Brain Stem, Cerebellum, Spinal Cords & Tracts

MUDr. Azzat Al-Redouan
Rhomboid Fossa
MRI
CNS Nuclei
Trigeminal Pathways in Anatomical Orientations

Trigeminal Pathways in Clinical Orientation: Representative Lesions and Deficits
Corticonuclear (Corticobulbar) Fibers in Anatomical Orientation

8-15 Corticonuclear (Corticobulbar) Fibers in Anatomical Orientation

Motor cortex, precentral gyrus

Frontal eye fields

Precentral gyrus (lateral third is face area of somatomotor cortex)

Facial nucleus

Cerebral aqueduct

Lesion in genu of internal capsule on right: deficits predominantly on left, see below

Corticospinal fibers

Parieto-Occipital and Tempoparietal fibers

Substantia nigra

Cerebral aqueduct

- No effect on masticatory muscles: corticonuclear input to motor Y is bilateral

- Paralysis of lower facial muscles on left: predominant input from right motor cortex

- Upper facial muscles normal: bilateral input from motor cortex

- Dysphagia, dysarthria, deviation of uvula to the right on phonation, hoarseness

- Deviation of tongue to left on protrusion: predominant input from right motor cortex

- Dysphagia, dysarthria, deviation of uvula to the right on phonation, hoarseness

- Deviation of tongue to left on protrusion: predominant input from right motor cortex

- Unable to rotate head to left against resistance

- Unable to elevate right shoulder against resistance

Accessory nucleus (C1-C5 cord levels)
8-25 Spinocerebellar Tracts in Anatomical Orientation

8-26 Pontocerebellar, Reticulocerebellar, Olivocerebellar, Ceruleocerebellar, Hypothalamocerebellar, and Rapheocerebellar Fibers in Anatomical Orientation