

OBLIQUE FRACTURE OF PARASYMPHYSIS CASE REPORT AND MANAGEMENT

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ABSTRACT

Mandibular fractures are more common among maxillofacial trauma. Fractures of the parasymphyseal region of mandible occur in 15% of all cases of mandibular fracture. The diagnosis of mandibular fractures must begin with a careful history and clinical examination. Mandible is one of the strongest bone of facial skeleton, but it is frequently fractured due to its prominent position, mobility, anatomic configuration as well as less bone support. This paper presents a case report with a facial trauma affecting the mandibular parasymphysis with an emphasis on its management.

Keywords : Fracture, Mandibular parasymphysis, ecchymosis

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Introduction

Mandible is strong bone with a prominent position in the facial skeleton and has a specific anatomic configuration. Fracture of mandible accounts for 36% to 59% of maxillofacial trauma¹. The most typical causes for fractures of mandible were fall (64%), traffic accidents (22%) and sports related accidents(9%)². Following any form of orofacial trauma, patient can be affected psychologically, which can usually affect aesthetic as well as functional structures³.

Majority of fractures of mandible are undisplaced because of elasticity of mandible and embedded tooth buds that holds the fragments together "like glue"⁴. If any of the fractures are displaced, then closed reduction and immobilization are performed. This is followed by intermaxillary fixation and surgical plating with screwing to be done with regular follow up⁵.

This paper will review the triage, evaluation and management of an oblique parasymphyseal fracture of mandible in a middle aged man.

Case Report

A 41year old male patient reported to our department with chief complaint of painful swelling over the right side of the face. In history of present illness, he gives history of swelling present for the past 1 week which is associated with pain following a trauma 1 week back (hit by log). Swelling was of sudden onset following trauma and gradually increased to the present size since last 4 days. Associated pain was throbbing type, increases on touch, relieved upon no medication. Patient also reported with difficulty in wide opening of his mouth, also associated with difficulty in mastication, swallowing as well as phonetics. However, not associated with loss of consciousness or bleeding from nose, ear or any vomiting. Patient also gave history of fever present before 2 weeks. There were no relevant past medical, past dental as well as family history.

On extraoral examination, on inspection, the swelling was diffuse over the right side of the lower third face measuring approximately 5×3 cm in size which

is roughly oval in shape. It extends anteriorly 2.0cm from the midline, posteriorly 4cm from the right angle of the mandible. Superiorly it extends 2cm below the imaginary line drawn from the right ala of nose to the tragus of the ear. Inferiorly it extends 2cm below the inferior border of the mandible. Skin over the swelling appeared to be normal overall except for a small area of ecchymosis in the anterior part of swelling. There were no surface ulcerations, bleeding or any bleeding spots present over the skin. On palpation, inspectory findings such as extent, size and shape were confirmed. The swelling was tender, is firm hard in consistency. It was non mobile, non-fluctuant, non-compressible, non-reducible and hard in consistency. There was local rise in temperature.

On local intraoral examination, on inspection, swelling was appreciated on the lingual aspect of 44, 45. The swelling extends from mesial aspect of 44 upto the mesial aspect of 45. It was 1 cm in diameter with normal surrounding mucosa. In addition, there were lacerations present in relation to 44, 45 with profuse and spontaneous bleeding. Healed ulcerations (scars) were present on the right side of upper and lower lip and over the labial mucosa. Obliteration of the right buccal vestibular area was well appreciated. Mouth opening and occlusion was normal with no step deformity. But generalized attrition of teeth was appreciated. On palpation, inspectory findings such as site, extent and shape of the swelling were appreciated. Swelling was tender to palpate, no bleeding or discharge present. Tenderness of right buccal vestibule was present.



Fig 1.
Extraoral
examination
revealed the
presence of a
diffuse swelling
over the right
mandible



Fig 2& 3. Intraoral examination revealed lacerations with respect to 44, 45 & healed ulcerations over labial mucosa

Bleeding was appreciated through the lacerated wound in relation to 44, 45. There was grade II mobility in relation to 45.

Based on the history given by the patient and the clinical examination carried out, a provisional diagnosis of mandibular body fracture was given.

Differential diagnosis of Dentoalveolar fracture was considered but here there is mobility of the entire segment in the region of fracture. There may be occlusal disharmony.

Panoramic radiograph was taken as part of investigation which revealed an oblique radiolucent band suggestive of a fracture line starting obliquely from the interdental region in relation to 44 and 45, runs downwards and backwards to involve the inferior border of mandible. Also reveals 45, the tooth in line of fracture. However there is no displacement of the fractured segment of right mandible.

Considering the history, examination and investigation, final diagnosis of Oblique Fracture of right parasymphysis was given.

