CASE REPORT

A Case of Isolated Horner’s Syndrome in Patient with Work Related Penetrating Neck Injury

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Abstract

Purpose: To present a work related penetrating neck injury that was referred to our department for Horner’s Syndrome (HS).

Case Presentation: A 48-year-old male was referred to Ophthalmology department due to blurred vision in his left eye. In his medical history, he had a work related penetrating neck injury by a four cm metal of diamond cutting piece one year ago. On physical and ophthalmologic examination, ptosis and miosis were detected on his left eye.

Conclusion: Artery injuries should be kept in mind, if HS accompany a neck injury. To best of our knowledge our case report is the first occupational HS with a projectile object.

Keywords: Horner, ptosis, miosis, trauma, neck trauma

Introduction

Swiss ophthalmologist Johann Friedrich Horner described a neurological syndrome that present with miosis, ptosis and anhidrosis in 1869 (1). Horner’s syndrome (HS) was clinically first described in humans by Selleck Hare in 1838 in a patient with brachial plexus tumor. However first traumatic ptosis and myosis was described by Weir Mitchell in 1864. This report was about a 24-year-old civil war soldier with a gunshot wound in his neck (2). Traumatic causes are less frequent than idioopathic causes, tumors and postoperative ones. A recent study reported that the rate of traumatic Horner’s syndrome is 2.5% of all patients (3). Most of the traumatic HS cases in the literature were related to neck and chest injuries. There are many serious injuries that can occur in this manner, including uncommon but often serious and sometimes fatal, head, neck and chest injuries or intraoral injuries (4-31) (Table1). Herein we present a case of a HS in a patient following work-related penetrating neck injury.

Case Presentation

A 48-year-old male was referred to Ophthalmology department due to blurred vision in his left eye. His complaints had started after he had work related penetrating neck injury. According to his medical history, he had a work related penetrating neck injury one year ago. A four cm metal of diamond cutting piece (Figure 1) had bounced from the machine and stuck into to the left side of his neck. On the direct radiography and computed tomography scan (Figure 2), there was a foreign body which is medially located to the carotis sheet. Neck dissection and foreign body removal procedure had been performed one year ago.

On physical and ophthalmologic examination, ptosis and miosis were detected on his left eye. On the right eye the patient had exotropia which he had long since...
Figure 3: Left ptosis and miosis, right exotropia

(Figure 3). The best-corrected visual acuity was 6/6 in both eyes. A right eye slit lamp examination was normal. Slit lamp examination of the left eye revealed paracentrally located, visually insignificant corneal haze which is result of a previous occupational ocular trauma. Ocular motility evaluation revealed no limitation. Both direct and indirect light reflexes were normal. Left pupil was miotic and upper lid was in the upper border of pupil, in contrast to well positioned right upper lid (Figure 2). We revealed suppression on the right side in Worth 4 Dot suppression test. There was no scotoma or depression in visual field testing. We diagnosed the patient with HS depending on the patient’s history and ocular findings. There was an improvement of ptosis after topical pseudoephedrine installation on the left eye, but miosis consisted. We recommended to patient a ptosis surgery with conjunctival approach however he refused the operation.

Discussion

Horner’s syndrome results from a lesion to the sympathetic pathways that supply the head and neck, including the oculosympathetic fibers. The most common identified aetiology of Horner’s syndrome is malignant diseases (17% - 60%) and followed by iatrogenic and non-iatrogenic traumas (7.5% - 13%) (3,32). Iatrogenic causes of the Horner’s syndrome include central venous access, thyroidectomy, sympathetic ganglion blockade, carotid endarterectomy, thoracic surgeries, chest tubes, and various surgeries of the neck (32-34). Non-iatrogenic traumas are also less than iatrogenic traumas (3). Traumatic causes of Horner’s Syndrome include penetrating trauma, such as a stab or bullet wound, and blunt trauma of the neck and upper thorax. Table 1 shows several reports about traumatic HS, that have been accessed the full text studies by us (4-28). Table 1 shows that most of the cases were happened in adult ages; and blunt traumas are more common than penetrating traumas. Motor vehicle accidents, assault and sport accidents are reasons of the most traumatic
HS cases. In English literature we have encountered only 2 cases that was related with work accident (8,24). However, both of them were blunt traumas. One was about the accidental neck compression and the other was about explosion of a tire (8,27). Our case report is about a work-related penetrating injury that was made by a projectile object. Most of the Horner’s Syndromes secondary to a penetrating injury was a stabbing injury or made by a projectile object which were assault related (4-6,14,15,23,25). In our case presentation there was a projectile object and the injury was occupational not an assault. Carotid artery dissection was not reported in our case. Probably stretching and contusion of perivascular tissue may result with HS. Arterial injuries or accompanying neurologic disorders may be found in most of the patients (7-11,15,18-20,22,25,27,28). Munera et al. reported that 17% of the penetrating neck injuries had arterial injuries (31) (Table 1). In our case we couldn’t perform topical drop test. We diagnosed HS with ocular findings and well known history of injury. report patient did not have any additional injuries. It is possible that traumatic HS can be resolved totally or partially (4-28). In our patient it was permanent after 1 year.

As a conclusion, since neck isn’t one of the well protected body part, it is prone to injuries. Various injuries of the neck may cause neurovascular damage and hence HS. Findings of HS should be evaluated and noted in patients with any neck injury. Artery injuries should be kept in mind, if HS accompany a neck injury. If possible, to find out exact localization of neural injury, topical drop test can be used. To best of our knowledge our case report is the first occupational HS with a projectile object.

References


