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CASE REPORT

Maxillary Midpalatal Sagittal Fracture: A Case Report

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Abstract

Objective: In this paper, we aimed to present a case management with maxillary midpalatal and mandible fractures on clinical and radiological examination under the literature's knowledge.

Case: A traffic accident history patient, clinical and radiological examination revealed maxillary midpalatal and mandibular fractures. A closed reduction approach was deemed appropriate for the patient, and the fracture was reduced with intermaxillary fixation.

Conclusion: Palatal fractures are rarely seen in maxillofacial injuries. It can often be overlooked in facial traumas, cervical injuries, and sequelae are seen in untreated or incompletely treated cases. After diagnosing the fracture, it is essential to consider the fracture type and appropriate treatment methods.

Keywords: palatal fracture, management, median palatal fracture

Introduction

Maxillary hard palate fractures are rarely seen in the mandible, more often in the mid-face, panfacial, and rarely isolated.1 concomitant injuries, and management of palatal fractures at a level I trauma center in an urban environment. Methods: Data were collected for all palatal fractures diagnosed between January 2000 and December 2012 at the University Hospital in Newark, NJ. Data on patient demographics, Glasgow Coma Scale score on presentation, concomitant facial fractures, extrafacial injuries, and management strategies were collected from these records. Results: Of the 3147 facial fractures treated at our institution during this time period, 61 were associated with a palatal fracture following blunt trauma. There was a strong male predominance (87% Rene Le Fort described palatal fractures in 1901.2 It often occurs due to traffic accidents and high-speed impacts such as motorcycles accidents. Less is due to falling from a height, interpersonal violence, gunshot wound. Most of the patients are in the 20-40 age range and predominantly in men. They are rarely seen in children due to the flexibility of the facial bones and delayed closure of the palatal suture.1,3 concomitant injuries, and management of palatal fractures at a level I trauma center in an urban environment. Methods: Data were collected for all palatal fractures diagnosed between January 2000 and December 2012 at the University Hospital in Newark, NJ. Data on patient demographics, Glasgow Coma Scale score on presentation, concomitant facial fractures, extrafacial injuries, and management

strategies were collected from these records. Results: Of the 3147 facial fractures treated at our institution during this time period, 61 were associated with a palatal fracture following blunt trauma. There was a strong male predominance (87% Clinic symptoms are mobilization of fragments, unilateral or bilateral malocclusion in the vestibule-palatine direction, cleft palate-like clinical appearance, mucosal rupture around the fracture line, and ecchymosis, hematoma at the palatal vault.4

Case Report

A 25-year-old male patient treated for about 15 days in the intensive care unit due to a traffic accident was referred to our clinic to treat maxilla and mandible fractures after his general condition improved. In the clinical and radiological examination, unilateral malocclusion, mucosal rupture, and a cleft-like palatal gap at the palatal vault, and concomitant mandibular fracture have been observed. (Figure 1) Furthermore, it was diagnosed as a Midline Sagittal Palatal fracture according to Hendrickson's classification.

A closed reduction approach was deemed appropriate for the patient. The fracture was reduced and stabilized with intermaxillary fixation. Following the arch bar application, occlusion was provided with the guidance of elastics. (Figure 2) On the 5th day, occlusion was achieved, and the palatal gap was closed on a large scale. It was observed that the palatal gap was closed entirely 45 days after the operation. (Figure 3)

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Figure 1: Palatal fracture line

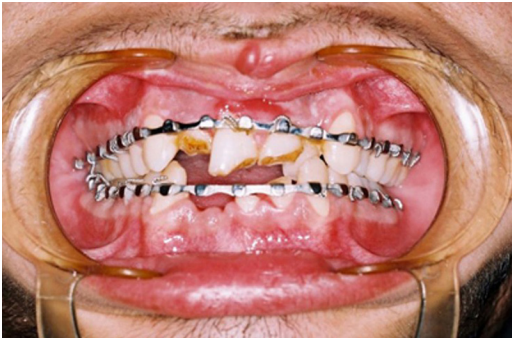


Figure 2: Occlusion after intermaxillary fixation.



Figure 3: Postoperative healing of fracture site at 45th -day

Discussion

Palatal fractures are challenging to diagnose and treat due to the anatomical nature of the area. These fractures may go unnoticed due to traumatic brain injury and intraabdominal injuries, which are the most common accompanying injury at midline palate fractures. In addition, accompanying zygomatic, orbital, mandibular, orbital, and nasoorbitoethmoidal fractures make diagnosis challenging.^{1,5} concomitant injuries, and management of palatal fractures at a level I trauma center in an urban environment. Methods: Data were collected for all palatal fractures diagnosed between January 2000 and December 2012 at the University Hospital in Newark, NJ. Data on patient demographics, Glasgow Coma Scale score on presentation, concomitant facial fractures, extrafacial injuries, and management strategies were collected from these records. Results: Of the 3147 facial fractures treated at our institution during this time period, 61 were associated with a palatal fracture following blunt trauma. There was a strong male predominance (87%)

Various classifications of palatal fractures have been made over the years. Hendrickson et al. were classified the palatal

fracture according to the anatomy and location of the fracture with the patient's CT scans and divided the palatal fractures into six types; Anterior and Posterolateral Alveolar Fractures, Midline Sagittal Palatal, Parasagittal, Para-alveolar, Complex Fracture, and Transverse Palatal Fractures.⁴ Park et al. have classified the palate fracture according to the treatment method.⁶ Chen et al. has made a classification according to both anatomical and treatment method.⁵ 162 patients were diagnosed with palatal fractures. The classification of fractures was based on the patterns observed on computed tomographic scans and treatment plan including type I, sagittal; type II, transverse; and type III, comminuted. Transverse palatal fractures were stabilized by standard Le Fort I buttresses and alveolar ridge fixation. Additional intermolar wiring fixation was applied for sagittal palatal fractures, and prolonged intermaxillary fixation with dental splinting was applied for comminuted palatal fractures. Results: Palatal fractures accounted for 46.4 percent of Le Fort maxillary fractures in this study. Motorcycle accident (69.5 percent)

Many treatment methods have been described in the literature. Conventional treatment or open reduction can be considered depending on the type of fracture, whether the patient is dentulous or edentulous such as open reduction with rigid fixation, Erich arch bars, acrylic palatal splint, Kirshner-wire fixation, circumcuspid or circummolar wires, and circumdental, inter-fragmental wiring, transverse palatal, and horizontal mattress wire. All of them have advantages and disadvantages.^{1,3-5,7,8} concomitant injuries, and management of palatal fractures at a level I trauma center in an urban environment. Methods: Data were collected for all palatal fractures diagnosed between January 2000 and December 2012 at the University Hospital in Newark, NJ. Data on patient demographics, Glasgow Coma Scale score on presentation, concomitant facial fractures, extrafacial injuries, and management strategies were collected from these records. Results: Of the 3147 facial fractures treated at our institution during this time period, 61 were associated with a palatal fracture following blunt trauma. There was a strong male predominance (87%)

Conclusion

The palatal fracture in the body can be overlooked due to panfacial, cervical spine, or life-threatening traumas, and sequelae are seen in untreated or improperly treated cases. After diagnosing the palatal fracture, it is essential to consider the fracture type and appropriate treatment methods.

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Conflict of Interest

There is no conflict of interest.

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