SUNTEXT REVIEWS

SunText Review of Dental Sciences
ISSN: 2766-4996

Open Access
Case Report
Volume 2 Issue 2

Symphysis Menti Fracture- Case Report and Review of Literature

Shunmugavelu K*

Consultant Dental Surgeon, Department of Pediatric Dentistry, Kanchi Kamakoti Childs Trust Hospital, Chennai, India

***Corresponding author:** Shunmugavelu K, Consultant Dental Surgeon, Department of Pediatric Dentistry, Kanchi Kamakoti Childs Trust Hospital, Chennai, India; Tel: +91-9789885622; E-mail: drkarthiks1981@gmail.com

Received date: 14 January 2021; **Accepted date:** 23 January 2021; **Published date:** 27 January 2021

Citation: Shunmugavelu K (2021). Symphysis Menti Fracture- Case Report and Review of Literature. SunText Rev Dental Sci 2(2): 139.

DOI: https://doi.org/10.51737/2766-4996.2021.139

Abstract

Fractures of the symphysis depends on the site of impact and are common in road traffic accidents. The most common emergency complication includes airway obstruction. Management of symphyseal fractures involve fixation and reduction for 4-6 weeks with favourable prognosis. This article describes a case report and review of literature of a symphyseal fracture without complication and the management of the fracture.

Keywords: Symphyseal fracture; Coleman sign fixation; Reduction

Case Report

Presentation of case

A 43-year-old male patient reported with a chief complaint of severe pain and difficulty in opening his lower jaw for the past 1 day due to trauma from a road traffic accident. He had a history of bleeding from the mouth immediately after the injury. Clinical examination revealed lacerations and contusions on the left side of the face (Figure 1) and laceration with hematoma formation on the upper and lower lip. Intraoral examination revealed step deformity in the anterior region of the mandible, deranged occlusion, gingival and mucosal laceration in the lower mandibular anterior region. Coleman sign- sublingual hematoma in floor of the mouth and crepitation on palpation were also noted.

Clinical Diagnosis

Patient did not experience vomiting, loss of consciousness, and bleeding from the nose and ear, which ruled out the possibility of a head injury. No other associated injuries were present elsewhere in the body. Past medical, dental, and family history were insignificant. Based on the history and clinical features, clinical diagnosis of mandibular fracture involving the symphysis was made.

Figure 1: *Lacerations and contusions on the left side of the face.*

Discussion of Management

Arch bars and circumdental wires were placed on the dentition. Right lower lateral incisor which was present in the line of fracture was removed. Open reduction and internal fixation with two miniplates along Champy's lines of osteosynthesis was done (Figure 2). Two 2 mm plates were fixed using four 2 x 6 mm and

four 2x8mm screws at superior border just below root apices of teeth and at the inferior border of the mandible for neutralization of the forces of compression and tension. Interrupted sutures were placed using resorbable sutures and extra-oral pressure dressing was done to prevent ptosis of lip and muscle. Patient was extubated uneventfully. Following accurate reduction of the fragments, the fracture site was immobilized with intermaxillary fixation to allow bone healing to occur.

Figure 2: *Champy's lines of osteosynthesis was done.*

Review of Literature

History

Mandibular fractures were first reported in Edwin Smith Papyrus in 1650 BC. Hippocrates 4 interdental bands and wires are used to treat mandibular fractures. Gunning Description of the use of attached dental splints to place external devices. In 1881, Gilmer described the use of rods on both brackets, attached to the teeth and with each other. Fine wire bands. In 1934 Forschutz advocated external fixation using a transcutaneous bone nails and plaster [1-3].

Classification of mandibular fractures

A) D. Kelly and W. Harrigan classification
Based on the location of the fracture, mandibular fractures were classified involving
1. Region of symphysis
2. Region of body
3. Region of angle
4. Region of ramus
5. Region of condylar process
6. Region of coronoid process
B) Dingman's classification
Fractures were described in 7 categories:
1. Condylar fractures/intracapsular
2. Sub condylar fractures
3. Coronoidal fractures
4. Fractures of mandibular ramus
5. Fractures of mandibular angle /open through third molar socket/
6. Fractures of mandibular body /open through tooth socket
7. Fractures of symphysis
C) Gratz Classification
It consists of alphanumeric symbols analogic to TNM classification of tumours.
F-fracture
L-localization
S- soft tissues injuries
A- associated maxillo-facial injuries
O- occlusal disorders [4]

Epidemiology and Etiology

Males between the ages of 18 - 34 years are more prone to symphyseal fractures since they are involved in the violent activities, fights, sports, and high-speed transportation. Most of the trauma are blunt, but penetrating trauma is more common with interpersonal violence and war injury [5].

