Oculosympathetic paresis caused by foreign body perforation of pharyngeal wall

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Summary: Ingestion of a foreign body rarely produces symptoms. We report a patient who presented with oculosympathetic paresis. We believe this is a previously unrecorded manifestation of foreign body ingestion.

Introduction

Oculosympathetic paresis (Horner's syndrome) consists of miosis, narrowed palpebral fissure, varying degree of facial anhidrosis and occasional heterochromia of the congenital type.^{1,2}

The syndrome results from an interruption of the sympathetic pathway at any point along its course from the hypothalamus to the orbit. We would like to report a unique case of oculosympathetic palsy due to foreign body ingestion.

Case report

A 13 year old girl had fever up to 38.5°C and transient sore throat for 2 months and was treated with antibiotics, until the family noticed ptosis of the left eyelid with ipsilateral miosis. The girl was referred to the hospital for evaluation of left Horner's syndrome.

Review of the child's old photographs revealed that palpebral fissures and pupils had been identical. The developmental milestones were normal and the child was otherwise fit and healthy. The patient denied any trauma, and there was no history of pica syndrome. Family history was non-contributory.

Both general and neurological examination were normal except for fever of 37.5°C with marked ptosis of left eyelid and left miosis (Figure 1). Palpebral fissure size: right 11 mm and left 7 mm. There was no difference of iris colour between the two eyes (dark brown). The right pupil measured 6 mm in diameter and the left 3 mm in ordinary room illumination, there was increased anisocoria in dim light (4.5 mm), with obvious 'dilatation lag' at 5 seconds.^{3,4} The pupils, though unequal, reacted to light and the consensual and covergence reflexes were both preserved. No

differences in colour or sweating between the two sides of the face or body were observed.^{5,6}

Pharmacological pupillary testing revealed failure of the left pupil to dilate with 5% cocaine eyedrops.

Figure 1 The patient on admission, with left eye oculosympathetic paresis.

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Figure 2 Swallowed foreign body in the retrostyloid space: plain lateral skull X-ray.

Hydroxyamphetamine 1% was not available for further pharmacological testing.⁷

Routine blood and urine analysis, electrocardiogram, electroencephalogram and chest radiography were within normal limits. Neck X-ray revealed a radio-opaque foreign body, a sewing needle, embedded at the left retrostyloid space (Figure 2). Computed tomographic scan confirmed these findings. The head of the needle was in the vicinity of the left internal carotid artery, internal jugular vein and vagus, and its other extremity, medial to the sternocleidomastoid and parotid gland. The parents when asked to recall any outstanding event told about a neglected episode of a prick sensation in the pharynx when the girl ate a 'Knafe', a national cake made of thin spaghetti dough, two months before she was referred for treatment.

Otolaryngological reexamination was normal with no sign of penetration wound in the pharynx, no swelling, no tenderness in the neck, and no enlargement of focal lymph nodes. At operation, under general anaesthesia, through a left lateral longitudinal incision, with the use of metal detector and an image-intensifier the needle was surgically removed in 2 parts. In spite of the fact that pus was not found the wound was drained for 3 days.

Post-operatively the patient made an uneventful

recovery. The anisocoria seemed less marked (2 mm) during the first postoperative week, with almost complete recovery at the time of follow-up, 90 days after discharge.

Discussion

The diagnosis of oculosympathetic palsy was a clinical one but testing with cocaine 5% was done for confirmation of sympathetic denervation and to distinguish it from pseudo-Horner's syndrome.^{8,9}

It is postulated that the foreign body perforated the pharynx and the Horner's syndrome could be due to haematoma, inflammation (with pressure and/or ischaemia), or direct trauma to the sympathetic chain. It is also possible that ischaemia of the cervical sympathetic chain resulted from traumatic thrombosis to the vasa nervorum.

In a large series⁸ the cause of Horner's syndrome was obscure in 40%. Tumour infiltration, usually accompanied by additional signs and symptoms, was the most commonly recognized cause, along with trauma, irradiation or invasive procedures along the sympathetic chain.^{10,11} Oculosympathetic paralysis is also a prominent feature of Raeder's paratrigeminal

neuralgia and may occur with cluster headache. In both syndromes the sympathetic fibres near the Gas-serian ganglion are involved.^{12,13} It is suspected that local vascular aneurysm or thrombosis is a frequent but not often detected cause of Horner's syndrome.^{14,15}

In children, Horner's syndrome with heterochromia may be congenital; an oculosympathetic palsy otherwise is suggestive of a malignant tumour.^{16,17}

Ingestion of foreign bodies, a common occurrence, rarely produces symptoms.¹⁸ Perforation is more likely to occur in the oesophagus than in the rest of the

gastrointestinal tract.¹⁹ The case described herein is to our knowledge the first published case report of oculosympathetic paresis following foreign body ingestion.

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