


Single Institute Audit of Maxillofacial Trauma Cases Before and During COVID-19 Pandemic

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Abstract

Study Design: In the year 2020, we saw the emergence of severe acute respiratory syndrome coronavirus 2 causing COVID-19 into a full blown pandemic. This resulted in constraints on healthcare resources, and the attention was shifted to reduce cross contamination and prevent spreader events. Maxillofacial trauma care was also affected similarly, and most of the cases were managed by closed reduction whenever possible. A retrospective study was conducted to document our experience in treating maxillofacial trauma cases before and after nationwide lockdown due to COVID-19 pandemic in India.

Objective: The objective of the study was to compare the effect of pandemic in reported pattern of mandibular trauma and the result of closed reduction procedures in the management of single or multiple fractures in mandible during this time period.

Methods: The study was conducted in the Department of Oral and Maxillofacial Surgery, Maulana Azad Institute of Dental Sciences, Delhi, for a period of 20 months, that is, 10 months before and after nationwide lock down which was effective from 23rd March 2020 due to COVID-19 pandemic. The cases were grouped into Group A (those reporting from 1st June 2019 to 31st March 2020) and Group B (those reporting from 1st April 2020 to 31st January 2021). Primary objectives were assessed and compared according to etiology, gender, location of the mandibular fractures, and treatment provided. Quality of life (QoL) associated with the treatment outcome by closed reduction was assessed after 2 months as a secondary objective using General Oral Health Assessment Index (GOHAI) in Group B.

Results: A total of 798 patients sought treatment for mandibular fractures and included 476 patients in Group A and 322 in Group B. The groups showed similar age and male: female ratio. Cases showed a steep fall during first wave of pandemic, and most of the cases occurred as result of RTA followed by fall and assault. The fractures due to fall and assault showed an obvious rise during the lockdown period. There were 718 (89.97%) patients having exclusive mandibular fractures and 80 (10.03%) patients having involvement of both mandible and maxilla. Single fractures of mandible constituted 110 (23.11%) and 58 (18.01%) in Group A and B, respectively. 324 patients (68.07%) and 226 patients (70.19%) had multiple fractures involving mandible in respective groups. Parasymphysis of mandible was most commonly involved (24.31%) followed closely by unilateral condyle (23.48%) then Angle and Ramus of mandible (20.71%) with coronoid being the least fractured. During the initial 6 months after lockdown, all the cases were treated successfully using closed reduction. GOHAI QoL assessment conducted in cases having exclusive mandibular fracture (210 Multiple, 48 Single) showed favorable results with significant ($P < .05$) difference between the single and multiple fractures.

Conclusions: After one and half years and recovering from the second wave of pandemic that hit the country, we have come to understand COVID-19 better and embraced better management protocol. The study reveals that IMF remains the gold standard for the management of most of the facial fractures in pandemic situations. It was evident from the QoL data that most of the patients were able to carry out their day-to-day functions adequately. As the country prepares for a third wave of pandemic, management of maxillofacial trauma by closed reduction will remain the norm for most unless indicated otherwise.

Keywords

maxillofacial injuries, mandibular fractures, COVID-19, fracture reduction, SARS-CoV-2

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Introduction

The year 2020 has been a defining moment in the routine workings of humankind as we saw the emergence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causing COVID-19 into a full blown pandemic. On 11th of March 2020, WHO made the assessment that COVID-19 can be characterized as a pandemic.¹ As a result, governments around the world swept into action and adopted different models to prevent the outbreak from spreading inside their territories. Similarly, government of India also issued a total nationwide lockdown on 23rd of March 2020.

Trauma care all over the world took a hit as pandemic led to constraints on resources like health infrastructure and healthcare workers. In order to deal with the pandemic, all non-urgent hospital services like outpatient visits, nonessential footfalls in the emergency department, and elective interventions were postponed.² Maxillofacial surgery and surgeons performing it were also affected by it similarly. Authors around the world have found that though there was a drop in road traffic accidents (RTA), maxillofacial injuries due to other causes like fall and physical assault increased in number.³⁻⁵

Maulana Azad Institute of Dental Sciences (MAIDS) being a tertiary care hospital associated with Lok Nayak Jai Prakash Narayan (LNJP) Hospital, a dedicated COVID care center in New Delhi, our recourses also were devoted to treat and manage the same. According to WHO advisory, only emergency oral healthcare interventions that were vital for preserving oral function, management of pain, and securing patients quality of life were taken into consideration.⁵⁻⁷ In view of pandemic, our institute adopted a COVID-19 protocol to reduce cross contamination and spread by restricting aerosol generating procedures. Thus, all the trauma cases reported were managed conservatively, that is, using closed reduction with Arch bar and Intermaxillary fixation (IMF) whenever possible.

