



Panfacial Trauma: A Case Report

Janardan Bhagwat Garde and Ashvini Kishor Vadane*

Department of Oral and Maxillofacial Surgery M. A. Rangoonwala Collage of Dental Sciences and Research Center Pune

***Corresponding Author:** Ashvini kishor vadane, Department of Oral and Maxillofacial Surgery M. A. Rangoonwala Collage of Dental Sciences and Research Center Pune.

Received: July 22, 2019; **Published:** August 19, 2019

Abstract

Panfacial trauma is one of the most common cause of death among young people (under 40 years of age). Facial injury patients may be associated with other body injuries also which leads to poor prognosis [6]. When facial fractures simultaneously involve the the upper 1/3rd, middle 1/3rd and lower 1/3rd; its known as "panfacial fracture" [3]. The management of such type of injury can prove challenging to the operator and life threatening for the patient.

This article reports one case of panfacial trauma in a 60 year old male patient, who was being operated in our institute and case was managed successfully.

Keywords: Frontozygomatic Fracture; Lefort Fractures; Midface Fracture; Panfacial Trauma; Sequencing Repair; Upper Third Fracture

Introduction

Panfacial trauma cases are challenging to manage for oral and maxillofacial surgeons. In case of panfacial fractures, upper 1/3rd, middle 1/3rd and lower 1/3rd are affected. Soft tissues also get lacerated in case of panfacial trauma. High energy injuries like gunshot injuries, motor vehicle accidents lead to panfacial trauma. Almost 4% to 10% of all facial fractures is accounted by panfacial fractures [1]. It is the commonest cause of death in young people, i.e., under 40 years of age [6]. If panfacial trauma is not managed accurately, it can cause functional as well as aesthetic facial deformities, malocclusion and can restricts patient's social interaction. Panfacial trauma comprises fractures of various facial bones, facial deformity, enophthalmos, malocclusion, diplopia and soft tissue injuries [4]. In this article we briefly reports a case of panfacial trauma which was successfully managed in our institute.

Case Report

A 60 years old male patient met with road traffic accident and visited department of Oral and Maxillofacial Surgery of our institute with the chief complaint of pain and facial swelling as well as inability to close his mouth. Case history was recorded. There was no history of bleeding from ear and nose but history of bleeding from the mouth was present. Blood investigations were advised to the patient. Radiographic examination was also advised. His blood

profile was normal. Computed tomography [CT] scan revealed multiple fractures. Figure 1 shows CT Scan image of the patient which revealed the presence of multiple fractures. As multiple fractures involving upper 1/3rd, middle 1/3rd and lower 1/3rd were present, it was diagnosed as "panfacial trauma". Open reduction and internal fixation [ORIF] of multiple fractures was planned under general anaesthesia. All pre-operative investigations and measures were performed and surgery was scheduled. The surgery was performed under general anaesthesia, following all aseptic measures. Figure 2 shows operative pictures of the case. Intermaxillary fixation [IMF] was done to establish the occlusion. Through right side mandibular vestibular incision, parasymphysis fracture was exposed and reduced and fixation was performed with titanium miniplates and screws. Right and left frontozygomatic suture fractures were exposed by taking incisions and reduction was performed at both sites, fixation was performed with titanium miniplates and screws. Fractures at right and left zygomatic buttresses were exposed by maxillary vestibular incision. Open reduction and internal fixation was done with titanium minplates and screws. Intermaxillary fixation was released. 3-0 vicryl was used for intra-oral suturing and it was done in layers. 4-0 vicryl and 5-0 prolene were used to perform extraoral suturing. Patient was shifted to ICU ward after getting recovered. Patient's postoperative care and regular follow-up was maintained. In this way, this case was successfully managed.

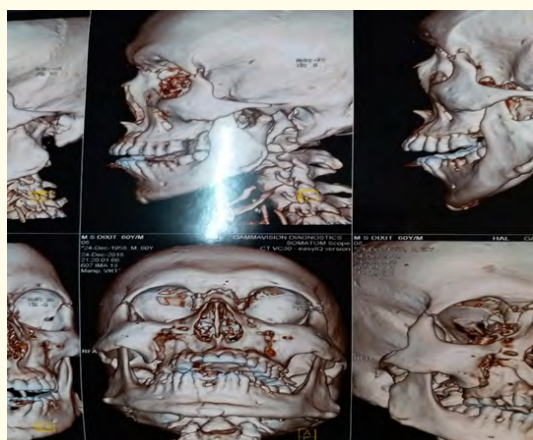


Figure 1: Preoperative Computed Tomography [C T] Scan Image.



Figure 2: Operative Pictures.

