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RESEARCH PAPER.

CAVERNOUS SINUS MENINGIOMA, IN A CHILD PRESENTED WITH PTOSIS

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ABSTRACT

Cavernous sinus lesions can vary from vascular pathologies, and inflammatory conditions to neoplastic lesions. Cavernous sinus meningioma is a rare diagnosis of ptosis presented during childhood. There is a wide clinical approach that needs to be done in a case presented with a ptosis. The MRI is the diagnostic imaging study for Intracranial tumours. In this case, we describe a 12-year-old girl presented with ophthalmoplegia and unilateral ptosis detected to have a cavernous sinus meningioma in the MRI.

INTRODUCTION

Neoplasms of the cavernous sinus involve pituitary adenoma, meningioma, schwannoma, lymphoma, metastases and direct tumour invasion [7]. Meningiomas arising from the cavernous sinus are rare during childhood but there have been few cases reported[2]. The most common presentation of cavernous sinus lesions includes visual loss, proptosis, ocular and conjunctival congestion, ophthalmoplegia and pain[3]. Magnetic resonance imaging is the diagnostic investigation for cavernous sinus tumours[6]. This case presents a 12-year-old girl who presented with ptosis and was revealed to have cavernous sinus meningioma, a rare cause of ptosis.

CASE REPORT

A 12-year-old girl with an unremarkable past medical history presented with a one-week history of gradual onset worsening drooping of the Right-side eyelid. It was first noticed by her mother and classmates. In addition, the mother has noticed mild swelling over the right-side face. The mother claims that the symptoms were more during the evening. She denies any change of sweating on R/S's face. No other eye symptoms such as blurred vision, visual impairment and red eye. She denies a history of early morning headaches that are relieved with vomiting. On examination, R/S mild facial asymmetry was there with R/S partial ptosis.

R/S proptosis was noted. Bilateral Visual acuity was 6/6 with normal vision. B/L pupils were unequally reactive to light with R/S 4mm and L/S 3mm. There was a limitation of eye movements with limited upward gaze. Superior rectus and inferior oblique muscle weakness noted. Other eye movements were normal. The fatiguability test was negative. Fundus normal. No papilledema. On serum and blood investigation TSH, RFT, LFT, ESR, FBC, and Blood picture were found to be normal. Manntoux test is negative and Chest X Ray was normal. She has undergone Contrast-enhanced tomography of the brain and reporting as below. There was a 2.5cm (transverse) × 1cm (craniocaudal) × 2cm (AP) size avidly enhancing soft tissue density lesion noted in the right side cavernous sinus region. Anteriorly the lesion extends up to R/s superior orbital fissure medially the lesion causes erosion of the Right lateral wall of the pituitary fossa extends into the pituitary fossa and causes compression of the pituitary gland. No intra-orbital extension of the lesion. The suprasellar region appears normal. Suggest soft tissue lesion in right side cavernous sinus region. Differential diagnoses are meningioma or neurogenic tumour.

As further radiological imaging, the MRI brain revealed an enhancing lesion in the region of the right cavernous sinus extending medially, anterior to the pituitary crossing the midline. There's the partial encasement of the cavernous portion of the right internal carotid artery. There's mild compression and displacement of optic chiasma suggestive of meningioma.