This paper is an endeavor to document our experience in treating maxillofacial trauma cases before and after nationwide lockdown due to COVID-19 pandemic and to study the treatment outcome in last year and reflect on the quality of life (QoL) of the patients who underwent closed reduction and fixation as treatment for their mandibular fractures. The primary objective of this study was to assess and compare the demographic and etiologic data along with recording the frequency of anatomical fracture distribution within the mandible. As a secondary outcome, we also assessed the QoL associated with the treatment using General Oral Health Assessment Index (GOHAI).

Materials and Methods

The total number of patients who reported to our outpatient department with history of trauma were assessed

retrospectively for a period of 20 months, that is, divided equally into 10 months before and after nationwide lock down effective from 23rd March 2020 due to COVID-19 pandemic. We made an audit of all the patients having maxillofacial hard tissue injury excluding isolated midface, dental, and soft tissue injuries. The focus of the study was to compare the effect of pandemic in reported pattern of mandibular trauma and the result of closed reduction procedures in the management of single or multiple fractures in mandible during this time period.

For comparing the effect of pandemic in reported trauma, the cases were grouped into Group A and Group B starting from April 2020. Group A consisted of patients with mandibular hard tissue trauma from 1st June 2019 to 31st March 2020 and Group B consisted of same from 1st April 2020 to 31st January 2021. They were assessed according to etiology, gender, location of the fracture, and treatment provided. We also used this data to determine the frequency of anatomical distribution of fracture within the mandible. QoL associated with the treatment outcome was assessed as a secondary objective. All the patients who sought treatment during the pandemic (Group B) was treated adhering to

Table 1. GOHAI questionnaire and key scores of question 3 and 5 is reversed for assessment.

Question	Score
1. Limit kinds or amounts of food you eat because of problems with your teeth or jaw?	
2. Have trouble biting or chewing any kinds of food, such as firm meat or apples?	
3. Able to swallow comfortably?	
4. Teeth or wires prevented you from speaking the way you wanted to?	
5. Able to eat anything without feeling discomfort?	
6. Limit your contacts with people because of the condition of your teeth or jaw?	
7. Displeased or unhappy with the looks of your teeth and gums, or jaws?	
8. Use medication to relieve pain or discomfort around mouth?	
9. Worried or concerned about the problems with your teeth, gums, or jaws?	
10. Feel nervous or self-conscious because of problems with your teeth, gums, or jaws?	
11. Feel uncomfortable eating in front of people because of problems with teeth?	
12. Teeth or gums sensitive to hot, cold or sweets?	
SCORE KEY	
1 - Never	
2 - Seldom	
3 - Sometimes	
4 - Often	
5 - Always	

institution’s COVID-19 protocol and after obtaining a negative COVID RT-PCR⁸ result.

For evaluating the QoL associated with closed reduction and immobilization [using Erich Arch Bar and

intermaxillary Fixation (IMF)] during the pandemic, General Oral Health Assessment Index (GOHAI QoL), was done 2 months post procedure by asking the patients of Group B to answer self-report questionnaire either telephonically or by personal interview.⁹ The GOHAI QoL questionnaire consists of 12 questions, reflecting 1 for the least score (never) and 5 for the maximum score (always) for each individual item except for question 3 and 5 which were asked in a positive sense and hence scores are reversed (Table 1). It comprises of 2 factors: a “physical worry” factor, comprising of items on one’s oral health, use of pain medication, problems with eating, and esthetics; and a “social” factor, comprising items regarding limitation of social contacts, problems with speaking, and discomfort in eating with others. Patient who underwent open reduction and internal fixation (ORIF), patients not willing to answer the GOHAI questionnaire, and Patients unavailable for the

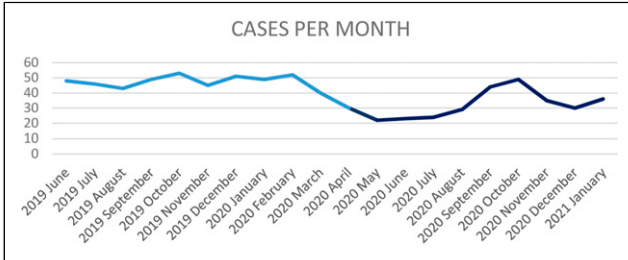


Figure 1. Line diagram corresponding to month wise incidence of trauma in Group A (Light blue) & Group B (Dark blue).

