no sense.
Lesion in this area produces sensory aphasia (can not understanding spoken and written words.). The deficit is characterized by fluent verbalization and lacks meaning.
Global aphasia is caused by lesion both Broca and Wernicke areas.

-Primary auditory area (areas 41, 42) Lesion of this area leads to diminished hearing.

-Damage of the primary visual area causes blindness.

-Secondary Visual (association) area (area 18, 19)
Damage of this area causes visual agnosia (people can not identify the objects).

Lec 12 :
PINEAL GLANDis calcified after 20 years giving opaque spot in brain CT examination called brain sand. This opaque spot is an important landmark in centralization of brain. If shifted to one side, diagnose space occupying lesion on opposite side e.g. tumor

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