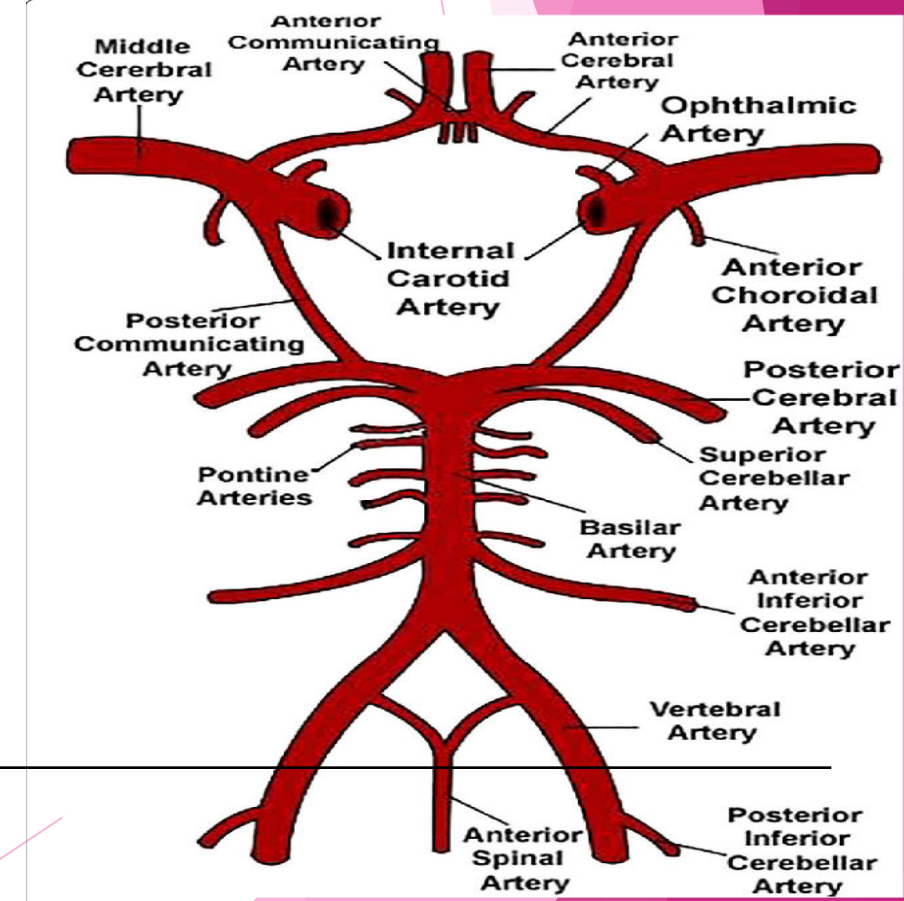


There are two clinical syndromes commonly observed with occlusion of the PCA:

**P1 syndrome** with midbrain, subthalamic, and thalamic signs, which are due to occlusion of the proximal P1 segment of the PCA or its penetrating branches

**P2 syndrome** with cortical temporal and occipital lobe signs, due to occlusion of the P2 segment distal to the junction of the PCA with the posterior communicating artery.