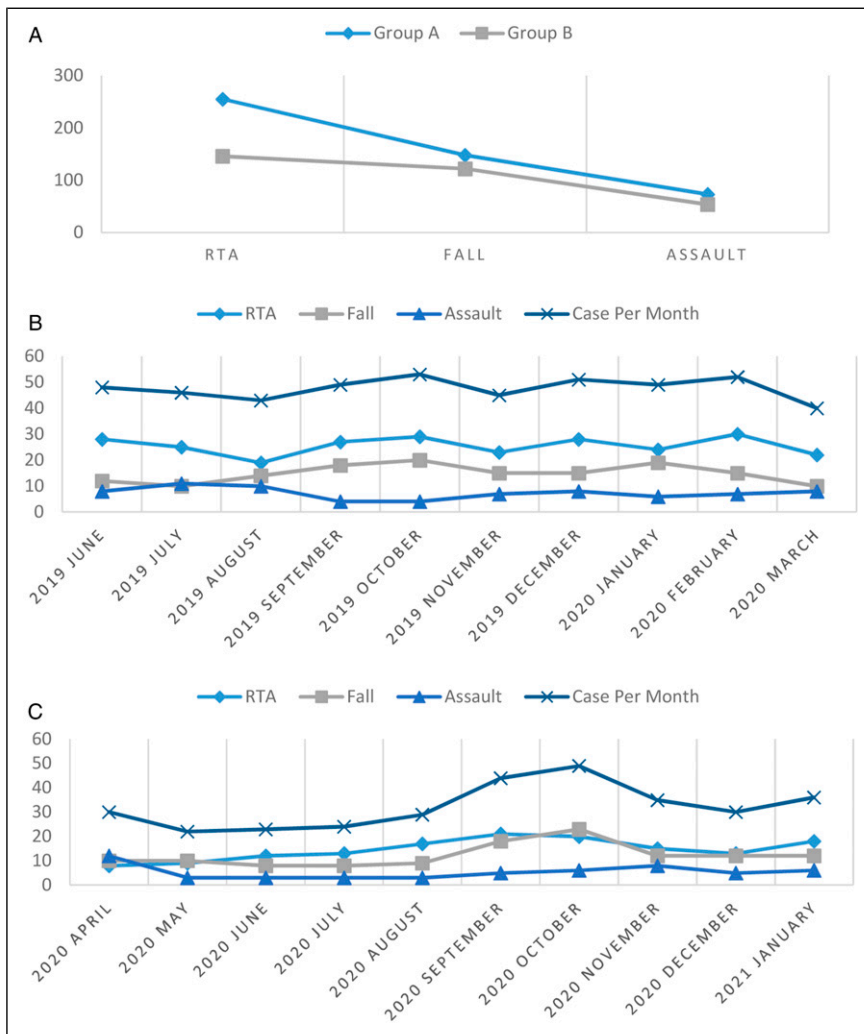


Figure 2. a. Comparison of Total Cases - According to Etiology. b. Number of Cases per month in Group A - According to Etiology. c. Number of Cases per month in Group B - According to Etiology.

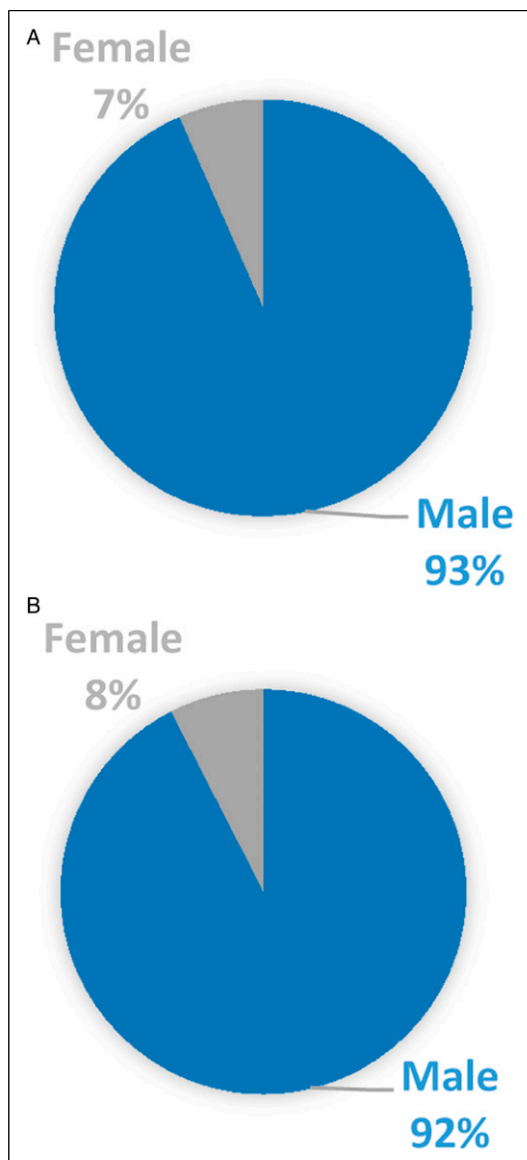


Figure 3. a. Comparison of number of Cases According to Gender in Group A. b. Comparison of number of Cases According to Gender in Group B.

