

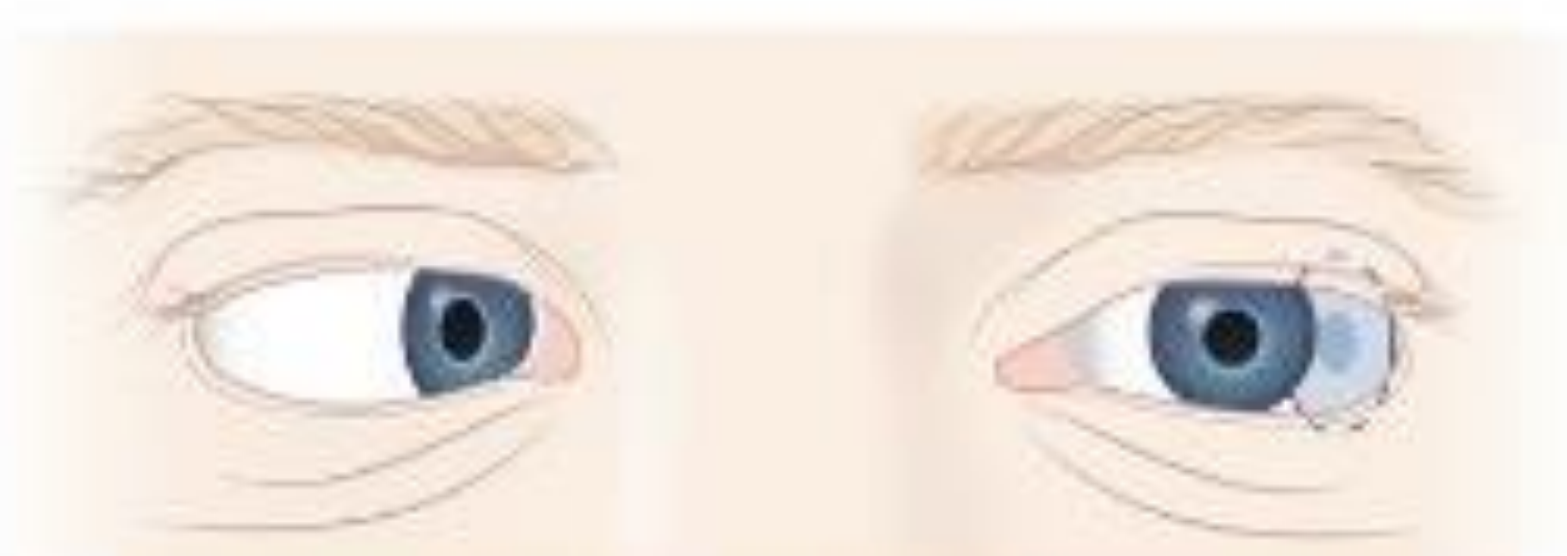


A case of traumatic CNVI palsy in a 14 year old male

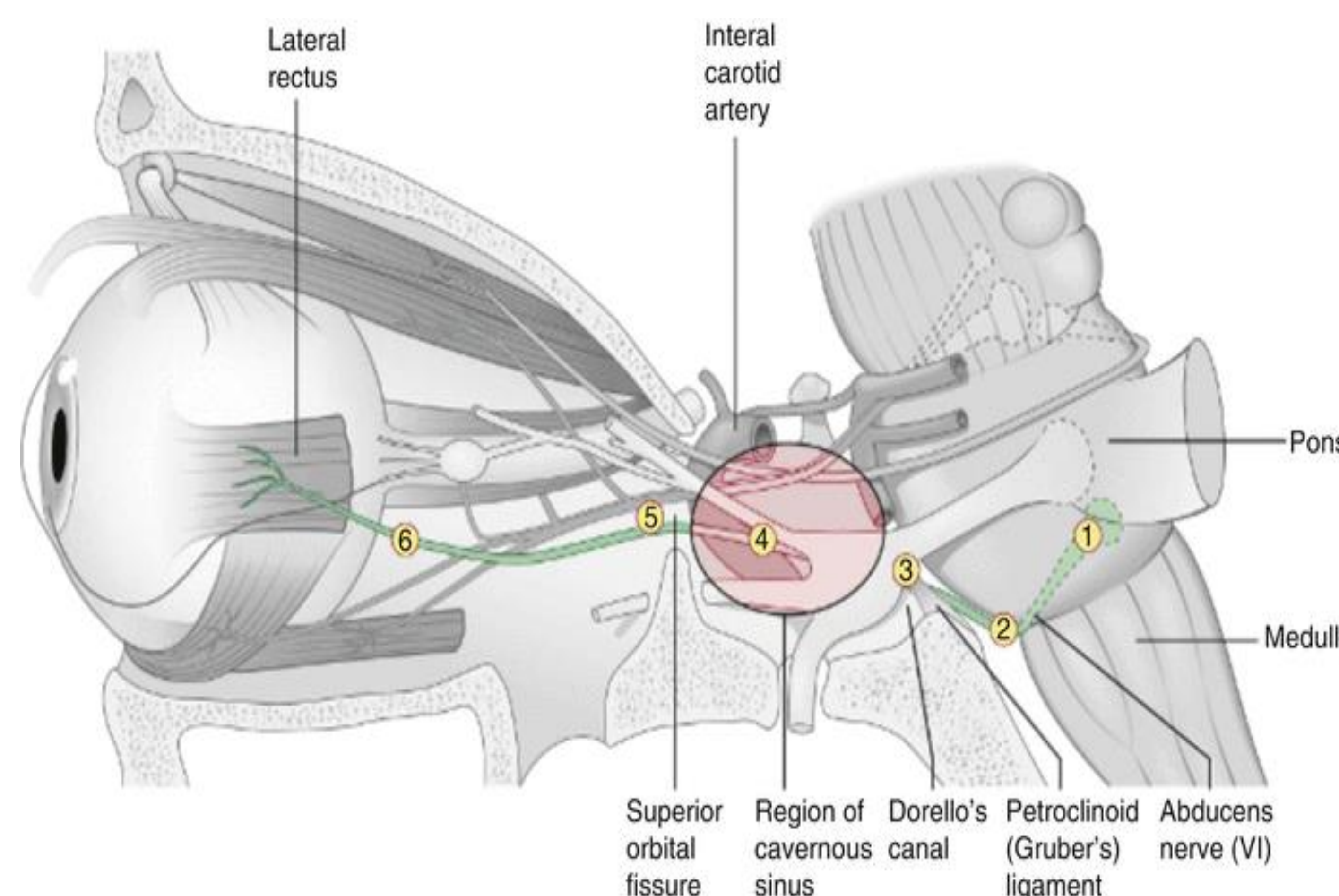
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CASE PRESENTATION

- 14yo male with no past ocular disease
- Presented with horizontal diplopia following head to head collision at soccer practice 7/27/21
- Reports he hit the left temporal area of the head
- + dizziness, - LOC, eye pain, nausea, emesis
- No prior head trauma
- No history of amblyopia or strabismus
- CT head: no evidence of acute intracranial hemorrhage or depressed calvarial fracture
- 20/20 VA OU, 19/12 IOP, PERRLA, no APD, Visual fields full, slit lamp and fundus exam unremarkable .
- unable to abduct OS at all
- Esotropia on initial visit corrected with 35 diopter prism
- 6 week follow up with minimal improvement; provided Fresnel lens



REVIEW OF CNVI ANATOMY



- 1)nucleus in the pons
- 2)exits the brainstem at junction of pons and medulla
- 3)enters the subarachnoid space and dura mater in Dorello's canal
- 4)at the tip of the petrous temporal bone, CN6 leaves canal and enters cavernous sinus
- 5) enters orbit at superior orbital fissure
- 6)terminates by innervating the lateral rectus muscle

EVALUATION AND CLASSIFICATION

- Sixth nerve palsy is the most common extraocular muscle palsy; with an incidence of 11.3 in 100,000
- Horizontal diplopia at distance > near and an abduction deficit of the ipsilateral eye
- Etiologies: hypertension, diabetes, trauma, multiple sclerosis, neoplasm, CVA, aneurysm, URTI, congenital, neurosarcoïd, idiopathic
