# of Multiple and Comminuted Mandibular Fractures

A Thesis
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Summary

A prospective study was conducted in the Specialized Surgeries Hospital in the period between September 2003 and September 2004 on one hundred (100) patients with different severity of multiple and comminuted mandibular fractures. Male to female ratio was 5.7:1 and the most common age group was 20-29 years. Isolated mandibular fractures were seen in 88 patients (88 %) and 12 patients (12 %) had associated facial fractures. The predominant cause of fractures was missile injuries in 53 patients (53 %), which were responsible for more severe injuries involving both hard and soft tissues with associated head, chest, and ophthalmic injuries. The second cause was road traffic accidents in 30 patients (30%).

Radiographical examinations in relation to both etiology and type of fracture were presented. Comminuted mandibular fractures were seen in 54 patients (54%), whereas multiple in 46 patients. The most frequent site of fracture was the mandibular body (found in 50 patients), and 57% of patients were with fractures in two anatomical areas. Soft tissue injuries have the highest figure in comparison with other associated injuries, found in 13% of patients.

Treatment interval ranged from the time of admission to 32 days with average of 3.7 days. Closed reduction was performed for 72 patients (72%) with the use of different methods of indirect skeletal fixation which were presented. Open reduction with transosseous wiring, intramedullary pining, or miniplate was used for 13 patients. While combination of both modalities of treatment was used for 8 patients. Conservative and functional treatment was performed for 5 patients and 2 patients respectively.

Postoperative results were evaluated for all patients with multiple and comminuted mandibular fractures. Bone loss was detected in 10 patients, while malunion was found in 12 patients. Occlusal derangement and limited mouth opening were found in 25% and 27% respectively.

The most frequent complication of multiple and comminuted mandibular fractures in this study was inferior alveolar nerve deficit, found in thirty five percent of the patients, and was more pronounced in patients with comminuted fractures resulting from missile injuries. Facial deformity was found in 25% and further surgery was required for 22%, both were also more associated with comminuted fractures resulting from missile injury. Other complications were infection 4%, facial nerve deficit 3%, fistula 2%, and pain 2%.

There was no statistically significant relationship between the development of complications and the modality of treatment. Whereas, patients with comminuted fractures, especially those resulted from missile injuries with high degree of fragmentation, were associated with a higher incidence of complications.