Treatment plan made include the following:

Preliminary treatment - Control of bleeding, antibiotic coverage, analgesics

Followed by Surgical management with extraction 45, complete oral prophylaxis with restoration of 14, 15, 18, 38, 47, and 48.

Following medications were prescribed:

Amoxicillin (Cap. MOX) 500mg TID - 5 days.

Metronidazole (Tab. METROGYL) 400mg TID - 3days.

Diclofenac sodium (Tab. DICLO) 50mg BD - 5days

Ranitidine (Tab. RANTAC) 150 mg BD - 5 days.

Patient was then admitted. Surgical plating and screwing was carried out after intermaxillary fixation.

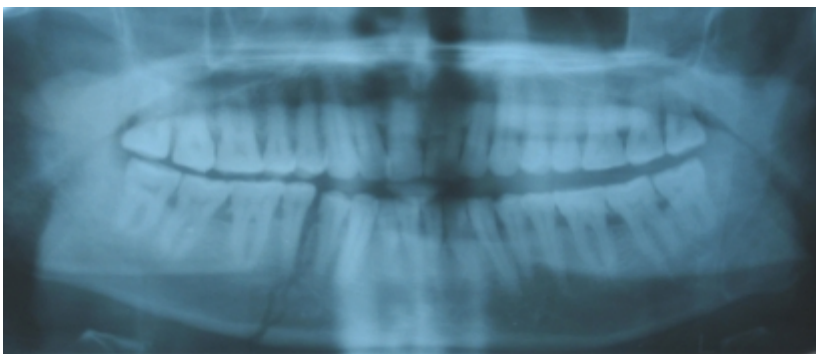


Fig 4: Panoramic radiograph revealed an oblique radiolucent band suggestive of a fracture line on right parasymphysis

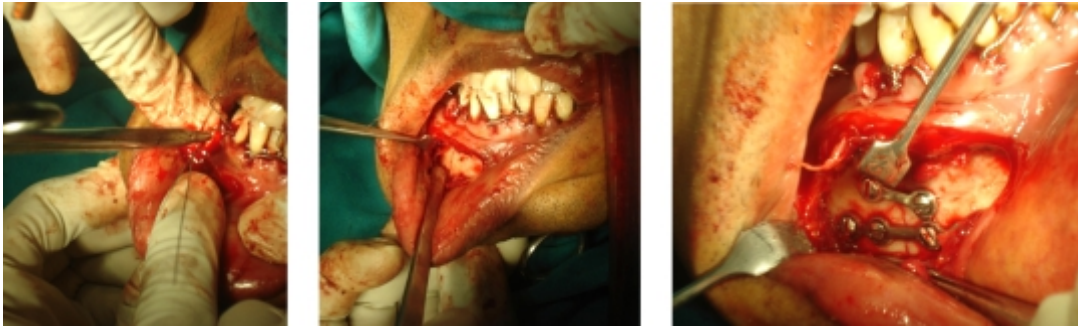


Fig 5,6,&7: (A)Intermaxillary fixation. (B) Fracture line detected. (C) Surgical plating & screwing with respect to the fracture site in right body of mandible.



Fig 8: recall after 3 weeks

Discussion:

One-third of lower facial skeleton is composed of mandible which is at a great risk for direct external trauma. Fractures of mandible are usually common in adults as well as in pediatric patients⁶. Mandible fractures are usually seen in the weak portions of the jaw. Angle fracture is most common among all fractures that occur following any form of violence⁷. Vertical fractures are generally seen in following direct trauma and horizontal fractures are usually rare. The clinical signs and symptoms of a fractured mandible usually includes pain, swelling, trismus, derangement of occlusion, sublingual hematoma, step deformity, deviation, loss of sensation due to nerve damage, bleeding, ecchymosis, temporomandibular joint (TMJ) problems, tenderness, movement restriction. However, for the present case, signs and symptoms were pain, swelling, bleeding, ecchymosis and tenderness. In a study done by Posnick and colleagues', thirty-nine percent of all the fractures were of the mandible⁸.

The main goal of management is to restore the underlying bony architecture to its preinjury state with minimal residual esthetic and functional impairment⁹. The management in child differs from that of adult because of concern for possible disruption of growth¹⁰. In severe fractures, the treatment options can vary from intermaxillary fixation, cap splints to plating with mini plates or resorbable plates. Mandibular parasymphiseal fractures without displacement and malocclusion are managed merely by close observation, a liquid-to-soft diet, avoidance of physical activities such as sports and use of analgesics^{11,12}. For minimally displaced fractures, conservative closed reduction is the most frequently recommended treatment. The closed reduction and immobilization approach can be achieved by means of lingual acrylic splints, circumferential wiring, arch bars, or gunning splints¹³. In the present case report, patient was under close observation following reduction and intermaxillary fixation was done for minimally displaced fracture. Surgical plating and screwing was done after the wiring.

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