study were excluded. As response by patients having single and multiple fracture could show obvious bias, assessment was done separately. Absolute numbers and simple percentages were used to describe categorical variables. Using Statistical Package for Social Sciences (SPSS) version 17.0 (SPSS Inc, Chicago, IL) software, paired t-test was done to statistically analyze the significance of result in case of single and multiple fractures, gender, and age group. Relationship of etiology was statistically analyzed using one way ANOVA. A *P* value less than .05 was considered statistically significant.

Table 2. a. Number of cases according to location of fractures in Group A. b. Number of cases according to location of fractures in Group B.

Site		Nos	Total
Group A			
Involving midface	Mandible + midface	42	42
Mandible	Single mandible	110	434
	Multiple mandible	324	
Total		476	
Group B			
Involving midface	Mandible + Midface	38	38
Mandible	Single mandible	58	284
	Multiple mandible	226	
Total		322	

Results

A total of 798 patients sought treatment in our outpatient department for maxillofacial hard tissue injury to mandible during the 20 month time period. This included 476 patients in Group A (1st June 2019 to 31st March 2020) and 322 in Group B (1st April 2020 to 31st January 2021). Both groups had similar mean age, that is, 27.67 ± 8.08 years and 26.25 ± 7.45 years, respectively. The data shows that there was obvious decrease in trauma related footfall after and during lockdown due to pandemic (Figure 1). These cases showed a steep fall during first wave of pandemic, that is, initial months after lock down and showed a gradual return to pre pandemic times as of January 2021.

Regarding etiology, most of the cases occurred as result of RTA followed by fall and assault. The ratio of fall and assault related fractures showed an obvious rise during the lockdown period, that is, 221 out of 476 (46.42%) in Group A and 176 out of 322 (54.65%) in Group B (Figure 2a-c). When it came to gender, there were 445 males and 31 females in Group A, while there were 297 males and 25 females in Group B. The male:female ratio remained similar in both groups (Figure 3a and b).

The data obtained from 798 patients showed there was 718 (89.97%) patients having exclusive mandibular fractures and 80 (10.03%) patients having involvement of both mandible and midface. The mandibular fractures were described according to classification by Dingman and Natvig.¹⁰ The anatomical location of fractures within the mandible showed usual patterns. While the single fractures of mandible of both time period was dominated by fractures of parasymphysis, multiple fractures showed more of condylar involvement. The patients were grouped according to number of fracture sites, that is, single and multiple for ease of documentations and to compare severity. It also aided in reducing bias while assessing GOHAI QoL. Single fractures of mandible constituted to 110 (23.11%) and 58

Table 3. a. Anatomical Location of single fractures of mandible in Group A. b. Anatomical Location of single fractures of mandible in Group B. c. Anatomical Location of multiple fractures of mandible in Group A. d. Anatomical Location of multiple fractures of mandible in Group B.

Site	Nos	Total per site
Anatomical Location of single fractures of mandible in Group A		
Dentoalveolar fracture	1	
Symphysis		13
Parasymphysis		
Right parasymphysis	22	43
Left parasymphysis	21	
Body		
Right body	16	24
Left body	8	
Angle		
Right angle	7	17
Left angle	10	
Condyle		
Right condyle	8	12
Left condyle	4	
Total	110	
Anatomical location of single fractures of mandible in Group B		
Dentoalveolar fracture		3
Symphysis		10
Parasymphysis		
Right parasymphysis	7	18
Left parasymphysis	11	
Body		
Right body	10	12
Left body	2	
Angle and Ramus		
Right angle	3	11
Left angle	8	
Condyle		
Right condyle	3	4
Left condyle	1	
Total	58	
Anatomical Location of multiple fractures of mandible in Group A		
Involving midface		42
Dentoalveolar fracture		17
Symphysis		47
Parasymphysis		
Right para	68	145
Left para	77	
Body		
Right body	67	144
Left body	77	
Angle and Ramus		
Right angle	85	146
Left angle	61	
Condyle		
Right condyle	89	168
Left condyle	79	
Coronoid		
Right coronoid	7	7
Left coronoid	0	

Table 3. (continued)

Site	Nos	Total per site
Total	716	
Anatomical location of multiple fractures of mandible in Group B		
Involving midface		38
Dentoalveolar fracture		22
Symphysis		43
Parasymphysis		
Right para	67	118
Left para	51	
Body		
Right body	38	75
Left body	37	
Angle and Ramus		
Right angle	50	102
Left angle	52	
Condyle		
Right condyle	76	129
Left condyle	53	
Coronoid		
Right coronoid	1	2
Left coronoid	1	
Total	529	

(18.01%) in Group A and B, respectively. 324 patients (68.07%) and 226 patients (70.19%) had multiple fractures involving mandible in respective groups. (Table 2). The comparison of fractures according to anatomical location within mandible of Group A and B are given in Table 3.