# P1 SYNDROMES

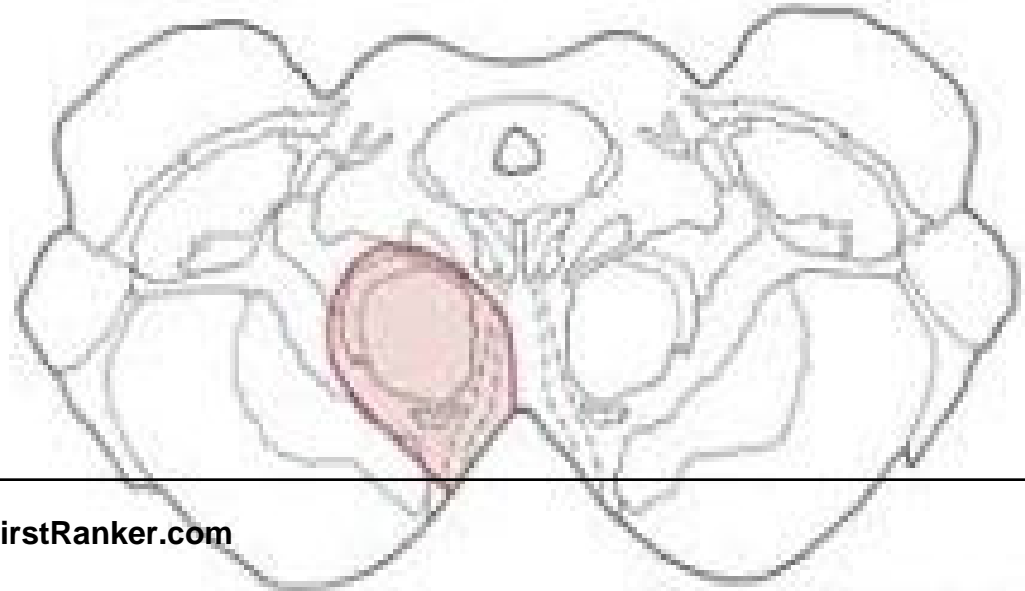
- ▶ CLAUDES SYNDROME
- ▶ WEBER'S SYNDROME
- ▶ DEJERINE ROUSSY SYNDROME

# P2 SYNDROMES

- ▶ ANTONS SYNDROME
- ▶ BALINTS SYNDROME

# CLAUDE SYNDROME

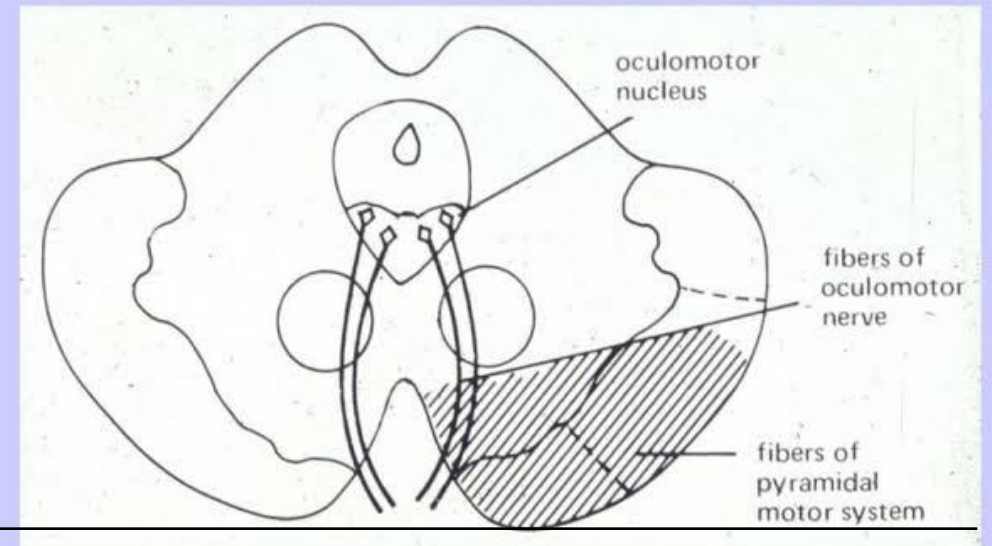
- ▶ Occlusion of small perforating branches of PCA supplying the dorsomedial aspect of the midbrain
- ▶ Infarction involves the medial aspect of red nucleus with the rubrospinal fibres, CN III nucleus and superior cerebellar peduncle
- ▶ Ipsilateral third nerve palsy
- ▶ Contralateral upper and lower limb ataxia



# WEBER SYNDROME

- ▶ Also known as superior alternating hemiplegia
- ▶ Occlusion of paramedian branches of PCA that supplies the midbrain
- ▶ Contralateral hemiplegia
- ▶ Ipsilateral third nerve palsy

**Weber's Syndrome (Alternating Oculomotor Hemiplegia)**  
involving crus cerebri of the midbrain (corticospinals and corticobulbars) and oculomotor nerve (branches of PCA)



# Dejerine Roussy syndrome

- ▶ Thalamic infarction involving the VPL Nucleus
- ▶ contralateral hemisensory loss followed later by a burning pain in the affected areas.
- ▶ It is persistent and responds poorly to analgesics.
- ▶ Anticonvulsants (carbamazepine or gabapentin) or tricyclic antidepressants may be beneficial.

