Dental Traumatology 2006; doi: 10.1111/j.1600-9657.2006.00344.x

DENTAL TRAUMATOLOGY

Case Report

Orofacial injury in a Brazilian professional basketball player: case report

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Abstract – The frequency of dental trauma has increased among children and athletes of all ages who play contact sports. This kind of trauma may result in irreversible damage to the patient. The aim of this report is to present a case of an orofacial trauma involving a professional basketball player who was elbowed by another player. The athlete reported loss of sensitivity in three teeth and computerized tomography showed fractures in three points of the malar bone. After the incident and dental follow-up, the player was made aware of the need to wear a mouthguard.

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Key words: athletic injuries; tooth injuries and mouth protectors

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Accepted 8 December, 2004

Sports-related dental trauma differs from other dental trauma that occurs in general population because its prevention is possible. The prevention and treatment of sports-related dental trauma are major goals of the International Academy for Sports Dentistry (1). Injuries can vary from lip lacerations to severe concussions (2). As such, mouthguards appear to be effective based on their capacity to absorb and diffuse aggressive forces; move the intra-oral tissue away from the teeth to prevent laceration and bruising of the lips and cheeks; avoid violent contact between dental arches; reduce the risk of bone fractures and head and neck injuries; increase or recover the athlete's confidence while practicing in sports (3–7).

However, despite their recognized efficacy, many athletes still do not wear mouthguards since they believe they are uncomfortable and make speaking and breathing difficult (2, 5, 8). This fact demonstrates the lack of information regarding mouthguards, as it is known that properly fitted custom-fabricated mouthguards have overcome these objections. Information regarding this type of mouthguard for athletes and coaches (9, 10), however, is scarce and it is important that they are made aware that mouthguards should be worn by any athlete, professional or amateur, who plays any sport with any risk of falls, blows or contact with rigid surfaces, even if the sport is not recognized as a violent one (3, 5, 8).

The aim of this report is to present a case of an orofacial traumatic injury that took place during a basketball game and its consequences to the orofacial tissues.

Case report

While playing basketball, a 36-year-old man sustained an orofacial injury after being elbowed by another player. The athlete did not leave the court to be examined. When the game was over, he went to an oral and maxillofacial surgeon. No soft tissue lesions were found during the clinical examination. However, the player reported loss of sensitivity in three teeth (11). No radiographs were taken. The computerized tomography showed that the left malar bone had been broken into three points (Fig. 1). Despite the intense bruise (Fig. 2), the affected bone showed light dislocation, without deepening and no surgical intervention was necessary. Some dislocation of the nasal septum to the left was observed as a consequence of a previous trauma. After 3 months, the bruise had not completely disappeared (Fig. 3) and the radiograph did

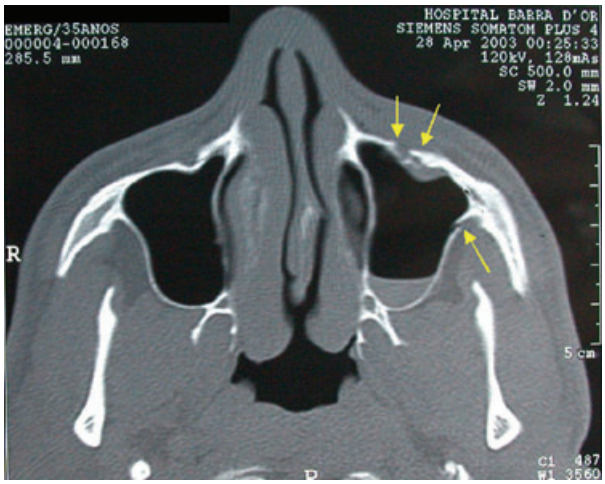

Fig. 1. Computerized tomography showing fractures in three points of the malar bone.

Fig. 2. Aspect of the orofacial injury on the day of the trauma.

Fig. 3. Remainder bruise 3 months after the trauma.

not show any damage to the affected teeth. Six months after the trauma, the athlete reported that 90% of the teeth' sensitivity had been recovered and, 1 year later, radiographs and sensitivity tests confirmed the absence of any damage to the teeth. The patient has, since, totally recovered from the trauma and has become aware of the importance of wearing a mouthguard. He is satisfied with his custom-fabricated mouthguard and wears it during training sessions and games (Fig. 4).

Fig. 4. Patient satisfied with a custom-fabricated mouthguard.

Discussion

The occurrence of orofacial trauma is very common among professional and amateur athletes (3). According to McNutt et al., the risk of sustaining an orofacial injury can be 60 times higher if the player is not wearing a mouthguard (6). Although the number of injuries has decreased since the implementation of mandatory mouthguard use in football, boxing, ice and field hockey and lacrosse, mouthguards have not become an integral part of protective equipment required for participants in other organized sports that can cause a large number of injuries, such as basketball (6, 10).

Some authors suggest changes in rules to include basketball among the sports in which there is mandatory use of mouthguards, as they have observed a high rate of orofacial trauma in their research with college and high school basketball players (4, 5, 9).

The case demonstrated in this report confirms the risks taken by basketball players who do not wear mouthguards. Fortunately, the athlete in question had no need to undergo an invasive treatment. However, injuries that involve not only the teeth but also facial bone fractures can result in serious functional and aesthetic damage, besides the high cost of the treatment of an orofacial injury, which cannot be compared to the cost of a mouthguard (4).

McNutt et al. found, in their study, that basketball and baseball were the two sports that had the highest rates of dental trauma, possibly because the players were not obliged to wear mouthguards, as

are football and ice hockey players (6). Similar results were obtained by Ferrari and Medeiros who reported that basketball showed the largest number of dental trauma, as well as the smallest number of players wearing mouthguards (3).

Another aspect that should not be underestimated is the emotional impact that can be caused to an athlete's confidence after an orofacial traumatic injury. This insecurity may affect the player's performance, as well as result in problems that can last for life, since no treatment can equal the function and aesthetic of sound teeth (7). As demonstrated in this report, an athlete may only become aware of the need to wear a mouthguard after sustaining an orofacial trauma (2).

Improving awareness of properly fitted custom-made mouthguard is necessary, especially among children. Unlike stock and boil-and-bite mouthguards, custom-made protectors do not interfere with speech, breathing or comfort. In the study conducted by Walker et al., 7-and 8-year-old children, playing organized soccer, were evaluated according to their reactions when using mouthguards. The vast majority (82%) used them happily and enthusiastically (11). Thus, education to increase the awareness of protective measures should be a combined duty of clubs, coaches, dentists and parents so that children become used to this protection device at an early age. As a result, individuals may play sports with significantly, lower risks of sustaining orofacial injuries throughout their athletic careers (2, 5).

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