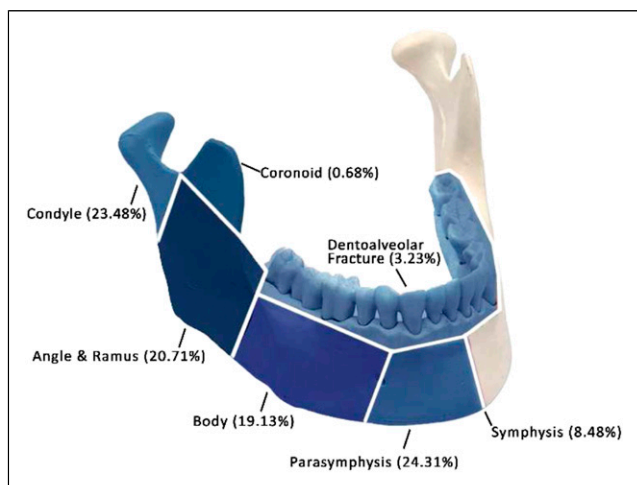
The data on pattern of fracture found that there were 1333 fracture sites within mandible among the 798 patients. With this data available, we took the opportunity to revisit the frequency of anatomical location of fractures within the mandible and found that parasymphysis of mandible was most to be involved (24.31%) followed closely by condyle (23.48%) then Angle and Ramus of mandible (20.71%) with coronoid being the least fractured (Table 4 and Figure 4).

With respect to treatment provided, among the 476 (Group A) patients who reported with mandibular fractures during pre-lockdown period 77 (16.18%), patients were treated with ORIF while others were treated with closed reduction. All the patients with mandibular fractures except 16 (4.97%) in Group B were treated by closed reduction and IMF using Erich arch bar for 4 to 6 weeks depending on the number of fracture sites, age of the patient, and presence of teeth in the line of fracture (Figure 5). ORIF was only advised when displacement of fractures made prognosis of closed reduction unacceptable. Postoperative displacement or malunion of fractures was not observed in any of the patients clinically or radiographically. A comparison of 93 patients who underwent ORIF during the study period showed that during the initial 6 months after lockdown, that is, April 2020 to September 2020, no cases were treated using ORIF (Table 5 and Figure 6).

(continued)

Table 4. Frequency of anatomical location of fractures within mandible of 798 patients during study period.

Fracture site	Numbers	Percentage, %
Dentoalveolar fracture	43	3.23
Symphysis	113	8.48
Parasymphysis	324	24.31
Body	255	19.13
Angle and Ramus	276	20.71
Condyle	313	23.48
Coronoid	9	.68
Total	1333	

**Figure 4.** Frequency of anatomical location of fracture within mandible of 798 patients (1333 fracture sites) during study period.

GOHAI QoL Results

Three hundred and twenty-two patients reported to our department with trauma related fractures involving mandible during 10 months after lockdown from April 1st 2020 (Group B). Exclusive mandibular fractures occurred only in 284 patients with 226 having multiple and 58 having single mandibular fractures. Sixteen of these case who underwent ORIF as closed reduction was deemed impossible were excluded from the study. So the remaining eligible 268 cases (213 multiple and 55 single fracture cases) were contacted after 2 months of treatment to be part of the study assessing QoL using GOHAI questionnaire (Table 1). Two hundred and fifty-eight patients, that is, 210 cases with multiple fracture and 48 with single fracture responded to the questionnaire.

The results of GOHAI QoL assessment showed that there was significant ($P < .05$) difference between the single and multiple fracture groups as expected, with patients having single fractures showing mostly favorable scores. When it came to patients with multiple fractures, score 3

(sometimes) were selected by most of the respondents followed by score 2, that is, seldom. There was general trend of favorable answers to questions pertaining about social factors indicating that the treatment had more of a physical impact. Association of fracture and gender showed significant result for questions 1 and 2 only ($P < .05$). Age groups did not show any significant relationship for any of the questions. When it came to etiology, only questions 3 and 4 showed significant relationship with post-hoc test showing mean difference (.034) between RTA and Assault. The details of GOHAI QoL assessment results are given in Table 6 and Figure 7a, b.

