Abducens nerve palsy

- Non-Invasive Detection of Recurrent Intracranial Pressure via Optical Coherence Tomography: A Case Report
- The Influence of Endoscopic Techniques on the Exposure Range of the Petroclival Region and the Protection of the Abducens Nerve in the Retrosigmoid Approach: An Anatomical Comparative Study
- Cytomegalovirus primo-infection in Guillain-Barré syndrome during pregnancy, a case report of a very serious and rare case
- Total Resection of Clival Chordoma with Brainstem Invasion via Endoscopic Transnasal Approach: Technical Note
- Trigeminal Neuralgia as a Rare Complication of Idiopathic Intracranial Hypertension
- Spontaneous Shrinking and Growing Skull Base Chordoma
- Traumatic Abducens Nerve Palsy Due to Avulsion in its Cisternal Segment: Illustrative Cases
- Reversible abducens nerve palsy following cranial vault expansion in the setting of multisutural craniosynostosis: illustrative case

Sixth cranial nerve palsy, or abducens nerve palsy, is a disease associated with dysfunction of cranial nerve VI (the abducens nerve), which is responsible for contracting the lateral rectus muscle to abduct (i.e., turn out) the eye.

Etiology

The most common causes of VIth nerve palsy in adults are:

More common: Vasculopathic (diabetes, hypertension, atherosclerosis), trauma, idiopathic.

Less common:

Increased intracranial pressure as false localizing sign. hydrocephalus, brainstem compression due to cerebellar infarctionion

Idiopathic intracranial hypertension

Abducens nerve palsies reportedly occur in 10% to 60% of patients, whereas other cranial nerve palsies occur much less frequently. A woman with benign intracranial hypertension and facial diplegia who showed complete resolution of her cranial nerve palsies after control of her elevated intracranial pressure with a lumboperitoneal shunt. The pathophysiologic course of cranial nerve palsies in patients with Idiopathic intracranial hypertension is uncertain but in most cases probably represents a nonspecific pressure-related phenomenon, as was clearly demonstrated in this patient [1)]

Giant cell arteritis

Infratentorial tumors

Cavernous sinus mass (e.g. meningioma, Brain stem Glioblastoma aneurysm, metastases)

Multiple sclerosis, sarcoidosis/vasculitis

Gradenigo syndrome

Stroke (usually not isolated)

Chiari Malformation

Hydrocephalus.

Pseudoabducens palsy

Thyroid eye disease

Lumbar puncture

Lumbar puncture [2)]

Almost unilateral. Often delayed 5-14 days post LP, usually recovers after 4-6 weeks.

Lumbar myelography

Unspecific side effects which cannot clearly be differentiated from pure post-lumbal puncture complaints are reported to occur in up to 28%. The probably underlying pathogenetic mechanisms are discussed together with former animal experiments which revealed a local toxity of the contrast medium at the central nervous tissue and the surrounding membranes [3)].

Five patients who developed abducens palsy after myelography with watersoluble contrast media are reported. These palsies can be compared to abducens palsies after spinal anesthesia and diagnostic lumbar puncture. They are most likely due to the lumbar puncture. The arguments for this explanation are discussed. The experience with these five patients suggests a greater incidence of postpuncture abducens palsy after myelography with watersoluble contrast media than after spinal anesthesia or lumbar puncture. If this first impression is verified, it could point to an additional toxic action [4)].

Clivus fracture

Idiopathic

Abducens nerve palsy is the most common complication after transvenous embolization (TVE) for cavernous sinus dural arteriovenous fistula. Abducens nerve palsy is reported to have a good prognosis after the symptoms have been alleviated [5)].

Clinical features and diagnosis

The inability of an eye to turn outward results in convergent strabismus or esotropia of which the primary symptom is diplopia which is worse when looking towards the affected side.

The condition is commonly unilateral but can also occur bilaterally.

The unilateral abducens nerve palsy is the most common of the isolated ocular motor nerve palsies.

Treatment

Abducens nerve palsy treatment

1)
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2)
Koeppen AH. Abducens palsy after lumbar puncture. Proc Wkly Semin Neurol. 1967 Jul;17(2):68-76. PubMed PMID: 4907858.
3)
Büchele W, Kunitsch G, Brandt T. [Lumbar myelography with methylglucamine-iocarmate (dimer-x). A critical review of neurological complications (author's transl)]. Rontgenblatter. 1979 Jan;32(1):39-45. German. PubMed PMID: 424674.
4)
Seyfert S, Mager J. Abducens palsy after lumbar myelography with watersoluble contrast media. J Neurol. 1978 Dec 7;219(3):213-20. PubMed PMID: 84865.
5)
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