DOI: 10.4274/tjo.63497

Case Report / Olgu Sunumu

Şanslı Marangoz: Sıradışı Mesleki Göz Yaralanması

Lucky Carpenter: An Unusual Occupational Eye Accident

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Summary

A 34-year-old carpenter applied to our clinics with a 5-cm long wood stick which was stuck into his left lower orbital margin. Under general anesthesia, we explored his left eye and extracted the stick without any complication. This patient had an unusual presentation of an occupational eye injury. Occupational eye injuries account for 12% of all work-related injuries, and 90% of those are preventable with simple measures. *(Turk J Ophthalmol 2014; 44: 167-9)*

Key Words: Occupational eye injury, carpenter, eye protection in workplace

Özet

Otuz dört yaşında bir marangoz 5 cm uzunluğundaki tahta çubuk sol alt orbita marjinine saplanmış vaziyette kliniğimize başvurdu. Genel anestezi altında sol gözüne müdahele ettik ve çubuğu komplikasyon olmadan dışarı çıkarttık. Bu hasta, mesleki göz yaralanması olarak sıra dışı bir görüntüyle başvurdu. Mesleki göz yaralanmaları işe bağlı yaralanmaların %12'sini oluşturur ve %90'ı basit tedbirler ile önlenebilir. *(Turk J Ophthalmol 2014; 44: 167-9)*

Anahtar Kelimeler: Mesleki göz yaralanması, marangoz, işyerinde gözün korunması

Introduction

Ocular trauma is one of the leading causes of blindness or partial loss of vision affecting more than half a million people worldwide. It is regarded as the most important cause of monocular blindness in the USA.[1,2] About one quarter of all serious eye injuries are related to activities in the workplace.[3] According to one report from Finland, eye injuries account for 12% of all work-related injuries.[4] More than a half of work-related eye injuries occur in the manufacturing, service, and construction industries. Workers sustaining eye injuries are typically young adult males who are in their most productive years.[5] Almost all work-related eye injuries are preventable with simple measures.

In this paper, we present the clinical findings of an interesting case of an occupational eye accident. We aim to attract attention to occupational eye injuries which are common but not well-appreciated by the workers and the employers.

Case Report

This 34-year-old patient was a carpenter. A high speed, 5-cm long wood stick crashed to his left lower orbital margin at workplace. The clinical findings in his left eye were as follows: the left lower eyelid was edematous and ecchymotic and the globe was intact except for a small area of subconjunctival hemorrhage in the temporal region (Figure 1, 2). Orbital computerized tomography (CT) revealed the left lower eyelid edema and the entrance of the stick to the left orbital margin (Figure 3). The Snellen visual acuity was 8/10. The right eye had normal findings. Under general anesthesia, we explored the globe and extracted the stick while enlarging the wound opening with muscle hooks (Figure 4). We sutured the wound following exploration for any remaining pieces of wood and irrigation with povidone-iodine. No complications occurred intra- and post-operatively (Figure 5).

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Figure 1 . A wooden stick embedded in the left orbital margin

Figure 2 . Side view of the patient

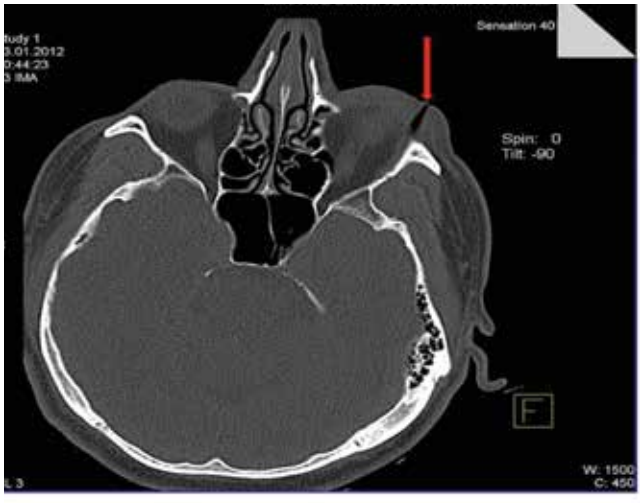

Figure 3 . Orbital CT revealing the left lower eyelid edema and entrance of the stick to the left orbital margin (red arrow)

Discussion

This case is an unusual presentation of an eye trauma. Although the clinical presentation seemed bad, the carpenter was lucky and the end result was good. In this case report, our aim is to attract attention to occupational eye injuries and preventive measures which should be taken for eye protection.

Approximately 84% of occupational eye injuries are regarded as minor injury, while the remainder is often severe and

Figure 4 . The extracted foreign body

Figure 5 . Postoperative appearance of the wound

contributes to a substantial amount of loss of productivity. In a five-year study of open globe injuries in India, 33% were work-related and 79% of these injuries were in young adults; 83% of all injuries resulted in a poor visual outcome.[6] In their study, Kaplan et al evaluated the epidemiological factors in patients presenting with open globe injury in a tertiary hospital in Turkey. They found that 35% of the injuries occurred in workplace, and occupational eye injury was the major cause of open globe injury.[7] Dannenberg et al reported similar results from the United States of America - 22% of eye injuries were work-related and 75% were younger than 40 years. In their study, 73% of work-related eye injuries presented with an initial visual acuity equal to or less than 20/200.[5]

According to the Finland study, most occupational eye injuries occurred in manufacturing and construction work (80.4%) and second most frequently in agriculture and forestry (8.5%).[4] The most common agents of injury were metal foreign bodies, wooden foreign bodies, and chemicals.[5] Wearing appropriate protective eye glasses during work significantly reduces the severity of eye injury. Vasu et al reported that 76% of the patients with work-related open globe injury were not wearing any protective eyewear. At presentation, one of 10 patients using protective eyewear had vision less than 6/60, while 18 of 30 patients not using protective eyewear had vision less than 6/60. At the end of a six-month follow-up, only those patients using protective eyewear had a good or fair outcome. The use of protective eyewear was associated with less severe eye injury.[6] A survey by the Bureau of Labor Statistics from the USA showed that 59% of the workers were not wearing eye protection when being injured, although eye protection was provided free by 70% of the employers of those workers.[8]

Besides personal sufferings, occupational eye injuries are common causes of absence from work and cause considerable economic loss to society. Ninety percent of these injuries are preventable with appropriate eye protection.[9] Education of the workers and employers about the benefits of eye protection is the first step in prevention. Following a campaign for prevention of occupational eye injuries in metal industry which was carried out in Finland in 1978, the annual frequency of occupational eye injuries and the number of working days lost decreased.[4] The most usual method of preventing eye accidents is choosing protective glasses and equipment according the requirements of the job. Safety goggles with side shields and proper vents are particularly important in an industrial setting where flying dust and other particles are often present. Improved safety features of machines, adequate illumination in working areas, selection of trained workers with adequate vision, and testing for alcohol periodically are some of the steps which should be taken to prevent occupational eye injuries.

As a conclusion, prevention of occupational eye accidents is worthwhile for both the worker and the employer, as well as for the community. Appropriate and adequate measures should be taken for developing occupational eye health.

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