

Introduction

The abducens nerve is the most affected cranial nerve in isolated cranial nerve palsies due to its lengthy intracranial course, which is highly susceptible to injury at various anatomic points. Despite its prevalence and progression made in neuroimaging, incidence of idiopathic cases continue to rise.

Case Description

An adolescent male with a high body mass index (BMI) presented with a one-week history of diplopia. He reported difficulty abducting his left eye, which was associated with horizontal double vision. The diplopia resolved when he closed his left eye. In addition, he experienced a persistent occipital headache described as throbbing in nature and progressively worsening, with a pain score of 8. He denied any recent trauma, signs of infection, or systemic symptoms. On examination, his vital signs were notable for elevated blood pressure at 157/90 mmHg and a heart rate of 90 beats per minute. Neurological assessment demonstrated an isolated left lateral rectus muscle weakness, consistent with a left sixth cranial nerve palsy. Examination of the remaining cranial nerves and the rest of the neurological system was unremarkable. A funduscopy examination revealed bilateral optic disc swelling. A contrast-enhanced computed tomography (CECT) of the brain was performed, revealing no abnormalities. Subsequently, a lumbar puncture was conducted, and cerebrospinal fluid (CSF) analysis yielding normal results. A diagnosis of idiopathic intracranial hypertension (IIH) was made and he was followed up for close monitoring and management.

Discussion

Isolated abducens palsy is a rare presentation of idiopathic intracranial hypertension (IIH), also referred to as pseudotumor cerebri. Due to its long intracranial course and sharp angulation at Dorello's canal, the abducens nerve is particularly vulnerable to the effects of elevated intracranial pressure, which can cause mechanical stretching or compression leading to palsy. The diagnosis of IIH relies heavily on the presence of papilledema and the systematic exclusion of secondary causes through neuroimaging and cerebrospinal fluid analysis.

Conclusion

In summary, early recognition and close monitoring are critical to prevent potential complications, particularly permanent visual impairment.

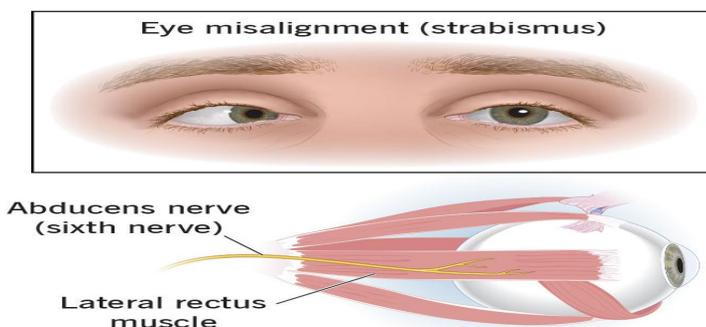


Figure 1: Image showing 6th cranial nerve palsy

References:

- 1-Goe X. Jefferies. Headache with isolated sixth cranial nerve palsy in IIH. Malaysian J Sci Health Technol. 2023;10(1)

