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Research Article

**STUDY TO KNOW VARIOUS POSTOPERATIVE
COMPLICATIONS OF MANDIBULAR ANGLE FRACTURE
ASSOCIATED WITH TWO SURGICAL PROCEDURES AND
THEIR COMPARISON**¹Dr. Hamza Malik, ²Adeel Ayub, ³Anum Imran¹PIMS Islamabad²Dental Surgeon, Graduation from Nishter Institute of Dentistry Multan³Shaikh Khalifa Bin Zayed Al-Nahyan Medical and Dental College Lahore**Abstract:**

Objective: The aim of this analysis was to evaluate several postoperative complications linked with two surgical procedures used to reduce mandibular angle fractures.

Study design: A quasi-experimental study.

Location and duration: In the department of Oral and maxillofacial Surgery for one year duration in the Jinnah Hospital, Lahore.

Methods: The analysis was performed with mandibular fractures of the lower jaw fractures. They were divided into two categories. Thirty patients underwent intraoral approach (Group A) and thirty additional oral approaches (Group B). These patients were evaluated in terms of postoperative infection, hypertrophic scar, nerve damage, malocclusion, aesthetic dissatisfaction and opening of the mouth at different intervals of postoperative visits.

Results: In 20% of the patients managed with external approach, postoperative nerve injury was observed and no nerve injury was observed in any patient treated with intraoral approach ($p = 0.02$). Similarly, only 6.67% of patients treated with intraoral approach had postoperative aesthetic dissatisfaction, corresponding to 63.33% of patients treated with an extra oral approach ($p = 0.00$).

Conclusion: According to this study, intraoral approach was accepted as a more suitable method in the mandibular angle fractures treatment.

Key words: Intra / extra oral approach, postoperative complications, mandibular angle fracture.

Corresponding author:

Dr. Hamza Malik,
PIMS Islamabad

QR code



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INTRODUCTION:

Mandibular fractures are more common than two-thirds of the face. Injuries alone or on other facial bones cause serious loss of function and deformity. Mandibular fractures are more common than two-thirds of the face. Injuries alone or on other facial bones cause serious loss of function and deformity. The fracture shape of the jaw varies according to geographic location, physical activity, social, cultural and environmental factors. The main causes of mandibular fracture are: traffic accidents, interpersonal violence, falls, sports injuries, industrial traumas, pathological fractures, interpersonal violence in developing countries. Children under 12 years of age are less susceptible to fracture due to trauma to the lower jaw of any age group and gender, but are more resistant to bones. The treatment of mandibular fractures varies according to presentation, surgical experience and available facilities in different maxillofacial units. General treatment principles for mandibular fractures are not different from the treatment of fractures in other parts of the body. The fragments are reduced to a suitable position and then immobilized until a bone bond is formed. Different methods for the jaw fractures treatment include: maxillary mandibular fixation alone (MMF). Dental cables, arc bars and so on. Maxillary mandibular fixation by osteosynthesis: eg. Peripheral wiring, Transosseous wiring, external pin fixing. Osteosynthesis without maxillary mandibular fixation, p. For example, screws, fixing screws without fixing and clamping of mini-plates. Currently, fixation with one or two mini-plates has become an acceptable method to provide internal fixation and eliminate the need for postoperative maxilla. Mandibular fixation Fixation of the mandibular angle can be achieved by two methods: intraoral approach and extra oral focus. For an intraoral approach, an incision is made in the buccal groove while submandibular incision is made for an additional oral approach (Risdon).

MATERIALS AND METHODS:

This experimental analysis was performed in 60 patients with mandibular angle fractures in the maxillofacial surgery department for one year duration in the Jinnah Hospital, Lahore. Patients of both genders of aged 16-60 years were selected for the analysis. Into 2 groups, patients were divided as

A and B using random numbers table. After patients randomization anyone who was not suitable for the given treatment group was not selected for the study. To manage these patients, 2 standard surgical procedures were used. Thirty patients from A Group were managed with an additional oral approach and from group B, 30 patients with an intraoral approach were treated. Patients were included according to given criteria of inclusion and exclusion. Inclusion criteria: Patient age 16-60 years old, medical adequate for surgery Double bonded to the jaw jaw approval of the patient joining the double tooth. Exclusion criteria for toothless pathological fractures and subcondylar fracture with damage (FAI), the middle of the third refractive surface exclusion criteria.

