

## Treatment of Symphysis Region Fracture of Mandible by Miniplate: A Case Report

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### Abstract

Among the fractures in oral and maxillofacial trauma compound, the one in the lower third occupy prominent place due to its frequency and immediate esthetic and functional damage. Several techniques and materials are used for its treatment, for example, the titanium screws and plates. This case report describes a patient with a fracture in the symphysis region, treated with titanium plates

**Keywords:** Trauma; Functional Damage; Titanium Screws; Plates

### Introduction

Mandible fractures have a very important epidemiological role, causing many disabilities to the individual and due to this, serious morpho functional disturbances occur. Craniofacial development alterations, temporal-mandibular and salivary disorders, deficient occlusions, sleep disorders due to apnea and chronic facial pains are possible complications and sequels of mandible fractures [1].

Mandible fracture can be classified according to its anatomic position [2] in: condylar, of the angle, of the body, of the symphysis, alveolar, of the branch and of the coronoid process. Analyzing mandible fractures, results showed that the male gender is the most common victim, the menthol region is the most affected and the main etiologies were automobile accidents, in which rigid internal fixation was considered a satisfactory treatment [3].

The most common causes observed in epidemiological studies were physical aggressions, accidental falls, car and motorcycle accidents, and sport related and industrial traumas [4]. In a prevalent study, traffic accidents were reported as the most frequent etiologies.

The advent of the internal rigid fixation (IRF) represented an important advance for the facial fractures, due to the fact that it enables the stable maintenance of the reduction obtained by surgery, even under precocious functional activities. The benefits include the abbreviation or elimination of the postoperative intermaxillary

block, giving the patient better buccal hygiene and nourishment, more appropriate phonetics, and it prevents the functional restriction of the articulation due to disuse, decreasing the complication related to bone reappears [5]. The fixation can be achieved with compression screws or even stabilization plates (plates for mandible reinforcement).

### Case Report

A 28 year old man was referred by a physician to the dental clinic for the treatment of mobile tooth in the lower jaw. The patient had a road accident. On clinical examination, there was a gap between the lower central incisors (Figure 1) and abnormal bone mobility of the segment as well. Immediately, OPG was done which showed a fracture of the dentoalveolar region in the symphysis (Figure 2).



**Figure 1**



Figure 2

After thorough examination, surgery was performed. Local anesthesia (Mental block) was given. Due to instability of the symphysis region and the alveolodental fracture, interarch wiring was done (Figure 3) to make the fractured segments stable.



Figure 3

Once accomplished intra-oral surgical access, a mucoperiosteum displacement was carried out, exposing the fractured region. After raising the flap, fracture was clearly visible in the symphyseal region (Figure 4). 2.0 mm Titanium miniplates, a 5 hole continuous plate (Orthomax company) were placed: One at the superior border and another just above the inferior border (Figure 5). After plating, the stabilising wire was removed (Figure 6). At all times, the patient was aware and cooperative, showing no neurological damage. Patient was discharged and monitored after 3 days, 7 days, 15 days and one month. It was found that every time healing and stability was better.



Figure 4



Figure 5

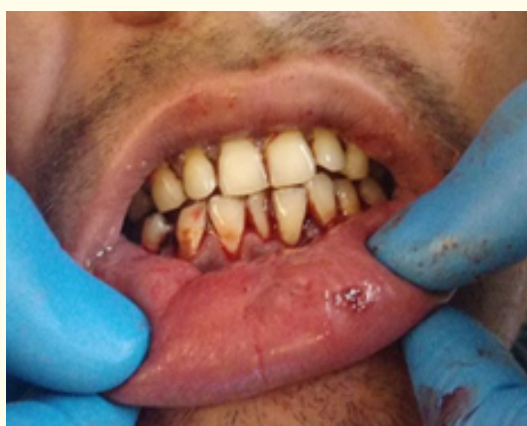


Figure 6

### Discussion

The incidence of the bucomaxillofacial traumas may vary according to the geographic area where the sample was collected, the distribution and the social-economic tendencies in the universe containing the sample, and also the traffic legislations and seasonal variations.

Sobreira, *et al.* [1] reported fracture nasal bones as being the most usual. Regarding the etiologies, the most common were associated to assaults, fights, fire weapon wounds [1], traffic accidents [1,3,6] physical aggressions, accidental falls, car and motorcycle accidents, sport related and industrial traumas [1,4,6] and also accidents caused by animals (horses) [7].

The intra-buccal access, being a region that involves esthetic, is, by most authors, chosen, when treating simple fractures, little extensive or even comminuted, when there are lacerations of the gingival-labial sulcus that allow access to the fracture [5].

Due to the considerable charges received, when treating a mandible fracture, the internal fixation method is the most effective [3], considering that, in this method, there is a decrease of the bone repair time and elimination of the necessity of inter-maxillary block, granting the patient more comfort in the postoperative period [5].

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