Clinical Findings

The most common symptoms include pain at the fracture site which can aggravate during swallowing, talking, and opening/closing of the mouth and deranged occlusion. Patients may also complain of difficulty opening the jaw (trismus), loosened or fractured teeth, lower lip numbness, intraoral bleeding, facial swelling. Coleman sign- sublingual hematoma in floor of the mouth is the characteristic finding in symphyseal fracture. Crepitus and tenderness on palpation of the fractured segment, which is most often mobile can be noted. Symphyseal fractures may lead to mobility of the central portion of the mandible where the muscle genioglossus attaches and allows the tongue to fall backwards and block the airway [6-9].

Radiographic Findings

The symphysis fracture can be median or paramedian and can have a rectilinear or lambda course. They can either be unfavourable or favourable based on the direction of the fracture and the muscle attachment points that leads to displacement or no displacement of bone fragments, respectively. The masseter muscles, time and medial pterygoid muscles pull the lateral branch. Upward, while the focus muscles, hyoid muscles, and hyoid muscles move the mandible. Easement down. Therefore, the fracture is unfavourable when the fracture line extends from Alveolar edge to inferior cortex with a posterior orientation since the bone. Displacement fragments. On the contrary, the fracture is

suitable at the fracture line. It extends forward as the bone fragments are moved toward each other without Offset [10-11].

Management and Complications

As with any other fracture, management of the symphyseal fractures involves management of the airway followed by reduction and fixation. The open reduction allows to contract the bone directly through. Incision so that the broken ends meet which can then be secured together either rigidly (With screws or boards and screws) or non-rigid (with cross-body wires). Pressure. It can be panels, non-pressed panels, lag bolts, small panels, and degradable panels user. The recovery time for routine mandibular fractures is 4-6 weeks healing. The fracture is affected by the type of crack, the involvement of the displacement of the teeth, Fragility and lifetime. The most common long-term complication is loss. Sensation in the mandibular nerve, malocclusion, and loss of teeth in line Break [12-14].

References

1. Abhishek K. Management of Symphysis and Parasymphysis Mandibular Fractures in Children Treated with MacLennan Splint: Stability and Early Results. Int J Clinical Pediatric Dentistry. 2015; 8: 127-132.
2. Barber HD, Woodbury SC. Silverstein. Mandibular fractures. Oral Maxillofacial Surgery 2nd edn. 1997; 1: 473-526.
3. Maniglia AJ, Kline SN. Maxillofacial trauma in the pediatric age group. Otolaryngol Clinical North Am. 1983; 16: 717-730.
4. Hristina Mihailova. “Classifications of mandibular fractures-review”. Journal of IMAB - Annual Proceeding. 2006; 12.
5. Soodan KS. Mandibular Parasymphyseal Fracture and its Management: A Case Report. Acta Scientific Dental Sci. 2018; 28: 39-41.
6. Booth P, Eppley B, Schmelzeisen R. Mandibular fractures in adults. In: Booth P, Eppley B, Schmelzeisen R, editors. Maxillofacial Trauma and Esthetic Facial Reconstruction. St Louis, MO: Elsevier Saunders; 2003.
7. Fonseca R. Oral and Maxillofacial Surgery. 2nd edn. St Louis, MO: Elsevier Saunders; 2000.
8. Banks P, Brown A, Andrew E. Fractures of the facial skeleton. 2000.
9. Susarla SM, Swanson EW, Peacock ZS. Bilateral mandibular fractures. Eplasty. 2014; 14: 38.
10. Owibingire SS, Kalyanyama B, Simon E. Injuries of the maxillofacial region. In: Kahabuka FK, Minja IK, Kikwilu EN (eds) Dental and maxillofacial trauma – challenges in low- and middle-income countries. Research Signpost, Kerala, India. 2018; 97-129.
11. Nardi C, Vignoli C, Pietragalla M. Imaging of mandibular fractures: a pictorial review. Insights Imaging. 2020; 11: 30.
12. Gustav K. Textbook of Oral and Maxillofacial Surgery. St. Louis, Missouri: CV Mosby, 1984.
13. Hermund NU, Hillerup SR, Kofod T, Schwartz O, Andreasen JO. Effect of early or delayed treatment upon healing of mandibular fractures: A systematic literature review. Dental Traumatol. 2008; 24: 22-26.
14. Ezsiás A, Sugar AW. Pathological fractures of the mandible: A diagnostic and treatment dilemma. The British J Oral Maxillofacial Surgery. 1994; 32: 303-306.