- GCA should always be considered in patients over 50.
- When to image: <45 years, other neurologic findings present, no vasculopathic disease, papilledema, bilateral sixth nerve palsy, trauma, or if palsy does not resolve in 3-6 months

Traumatic

- Conservative management
- Most will recover in 3-6 months

Neurologically isolated

- Management of underlying condition
- Conservative management and monitoring for new neurological signs/symptoms

Non-neurologically isolated

- Full comprehensive neurological exam
- Neuro-imaging recommended

Most common cause in:
Kids=trauma
Adults=stroke

MANAGEMENT

- Fresnel prism for the amount of deviation in neutral gaze
- Occlusion therapy
- Strabismus surgery if no improvement after 6 months
- Botulinum toxin injections to the medial rectus of the affected eye: Consider if no improvement after 3 months
- Approximately 50% of acquired sixth nerve palsies spontaneously recover after 3 months of onset.

CASE FOLLOW UP

- Traumatic sixth nerve palsy= conservatively management, patching to improve symptoms
- 6 month follow up with complete resolution: no evidence of paresis or abduction deficit.
- Key take home points:
 - Sixth nerve palsy is the most prevalent extraocular muscle palsy
 - Consider neurological/ GCA workup if no h/o head trauma
 - Most will recover with no intervention
 - If no improvement after 6 months- consider surgery and /or botox.

SELECTED REFERENCES

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