



**Research Article**

**MAXILLARY FRACTURES IN PATIENTS REVIEWING ALMOUJTAHED HOSPITAL DURING THE SYRIAN CRISIS**

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**ABSTRACT**

**Objective:** This study aimed to review Maxillary fractures related to Syrian crisis damages. **Materials and methods:** This is a retrospective study at AlMoujtahed Hospital (Damascus Hospital) between 1/1/2017 and 31/3/2018) including all cases of Maxillary fractures related to war damages during the studied period. **Results:** We found 34 Maxillary fractures related to gunshots, missiles and blasts. The most common cause of fractures was missiles. **Conclusion:** We found 34 cases of Maxillary fractures. Missiles were the most common cause of Maxillary fractures.

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**INTRODUCTION**

Wish of us to present the information impartiality and realistically, we worked hard to find out what happened through the Syrian war, which began at 2011, and left behind many injures, especially between 2012 and 2013. Syria was a victim of war. The Crisis affected all fields including health care services. Al-Mujtahid Hospital (Damascus Hospital) is one of the biggest health care systems in Damascus. It has a large well-qualified medical staff and all the equipment required for different cases. After the war began, the healthcare providers had big challenges due to the increase in injures and an increase in the need for medications. Considering the increase in war related injuries, we made this study hoping to bring the light on war-related traumatic face injuries. This review focuses on traumatic face injuries (Maxillary fractures) due to Syrian Crisis and their causative agents (bombs, missiles and gunshots). As far as we know, this study is the first of its type in Syria.

**MATERIALS AND METHODS**

This study was a retrospective study of the patients who reviewed AlMoujtahed Hospital (Damascus Hospital) with Maxillary fractures. This study included all cases from 1/1/2017 to 31/3/2018.

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All the data were collected only by the authors to ensure the privacy and all the names and personal information were blinded. Statistical analysis was done using SPSS 23.0.

**RESULTS**

**Table 1** Types and distribution of Maxillary fractures:

Fracture Type	Number of cases	% of total
Maxillary Tuberosity bone fracture	1	3
Perforator Maxillary bone fracture	4	12.1
Transverse Maxillary bone fracture	1	3
Maxillary socket Fracture	1	3
Maxillary sinus Fracture	13	42.4
Tuberosity Fracture + Maxillary sinus	2	6.1
Tuberosity Fracture + Maxillary perforator+ Maxillary sinus	1	3
perforator Fracture + Maxillary socket	2	6.1
Maxillary perforator Fracture + Maxillary sinus	5	15.2
perforator Fracture + transverse+ Maxillary socket	1	3
Maxillary Comminuted Fracture + Maxillary sinus	3	3

**Table 2** Correlation between Maxillary fractures and their causes

Maxillary Fracture	Cause			Total	Chi Square test	p-value
	Blasts	Missiles	Gunshots			
Count	5	20	9	34	70.248	0.000*
%	14.7%	58.8%	26.5%	100.0%		

**Table 3** The relation between Maxillary fractures with blood transfusion need

		Did not need blood transfusion	Needed blood transfusion	Total	Chi Square test	P-value
Maxillary Fracture	N	24	7	31	9.323	0.002*
	%	77.4%	22.6%	100.0%		

**Table 4** Treatment of Maxillary fractures

		N	%
Maxillary Fracture Management	Conservative	9	26.5
	Surgical	25	73.5

**Table 5** Correlation between Maxillary fractures and the need for hospital admission (hospitalization)

		Did not need Hospitalization	Needed Hospitalization	Total	Chi Square test	p-value
Maxillary Fracture	N	8	26	31	250.75	0.000*
	%	23.5%	76.5%	100.0%		

## DISCUSSION

We found 34 cases of Maxillary fractures in our study divided into 1 case of each of the following: Maxillary Tuberosity bone fracture, Transverse Maxillary bone fracture, Maxillary socket fracture, tuberosity+ Maxillaryperforator+ Maxillary sinus fracture and perforator fracture + transverse+ Maxillary socket fracture. We had 2 cases of tuberosity + Maxillary sinus fracture and 2 cases of perforator + Maxillary socket fracture, 3 cases of Maxillary Comminuted + Maxillary sinus fracture, 4 cases of Maxillary perforator Fracture, and 5 cases of Maxillary perforator + Maxillary sinus fracture. The most common cases were Maxillary sinus fracture (13 cases, 42.4%). (Table 1).

We found a significant correlation ( $p=0.000$ ) between Maxillary fractures and their causes (blasts, missiles or gunshots). Most of Maxillary fractures were due to missiles (20 cases, 58.8% of all Maxillary fractures), 5 cases were due to blasts (14.7% of all Maxillary fractures) and 9 cases were due to gunshots (26.5% of all Maxillary fractures). (Table 2)  
 We found a significant correlation between Maxillary fracture and the need for blood transfusion ( $p=0.002$ ). In our study, most of the patients did not need blood transfusion. (Table 3)  
 Treatment of the fractures was either conservative in 9cases (26.5%) or surgical in 25 cases (73.5%). (Table 4)

We found a significant correlation ( $p=0.000$ ) between Maxillary fractures and the need for hospitalization. 26cases needed hospital admission (76.5% of all Maxillary fractures), while 8 cases did not require it. (Table5)

## CONCLUSION

Most common mandibularfractures were Maxillary sinus Fracture followed by Maxillary perforator Fracture + Maxillary sinus (42.4% and15.2%, respectively). The majority of mandibular fractures were treated surgically. Missiles were the most common cause for mandibularfractures. Only 22.6% of all cases needed blood transfusion. Most of mandibular fractures needed hospitalization (76.5%)

### Compliance with Ethical Standards

Funding: This study was not funded by any institution.  
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Ethical approval: The names and personal details of the participants were blinded to ensure privacy.

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