Discussion

After one and half years and recovering from the second wave of pandemic that hit the country, we have come to understand COVID-19 better and embraced better management protocol, thus reducing mortality significantly. Our understanding to treat trauma patient in times of pandemic has also been evolved. Though achieving the best functional and esthetic outcome for trauma patients were of paramount importance, the attention was also shifted to restrict aerosol generating procedures, so as to prevent any spreader events.¹¹⁻¹⁴

The present study evaluated the impact of COVID-19 pandemic on maxillofacial trauma and its treatment during 10 months nationwide lockdown in March of 2020 (Group B) which resulted in partial suspension of many planned surgical activities in the Department of Oral and Maxillofacial Surgery, MAIDS, New Delhi, India. Using retrospective data, we compared the demographics, etiology, and fracture pattern of these patients with those of patients reported 10 months before lockdown (Group A). The data thus obtained suggested that there was a significant drop in cases reported due to facial trauma in this time period. This was consistent with many studies done across the world during this time period.^{3,4,7}

Age group and gender ratio were almost similar in both groups, but etiology due to fall and assault in Group B showed a noticeable increase of 8.23% during lockdown period though RTA contributed to majority of the cases. Authors like Mazza et al. and Mittal et al. have found the impact of quarantine during pandemic on interpersonal and gender-based violence, but our study failed to find a strong association to such a trend.^{15,16} This may be partially due to the exclusion of isolated midface fractures, dental, and soft tissue trauma in our study and/or due to the under reporting of such incidence in our society.¹⁷

Canzi et al. and Ludwig et al. found that severity of trauma increased during pandemic times and the latter also noted that there was slight increase in trauma secondary to assault.^{4,5} Similarly, our study also showed a slight increase in severity of fractures in Group B as we found approximately 17.81% increase in prevalence of multiple mandible fractures compared to Group A. With the data from 1333 fracture sites within mandible in 798 patients, we found that the most involved fracture site was parasymphysis (24.31%)

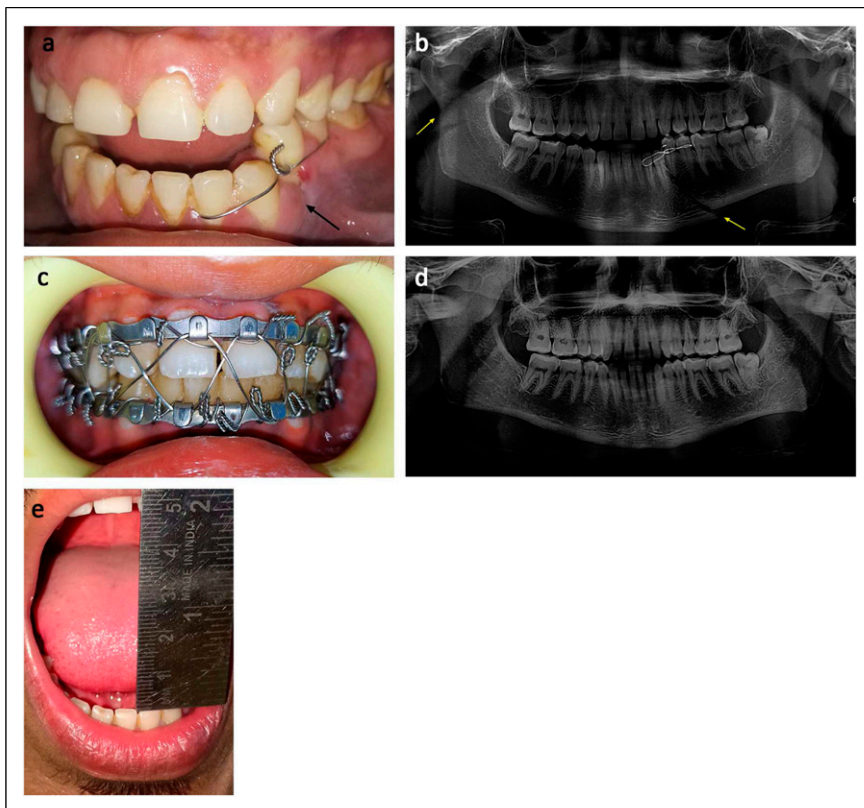


Figure 5. Mandibular fracture treated by Closed Reduction. a. Intraoral photograph showing fracture of mandible between left canine and first premolar; b. Orthopantomogram (OPG) showing displaced left parasymphysis and right subcondylar fractures; c. Intraoral photograph showing closed reduction with IMF using Erich arch bar; d. Postoperative OPG showing healed mandible; e. Postoperative photograph showing adequate mouth opening.

Table 5. Comparison of month wise number of patients who underwent ORIF as treatment of mandibular fractures.