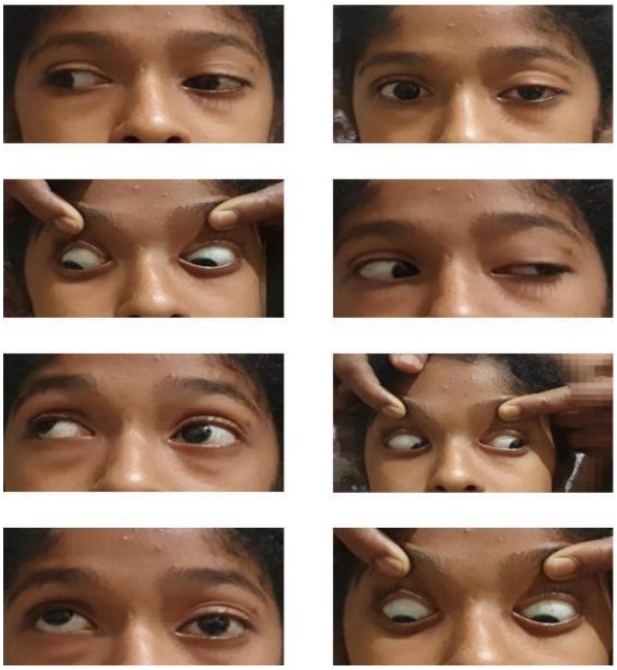

Figure I: Image of cardinal gaze positions indicating partial ptosis and limitation in upgaze due to SR and IO palsy

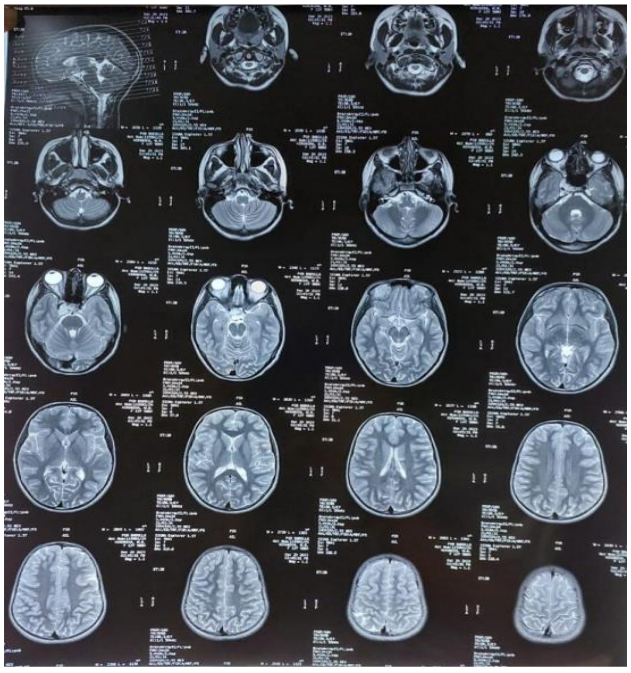

Figure II : Enhancing lesions in region of right cavernous sinus with mild compression and displacement of optic chiasma

DISCUSSION

Ptosis can be a symptom of numerous disorders including Neurogenic, myogenic, and miscellaneous conditions[5,8]. Bacharach j et al and Díaz-Manera, J. Et al presented a summary of causes of ptosis according to clinical approach and symptomatic diagnosis[5,8]. This patient presented with ptosis with III, VI cranial nerve palsy and abnormal pupils (mydriasis) suggestive of neurogenic ptosis most likely due to compressive cranial nerve lesion. We have done a full workup with laboratory investigations to exclude the most common causes of ptosis and ophthalmoplegia such as neuromuscular disorders, and other autoimmune conditions, inflammatory and infectious conditions. In the Cases previously reported also patients presented with ophthalmoplegia involving varying degrees of cranial nerves[2]. Ersahin Y et Al has reported a case of a child presenting with ophthalmoplegia and ptosis, revealed to have cavernous sinus meningioma in the MRI[2].

CT and MRI are diagnostic investigations for intracranial tumours and vascular pathologies such as aneurysms related to cavernous sinus[6]. In this case, CECT suggested a mass lesion in the cavernous sinus which was confirmed by the MRI as a cavernous sinus meningioma. Meningiomas can identified as hypodense or isodense lesions in radiographic imaging[6]. Meningiomas are mostly benign tumours which account for 37.6% of all primary CNS tumours but meningiomas in the cavernous sinus are rare variants [6].

In this case, we referred the child to the neurosurgical team for further management and there are various approaches to the treatment of cavernous sinus meningioma[4]. While Non-symptomatic patients are managed conservatively, others have treatment options such as radiation therapy, and radiosurgery[4]. Prognosticaly surgical approach has better outcomes than conservative management[4]. This patient was referred to Neurosurgical management following the diagnosis and proceeded with the surgical management of the tumour.

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