Extended Abstract

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Sixth nerve palsy in children – Etiology, long term course and a diagnostic algorithm - Ferass Abu Hanna - Emek Medical Center

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Context: Acute onset strabismus is worrisome for parents and physicians. This condition is sometimes attributed to sixth cranial nerve palsy, which may be secondary to various etiologies. Debate still exists about the appropriate diagnostic approach.

Objective: The objective of this study was to describe the common etiologies of sixth nerve palsy in our pediatric population and to suggest a clear, implementable diagnostic algorithm.

Data Sources: An electronic medical review of files of patients admitted to the pediatric department at Emek Medical Center between January 2014 and April 2020.

Study Selection: We reviewed the medical records from the study period of patients with the following diagnoses according to the International Classification of Diseases 9 (ICD-9/10): Sixth Nerve Palsy, Acute Infective Polyneuritis, Guillain Barre Syndrome, Benign Intracranial Hypertension, Malignant Neoplasm of the Brain, Strabismus, and Multiple Sclerosis.

Data Extraction: We extracted information regarding clinical presentation, previous history, and diagnostic work-up, including serological testing, cerebrospinal fluid testing, and neuroimaging. Final diagnosis and clinical follow up were assessed.

Results: Seventeen patients with sixth nerve palsy were identified. The most common etiologies were increased intracranial hypertension and anti-GQ1B syndrome (3 patients each).

Limitations: This is a retrospective study of patients diagnosed in one medical center. The suggested algorithm was not validated on a prospective study.

Conclusions: The etiologies of sixth nerve palsy in children are variable. We suggest performing neuroimaging in all patients and considering serum and cerebrospinal fluid testing in selected patients. Initial neuroimaging combined with laboratory testing is useful and provides rational tools for proper diagnosis.