A Rare Nasal Bone Fracture: Anterior Nasal Spine Fracture

Nadir Bir Nazal Kemik Kırığı: Anterior Nazal Spina Kırığı

Anterior Nasal Spine Fracture / Anterior Nazal Spina Kırığı

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Özet

Anterior nazal spina kırıkları, nazal kemik kırıklarının oldukça nadir bir tipidir. Eşlik eden servikal spina yaralanmaları, nazal kemik kırıklarına göre daha tehlikelidir. On sekiz yaşında erkek bir hastada anterior nazal spina kırığı olgusu sunulmuştur. Anterior nazal spina kırığı, orta yüz bölgesi yaralanmalarının ayırıcı tanısında göz önüne alınmalı ve eşlik eden servikal spina yaralanmaları göz ardı edilmemelidir.

Anahtar Kelimeler

Anterior Nazal Spina; Kırık; Servikal Spina

Abstract

Anterior nasal spine fractures are a quite rare type of nasal bone fractures. Associated cervical spine injuries are more dangerous than the nasal bone fracture. A case of the anterior nasal spine fracture, in a 18-year-old male was presented. Fracture of the anterior nasal spine, should be considered in the differential diagnosis of the midface injuries and also accompanying cervical spine injury should not be ignored.

Keywords

Anterior Nasal Spine; Fracture; Cervical Spine

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Introduction

Facial injuries are extremely common due to motor vehicle accidents, assaults, pedestrian collisions, stumbling, sports and industrial accidents [1]. Nasal bone is the most affected bony structure in the facial injuries, because of the prominent position of the nose. Anterior nasal spine (ANS) fractures are the least common type of the nasal bone fractures [2]. Associated airway compromise, cranial and cervical spine injuries are more life threatening than facial injuries [3]. The purpose of this study is to draw attention to ANS fractures with a case report.

Case Report

An 18-year-old male patient was injured in the motor vehicle accident. He collided with another car. Patient was not installed the seat belt, while driving car. During this accident, patient was hit the nasolabial angle to steering wheel. Patient was referred to our emergency department twenty minutes later by ambulance crew with cervical collar. At presentation, patient complained of neck pain and extremely intense pain at the area of nasolabial angle. The patient's arterial blood pressure was 120 - 80 mmHg, heart rate was 82 beats/minute and saturation of oxygen was 94%. Upper lip submucosal ecchymosis, laceration and swelling of the nose were determined at the physical examination. Blood clots were detected around the nostrils. There was a little pain on palpation of the cervical bones. Patient's systemic examination was normal and there was no another finding of trauma on the body. Palpation of nose was extremely painful and there was tenderness of nasal bones. Laboratory findings of patient were normal. Nasal cavity examination with a otolaryngologists showed nasal mucosal hiperemia and congestion, there was no another pathological finding such as nasal septal deviation or nasal airway obstruction. Anterior nasal spine fracture was determined at the lateral nasal spot radiography (Figure 1).

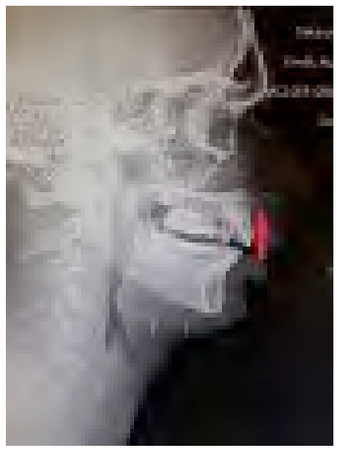


Figure 1. Fracture of the anterior nasal spine at lateral nasal spot radiography imaging.

Tomographic examinations were taken because of the concomitant neck pain. There was no abnormality in the patient's brain and cervical tomography. Three-dimensional maxillofacial tomography was documented fractures of the ANS (Figure 2 and 3).

The patient was managed conservatively, with analgesic and prophylactic antibiotic coverage, because of the upper lip submucosal laceration. And then he was referred to otolaryngology and neurosurgery clinics for control with cervical collar.



Figure 2. Fracture of the anterior nasal spine at sagittal maxillofacial tomography imaging.



Figure 3. Fracture of the anterior nasal spine at transverse maxillofacial tomography imaging.

Discussion

Nasal fractures, account for approximately 40% of all facial fractures in adults [4]. Fractures of ANS are the least common type of nasal fractures [2]. There are four reports of ANS fracture in the literature [5, 6, 7, 8]. Rarity of ANS fractures can best be explained on an anatomical basis. This bone is tightly protected by surrounding bony structures against injury. Additionally, because of its relatively smaller size and central location, ANS is less sustain to trauma than the other midfacial structures. Anterior nasal spine fractures may be ignored by the patients and clinicians, so these fractures may not be as rare as the literature indicates [5, 6].

Facial injuries are more common seen in males and young adults, it is most common between age of 15 - 30 [2]. In the other four studies about ANS fracture, mean age of patients was 18,5 and three patients were male. Like to these studies, patient was male and 18 years old in our study. Motor vehicle accidents, assaults and falls are more common causes of facial injuries worldwide [1]. Nazif et al. [6] were indicated fall, Escada et al. [7] were indicated sports related injury, Kim et al. [8] were indicated assault, and like to our study, Most et al. [5] were indicated motor vehicle accident in the etiology. Facial injuries are more common in patients who did not use seat belts in motor vehicle accident [9]. Like this, patient was not installed the seat belt while driving car, in our study.

In the other similar reports, most common clinic features were mucosal lip laceration, ecchymosis, upper lip swelling, and severe pain over the nasolabial angle region [5, 6, 7, 8]. In our study, patient complained of extremely intense pain in the upper lip. We found upper lip submucosal ecchymosis, laceration and swelling of the nasolabial angle region at the physical examination. When we faced with these signs and symptoms, ANS fracture should be considered in the differential diagnosis of midface injuries. Like to our study in three reported cases, ANS fractures alone did not impair the nasal function or the appearance of the nose [5, 6, 8]. Escada and coworkers determined the nasal septal deviation, with resulting nasal airway obstruction [7].

Unlike to other similar reports, patient was complained of neck pain in our study. Facial injuries are not often life threatening unless it is associated with airway compromise and other injuries of the head and cervical spine [3]. For recognition of additional cranial and cervical trauma, proper clinical and tomographic evaluation should be done, in the cases of facial fractures [4]. In our study, there was a little pain on palpation of the cervical bones. But there was no abnormality in the patient's brain and cervical spine tomography.

Treatment of nasal fractures remains a controversial subject, and divided into closed and open reduction traditionally. Isolated anterior nasal spine fractures do not usually require treatment [10]. Patient was referred to otolaryngology and neurosurgery clinics for control with cervical collar, and prophylactic antibiotic coverage, because of the upper lip submucosal laceration.

Conclusion

Although nasal bone is the most frequently affected bony structure in facial trauma, fractures of anterior nasal spine are quite rare. Anterior nasal spine fracture and associated cervical spine injury should be keep in mind in facial trauma.

Competing interests

The authors declare that they have no competing interests.

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