To obtain a definitive diagnosis, a standard clinical examination and date of diagnosis in table was filled for each patient selected for the study. To record the following information, a designed proforma was used: Sex and Age of the patient. Causes of recorded injuries as traffic accidents, injuries, sports and assaults injuries.

Orthopantomogram is the standard radiography completed with a front-to-back view of the face. In patients with a history of swelling, trauma, deformity and pain, repeat the steps of probing the jaw angle of the uncomfortable congestion, showing bone discontinuity in the diagnosis of fracture radiography. The surgical intervention experimental results was explained to all patients selected for this analysis and before the surgery, informed consent was taken. Each patient was followed for 6 weeks. Postoperative radiography was monitored for all patients. During the period of follow-up, no complication occurred in two treatment methods for a jaw angle fracture under the following heading: complications immediately after surgery (nerve damage), late postoperative complications (eg infection, limited mouth opening, malocclusion, hypertrophic scarring and aesthetic dissatisfaction). The collected data were analyzed and entered with SPSS version 17.0.

RESULTS:

The gender of the patients detailed distribution is given in Table 1.

TABLE.1: GENDER DISTRIBUTION OF PATIENTS

Gender	Number & Frequency (n%)
Male	47(78.33%)
Female	3(21.67%)
Total	60(100%)

The results of the fracture etiology were classified as traffic accident, fall, aggression, sports injuries and iatrogenic.

Table 2 shows the sample distribution according to the fracture etiology. Table 3 gives information about the complications occurs postoperatively due to both treatment options.

TABLE2: ETIOLOGY OF FRACTURE

Etiology of fracture	No of patients (n %)
Road traffic accidents	41 (68.33%)
Assaults	9 (15%)
Falls	8 (13.33%)
Sports	1 (1.66%)
Iatrogenic	1 (1.66%)

Significant findings in Table 3 were that postoperative marginal mandibular nerve damage was not noted in 20% of patients compared to postoperative marginal mandibular nerve injury in patients treated with intraoral approach (Group A).

TABLE 3: COMPLICATIONS RATES IN THE ENTIRE TREATMENT

Postoperative Complication	Intra oral approach		Extra oral approach		Significance (p value)
	Present	Absent	Present	Absent	
Infection	4(13.3%)	26(86.6%)	5(16.6%)	25(83.3%)	0.71
Marginal Mandibular Nerve damage	0 (0%)	30(100%)	6(20%)	24(80%)	0.02
Malocclusion	3(10%)	27(90%)	5(16.6%)	25(83.3%)	0.44
Mouth opening Compromised	2(6.6%)	28(93.3%)	5(16.6%)	25(83.3%)	0.22
Esthetic Dissatisfaction	2(6.6%)	28(93.3%)	19(63.3%)	11(36.6%)	0.00
Hypertrophic scar	0 (0%)	30(100%)	1(3.3%)	29(96.6%)	0.31

Agreements with an extra regional approach (Group B). This finding was found to be statistically significant in $p = 0.02$. Postoperatively, only 6.67% (Group A) and 63.33% (Group B) of aesthetic dissatisfaction were found to be $p = 0.00$.

DISCUSSION:

The aim of this study was to compare the various complications of mandibular angle fractures, ie infection, nerve damage, malocclusion, two surgical procedures, ie intraoral approach and over-approach. Aesthetic dissatisfaction, hypertrophic scar and limited mouth opening. To determine which of the two procedures shows better postoperative results. The results confirm that postoperative complication rates are much higher in patients with an additional oral approach, in terms of nerve damage (20%) and aesthetic dissatisfaction (63%). This finding is similar to other studies reporting the advantages of the intraoral route in the extraoral tract. The results of the study show that infection occurred in 13.3% of patients treated with intraoral approach and 16.6% in over-approach. These results are comparable to those of Moreno JC. In this study, the rate of infection in patients treated with open reduction and mandibular fracture with internal fixation was 12.5%. Malocclusion was evaluated with only patient complaints as in other studies in this study. In 10% of the patients operated with intraoral approach, 16.6% of the cases who were operated with extreme surgery were observed. This was reported by Renton and Moreno et al. According to the patient's complaint, nerve damage was observed in terms of sensation and motor neuropathies. Motor changes were observed in an additional oral route similar to the Iizuka study.

CONCLUSION:

According to the results of this study, it was concluded that intraoral approach is an effective and better technique.

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