# Anton's syndrome

- ▶ Bilateral infarction in the distal PCA segments
- ▶ produces cortical blindness (blindness with preserved pupillary light reaction). The patient is often unaware of the blindness or may even deny it.
- ▶ Rarely, only peripheral vision is lost and central vision is spared, resulting in “gun-barrel” vision.

# Balint's syndrome

- ▶ Bilateral visual association area lesions usually resulting from infarctions secondary to low flow in the “watershed” between the distal PCA and MCA territories, as occurs after cardiac arrest.
- ▶ Patients may experience persistence of a visual image for several minutes despite gazing at another scene (**palinopsia**) or an inability to synthesize the whole of an image (**asimultanagnosia**)



# LOCKED- IN SYNDROME

- ▶ Due to occlusion of BASILAR ARTERY supplying ventral pons
- ▶ MANIFESTATIONS:
  - quadriplegia
  - weakness of face
  - dysarthria
- ▶ If the lesion is big, there will be horizontal gaze weakness due to involvement of fascicles of bilateral abducent nerves.
- ▶ Patients are literally locked in their bodies due to their difficulty to move, speak and express emotions even though they are fully conscious.

# MILLARD GUBLER SYNDROME

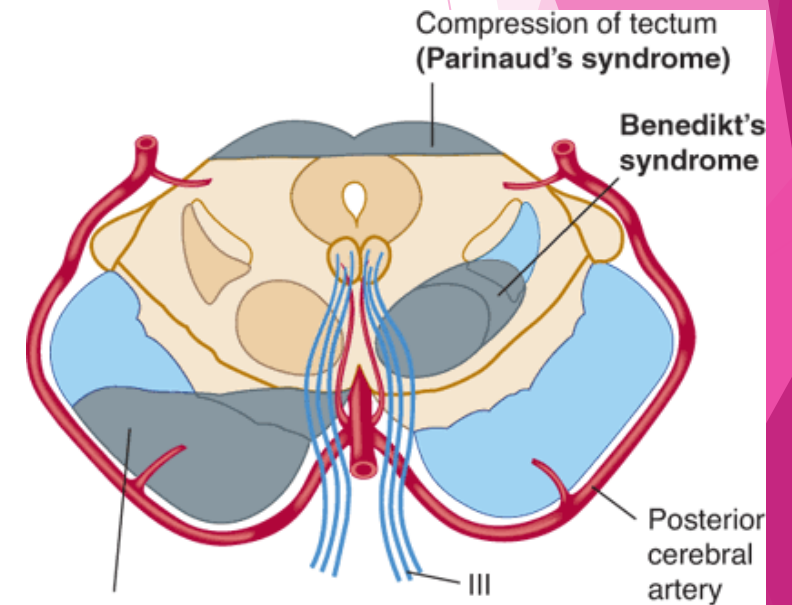
- ▶ Occurs secondary to stenosis of paramedian and short circumferential branches of basilar artery
- ▶ Area involved is the ventral aspect of pons including the fibers of corticospinal tract, VI and the VII Cranial nerves.
- ▶ COMPONENTS:
  - ipsilateral weakness of the eye on abduction (involvement of CN VI)
  - ipsilateral facial muscle weakness
  - contralateral hemiplegia

# RAYMOND - FOVILLE SYNDROME

- ▶ Due to occlusion of paramedian branches of basilar artery supplying ventral medial pons.
- ▶ COMPONENTS:
  - ipsilateral lateral rectus paresis due to CN VI involvement
  - contralateral hemiplegia

# BENEDIKT'S SYNDROME

- ▶ Occlusion of branches of posterior cerebral artery supplying the fascicles of oculomotor nerve and red nucleus
- ▶ Ipsilateral third nerve palsy, crossed hemiataxia and crossed choreoathetosis



**Alternating (superior)  
oculomotor hemiplegia  
(Weber's syndrome)**

# NOTHNAGEL SYNDROME

- ▶ Rare midbrain stroke syndrome that involves tectum of midbrain
- ▶ Involves fascicles of CN III and superior cerebellar peduncle
- ▶ Ipsilateral third nerve palsy and contralateral limb ataxia

## ▶ LABYRYNTHINE ARTERY SYNDROME

- ▶ Due to ischemia of labyrinthine artery
- ▶ Sudden tinnitus, vertigo and ipsilateral deafness

# THANK YOU