Discussion

The term “panfacial trauma” refer to multiple fractures of various facial bones leading to difficulty in restoring the facial contour and architecture [5]. Panfacial trauma can occur after road traffic accidents, sports injuries, gunshot injuries, direct assault and due to injuries after fall [4,5,12]. As per some authors, when fracture patterns simultaneously involve midface as well as

mandible, its known as “panfacial trauma”. Whereas, according to some authors, when fracture patterns simultaneously involve the upper, middle and lower face, its known as “panfacial trauma”. Hence, the literature does not have any accepted definition of panfacial trauma [10-12].

In panfacial trauma, cranium, frontal bone, naso-orbitoethmoid complex (NOE complex), zygomatic complex, midface and mandible are simultaneously affected, i.e., fractured [10,11]. The facial deformities after the panfacial injury are referred as “dish” face deformity. In this fracture, there is loss of facial height, facial width as enophthalmos is seen [3]. These fractures are also accompanied with facial deformities, restricted facial movements, malocclusion, soft tissue injuries, post-traumatic deformities, dish face deformity, CSF leak [10,12,13].

Management of panfacial trauma is a sequential repair technique. Prior to start this sequential repair, operator should restore the occlusal relationship. Hence, after establishing proper occlusion, the stability of midface buttresses and the spatial relationship can be achieved. Airway management is very much important while repairing panfacial fractures. As per the clinical condition and severity of panfacial trauma case, airway management mechanism is decided. As per the situation, oral or nasal intubation, submental intubation or tracheostomy can be done to establish an airway. Different approaches for the management of panfacial trauma has been proposed like inside – out or bottom – up approach and outside-in or top-down approach. In the inside – out approach, maxillary- mandibular unit is reconstructed first to establish the occlusion. Whereas, in outside – in or top – down approach, the outer facial frame is established first [2].

Conclusion

The repair of panfacial fractures should be in a stepwise manner [2]. The surgeon should restore anatomical esthetics as well as perform the functional repair of the face [5]. The aim of the management of panfacial fractures is to restore function, aesthetics and pre-injury facial contours [5].

Bibliography

1. Jiye Kim., *et al.* “Panfacial Bone Fracture and Medial to Lateral Approach”. *Archives of Craniofacial Surgery* 17.4 (2016) 181-185.
2. Kausar Ali., *et al.* “Management of Panfacial Fracture”. *Seminars in Plastic Surgery* 31.2 (2017): 108-117.
3. Dr Anirudha Singh., *et al.* “Management of Panfacial Trauma: A Case Report”. *Journal of Medical Science and Clinical Research* 7.3 (2019).

4. Tarek Elsayed Ftohy Abdelrahman., *et al.* "Challenge and management outcome of panfacial fractures in Sohag University hospital, Egypt". *International Surgery Journal* (2018): 126-131.
5. Mall BB., *et al.* "Panfacial Trauma – A Flexible Surgical Approach". *Journal of Universal College of Medical Sciences* 2.7 (2014).
6. Sumita Shankar., *et al.* "Epidemiology and Management of Panfacial Fractures and the Associated Injuries in Andhra Pradesh". *International Journal of Research in Pharmacology and Pharmacotherapeutics* 5.4 (2016): 368-372.
7. Ashish Gupta., *et al.* "Changing Trends in Maxillofacial Trauma: A 15 Years Retrospective Study in the Southern Part of Haryana, India". *Indian Journal of Dental Research* 29.2 (2018): 190-195.
8. Garrett GA Casale., *et al.* "Classifying and Standardizing Panfacial Trauma with a New Bony Facial Trauma Score". *Journal of the American Medical Association facial plastic surgery* 19.1 (2017): 23-28.
9. Sourav Sharma and Vandana Dhanasekaran. "Surgical Approaches and Management of Panfacial Trauma: A Case Report". *Journal of Clinical and Diagnostic Research* 9.8 (2015): ZD13-ZD14.
10. Abdeljalil Abouchadi., *et al.* "Pan- Facial Fractures: A Retrospective Study and Review of Literature". *Open Journal of Stomatology* (2018): 110-119.
11. Dr Tanmoy Ghorui., *et al.* "Management of Malunited Panfacial Fracture with Calvarium Bone Graft – A Case Report". *Journal of Dental and Medical Sciences* 16.11 (2017): 90-94.
12. Kumaravel Subramaniam., *et al.* "Panfacial Fracture – A Case Report". *International Journal of Dental Clinics* 7.3 (2015): 20-22.
13. N Vujcich and D Gebauer. "Current and evolving trends in the management of facial fractures". *Australian Dental Journal* 63.1 (2018): S35-S47.

Volume 3 Issue 9 September 2019

© All rights are reserved by Janardan Bhagwat Garde and Ashvini Kishor Vadane.