Month	Orif per month	Total orif	
Group A			
2019 June	7	77	
2019 July	9		
2019 August	7		
2019 September	10		
2019 October	8		
2019 November	6		
2019 December	7		
2020 January	9		
2020 February	9		
2020 March	5		
Group B			
2020 April	0		16
2020 May	0		
2020 June	0		
2020 July	0		
2020 August	0		
2020 September	0		
2020 October	4		
2020 November	2		
2020 December	2		
2021 January	8		
Total	93		

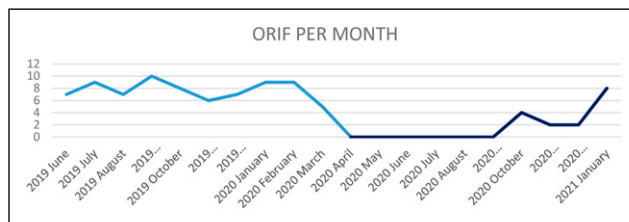


Figure 6. Line diagram corresponding to month wise number of patients who underwent ORIF as treatment of mandibular fractures in Group A (Light blue) and Group B (Dark blue).

with coronoid (.68%) being least involved. This pattern was consistent with similar studies within the country.¹⁸⁻²⁰

As the first wave of pandemic with subsequent lockdowns made profound impact on trauma management across the globe, the surgical community had no option but to completely or partially shut down most of the surgical procedures. As the world was trying to figure out the novel corona virus, it became pertinent that a protocol for trauma management should be in place. Many authors have made their contribution for setting up such a protocol.^{2,7,21,22} Similarly, in our institution, in spite of reduced resources

Table 6. Distribution of frequency and percentage answers of the quality of life (GOHAI) of subjects with single (n = 48) & Multiple (n = 210) mandible fractures. (*P < .05, Statistically Significant).

Question	Group (N = 258)	Answer (score)					P value		
		Never, n (%)	Seldom, n (%)	Sometimes, n (%)	Often, n (%)	Always, n (%)	Single/multiple (T-test)	Male/female (T-test)	Etiology (ANOVA)
1	Single (n = 48)	29 (60.42)	19 (39.58)	0 (0)	0 (0)	0 (0)	.000*	.047*	.201
	Multiple (n = 210)	5 (2.38)	81 (38.57)	96 (45.71)	27 (12.86)	1 (.48)			
2	Single (n = 48)	15 (31.25)	30 (62.50)	3 (6.25)	0 (0)	0 (0)	.000*	.044*	.073
	Multiple (n = 210)	1 (.48)	70 (33.33)	111 (52.86)	28 (13.33)	0 (0)			
3	Single (n = 48)	0 (0)	0 (0)	6 (12.50)	24 (50)	18 (37.50)	.000*	.326	.046*
	Multiple (n = 210)	5 (2.38)	40 (19.05)	96 (45.71)	65 (30.95)	4 (1.90)			
4	Single (n = 48)	22 (45.83)	22 (45.83)	4 (8.33)	0 (0)	0 (0)	.000*	.984	.046*
	Multiple (n = 210)	2 (.95)	68 (32.38)	98 (46.67)	37 (17.62)	5 (2.38)			
5	Single (n = 48)	0 (0)	0 (0)	4 (8.33)	23 (47.92)	21 (43.75)	.000*	.974	.506
	Multiple (n = 210)	4 (1.90)	39 (18.57)	96 (45.71)	66 (31.43)	5 (2.38)			
6	Single (n = 48)	20 (41.67)	21 (43.75)	7 (14.58)	0 (0)	0 (0)	.000*	.486	.780
	Multiple (n = 210)	11 (5.24)	64 (30.48)	99 (47.14)	34 (16.19)	2 (.95)			
7	Single (n = 48)	28 (58.33)	15 (31.25)	5 (10.42)	0 (0)	0 (0)	.000*	.376	.264
	Multiple (n = 210)	2 (.95)	50 (23.81)	102 (48.57)	51 (24.29)	5 (2.38)			
8	Single (n = 48)	29 (60.42)	18 (37.50)	1 (2.08)	0 (0)	0 (0)	.000*	.563	.244
	Multiple (n = 210)	14 (6.67)	62 (29.52)	90 (42.86)	38 (18.10)	6 (2.86)			
9	Single (n = 48)	22 (45.83)	21 (43.75)	5 (10.42)	0 (0)	0 (0)	.000*	.993	.368
	Multiple (n = 210)	7 (3.33)	72 (34.29)	94 (44.76)	34 (16.19)	3 (1.43)			
10	Single (n = 48)	22 (45.83)	24 (50)	2 (4.17)	0 (0)	0 (0)	.000*	.325	.174
	Multiple (n = 210)	13 (6.19)	55 (26.19)	103 (49.05)	37 (17.62)	2 (.95)			
11	Single (n = 48)	23 (47.92)	22 (45.83)	3 (6.25)	0 (0)	0 (0)	.000*	.418	.698
	Multiple (n = 210)	15 (7.14)	68 (32.38)	100 (47.62)	26 (12.38)	1 (.48)			
12	Single (n = 48)	30 (62.50)	14 (29.17)	4 (8.33)	0 (0)	0 (0)	.000*	.475	.813
	Multiple (n = 210)	5 (2.38)	60 (28.57)	104 (49.52)	34 (16.19)	7 (3.33)			

