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Iatrogenic Horner's Syndrome Associated with Branchial Cleft Cyst Surgery

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Authors' contributions

This work was carried out in collaboration between all authors. Authors MD and EO designed the study, wrote the protocol, and wrote the first draft of the manuscript. Author MO managed the analyses of the study. Author EC managed the literature searches. All authors read and approved the final manuscript.

Case Study

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ABSTRACT

Aim: To report a case of right-sided iatrogenic Horner's syndrome developed after branchial cleft cyst surgery.
Presentation of the Scope: An 8 year-old boy presented with right-sided eyelid ptosis and enophthalmos, and diagnosed as having Horner's syndrome.
Discussion: Ophthalmic examination yielded miosis in the affected eye. Medical history revealed branchial cleft cyst surgery 4 years ago and mild ptosis was identified in the first postoperative day.
Conclusion: Iatrogenic Horner syndrome may follow the cleft cyst surgery in on neck.

Keywords: Iatrogenic horner syndrome (IHS); branchial cyst surgery.

1. INTRODUCTION

Horner syndrome, first described by Johann Friedrich Horner, refers to the constellation of clinical signs of ipsilateral palpebral ptosis, pupillary miosis, and facial anhidrosis resulting from damage to the sympathetic nervous system. It results from lesions involving the first, second, or third-order neuron in the sympathetic pathway to the eye and face [1]. Horner syndrome may be congenital or acquired. Congenital form is usually idiopathic or associated

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with birth trauma [2]. Iatrogenic Horner syndrome has been reported to be associated with various clinical conditions. We present here a case of right-sided iatrogenic Horner's syndrome developed after branchial cleft cyst surgery in an 8 year-old boy.

2. PRESENTATION OF CASE

An 8-year-old boy presented with right-sided eyelid ptosis and enophthalmos. Ophthalmic examination yielded no additional pathology except miosis in the affected eye. Visual acuities were 20/20 in both eyes. Biomicroscopic evaluation and retinal examination were normal. There were no deficits of ocular motility but there was an asymmetry of facial sweating. The patient was diagnosed as having right Horner's syndrome.

Before systemic evaluation, patient's detailed medical history revealed that he was operated for branchial cleft cyst in his neck at the anterior region of sternocleidomastoid muscle 4 years ago. Previous records of the patient revealed that mild ptosis was also detected at the 1st postoperative day. We concluded that Horner's syndrome was due to branchial cleft cyst surgery and we did not perform any systemic evaluation.

3. DISCUSSION

Horner syndrome is most commonly detected in adults with apical tumors, although numerous other causes have been described. Several adult case reports describe iatrogenic Horner syndrome following internal jugular vein cannulation, thyroidectomy, coronary artery bypass surgery, chest tube thoracostomy, blunt carotid artery dissection, or selective cervical nerve root block [3,4]. In children, the causes of Horner's syndrome can be either congenital or acquired after neck or thoracic surgery, but overall it is a rare finding [5,6,7]. It is also a rare complication of neck surgery [8].

Branchial anomalies can present as a cyst, sinus, or fistula and result from the maldevelopment of the branchial apparatus during the embryologic period. Each branchial arch, pouch, and groove complex will develop into specific structures in the head and neck. They typically present in infancy and childhood. Definitive treatment is complete surgical excision [9]. Branchial cleft cyst surgery may cause direct injury to the sympathetic chain or from blood extravasation within the carotid sheath that compromises the vascular supply to the superior cervical ganglion. The cause of iatrogenic Horner's syndrome in our case was direct injury to the sympathetic chain during surgery by surgeons.

4. CONCLUSION

Eyelid ptosis is a common complaint in children at the outpatient departments of ophthalmology clinics. Ophthalmologist should be aware of previous neck surgery procedures. In our case we report that previous branchial cleft cyst surgery may be one of the causes of iatrogenic Horner syndrome.

CONSENT

His parents gave written consent. All authors declare that 'written informed consent was obtained from the parents the for publication of this case report.

ETHICAL APPROVAL

Not applicable.

FINANCIAL DISCLOSURE

Authors have no conflict of interest.

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