

Patterns and Trends of Facial Fractures at a Tertiary Care Trauma Center in India - A 13 years Retrospective Study

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Introduction

WHO statistics - 1 million people die & 15–20 million individuals get injured annually due to Road traffic accidents

Maxillofacial trauma – challenging & requires multi disciplinary approach

40% of craniofacial injuries accompany orbital wall fracture

Thus, requiring multidisciplinary approach & training

Need of the study-

Retrospectively analyze the prevalence, pattern, diagnosis, and treatment of the facial fractures under the ambit of Facial Plastic Surgery in India from 2006–2019, Need for Holistic Training Programs

Study Design- Prospective clinical study - carried out from February 2015 to July 2017. One hundred sixty-five patients (90 females and 75 males) in the age range of 20–45 years with acne scars (Grades 2–4), as per Goodman and Baron Acne Grading Scale were enrolled in the study.

Material and methods - Retrospectively analysis of medical records from January 2006 to December 2019 (13 years)

Inclusion criteria:

Patients reported in Dept of Facial Plastic Surgery between January 2006 – December 2019 isolated and/or complex maxillofacial fractures 2-year follow-up

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- 2-year follow-up

Exclusion criteria:

- Patients who received treatment elsewhere
- Refused to treatment
- Referred to other hospital
- Patients brought dead
- Isolated dento-alveolar fracture



Only study – fractures common in young males, peak incidence between 2nd & 3rd decade of life

Past studies – most common site was mandible

Recent patterns – midfacial & orbital fractures

Our study – isolate orbit &/or orbital floor & midfacial fractures

Need to have fellowship training programs which holistically train candidates in all aspects of facial trauma

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Results-

Out of 2854 patients, 1508 were included in the study Positive correlation of age with degree & nature of trauma RTA most common followed by assaults & sports injuries Most common fracture pattern noted was Isolated Orbit and/or Orbital Floor fracture followed by midfacial fractures, lower facial fractures, isolated mandibular fracture, complex facial fracture, and upper facial fracture.

Table 1: Distribution of patients according to gender and growth stage at the time of trauma

Growth stage (Age in years)	Male (%)	Female (%)	Chi-Square	df	P-value
Childhood (0–14)	47 (6.24)	29 (7.61)	16.9	3	0.07
Adolescence (15–19)	297 (24.34)	111 (22.48)			
Young adult (20–40)	578 (61.25)	151 (40.14)			
Middle-aged (41–60)	116 (11.47)	54 (17.37)			
Elderly (> 60)	45 (4.34)	21 (5.51)			
Total (%)	1113 (67.38)	381 (25.27)			

Table 4: Percentage distribution of patients based on the facial fractures involved

Fracture type and site	Number of patients	Patients (%)
Isolated orbit and/or orbital floor fracture	451	32.08%
Midface fractures	341	22.91%
Mandible fractures	86	5.72%
Complex face trauma	21	1.40%
Upper face trauma	99	6.57%
Lower face trauma	127	8.42%
Total	1508	100%

Table 5: Distribution of patients according to fracture type

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Table 6: Percentage distribution of patients based on the treatment done

Fracture type	Number of patients	Percentage distribution (%)
Closed reduction	249	19.21%
Open reduction & internal fixation (with bone graft)	887	58.71%
Open reduction & internal fixation (with bone graft)	204	13.54%
Open fixation	111	7.36%
Craniofacial reconstruction	102	6.76%
Reconstruction	119	7.89%
Orbital floor repair	205	13.60%
Reconstruction	12	0.80%
Reconstruction	15	0.99%
Reconstruction	117	7.76%



Discussion - Only study provides information about fractures common in young males, peak incidence between 2nd & 3rd decade of life

- Most common cause – RTA
- Past studies – most common site was mandible
- Recent patterns – midfacial & orbital fractures
- Our study – isolate orbit &/or orbital floor & midfacial fractures
- Multi disciplinary approach better
- Need for super specialized multi disciplinary training & integrated programs for treating facial fractures

Conclusion -

Training with holistic approach of Cranio-facial fractures management is required Fractures – does not limit itself to any anatomical landmarks Need to have fellowship training programs which holistically train candidates in all aspects of facial trauma