and manpower, emergency department was functioning with the goal of continuing best practice and delivery of quality care. To reduce the amount of aerosol production and prevent spread, a protocol based on conservative or closed reduction was instituted for maxillofacial fracture cases unless deemed impossible. Though ORIF for fractures is considered the norm, closed reduction technique remains the age old, time tested method.²³ It is evident from our study that how much influence this pandemic had on our treatment protocol. During the initial 6 months after lockdown, no cases were treated with ORIF and only 16 patients underwent the same during the lockdown study period.

The assessment of the functional impact on QoL after 2 months of treatment in patients with mandibular fractures using GOHAI questionnaire showed that the patients with single mandibular fractures responded favorably while patients with multiple fractures had average response. While etiology of trauma and gender of patient had some significance on response to some questions of GOHAI QoL assessment, age of the patient was not a significant factor. The literature search on QoL with GOHAI assessment

revealed that though research subjects responded favorably in the early days after using closed reduction, in the long follow-up, ORIF also provided similar results.^{9,24,25}

The study reveals that IMF remains as the gold standard for the management of most of the facial fractures in any pandemic situation. It was evident from the QoL data that most of the patients were able to carry out their day-to-day functions adequately which could be improved once pandemic is over by routine dental treatment. We were able to manage oral and maxillofacial trauma without cross-contamination by following the standard protocols setup during COVID-19 pandemic satisfactorily. The survey also showed that there was no significant change in demographic data and etiology except number of cases reported were reduced during lockdown. As the country prepares for a third wave of pandemic, management of maxillofacial trauma by closed reduction will remain the norm.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

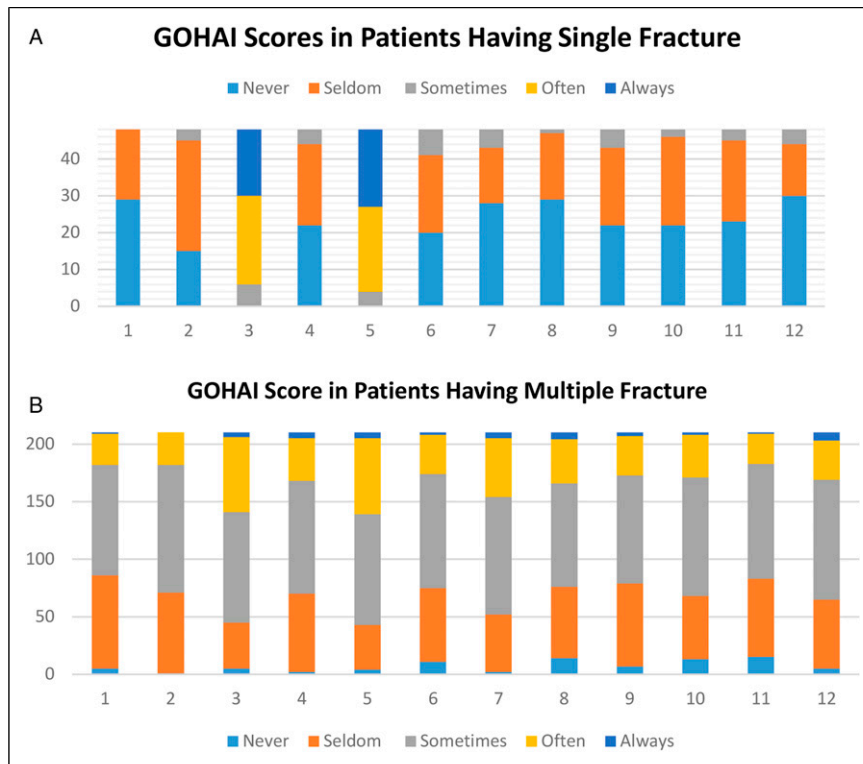


Figure 7. a. Distribution of frequency and percentage answers of the quality of life (GOHAI) of subjects with single mandible fractures (n = 48). b. Distribution of frequency and percentage answers of the quality of life (GOHAI) of subjects with multiple mandible fractures (n = 210).

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Ethical Clearance

This study is exempted from ethical clearance as it was a retrospective study.

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Supplemental Material

Supplemental material for this article is available online.

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