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Original Research

Assessment of profile of patients with zygomatic fracture: A clinical study

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ABSTRACT:
Background: The zygoma is a bone that provides vital contributions to both the structure and aesthetic of the midface and articulates with several bones of the craniofacial skeleton. Hence; the present study was undertaken for assessing the profile of patients with Zygomatic fractures. **Materials & methods:** A total of 50 patients with presence of Zygomatic fractures were enrolled. Complete demographic and clinical details of all the patients were obtained. A Performa was made and complete details of clinical examination findings were recorded. Treatment planning was done according to radiographic findings. All the results were recorded and analysed by SPSS software. Univariate regression curve was used for evaluation of level of significance. **Results:** Mean age of the patients was 43.8 years. Among these patients, 31 were males while the remaining 19 were females. Out of 50 patients, depressed fracture was seen in 18 patients. In the patients with depressed fractures, treatment was done by employing surgical intervention and internal fixation. In patients with non-displaced Zygomatic fractures, non-surgical approach was used. **Conclusion:** Surgical intervention and internal fixation is an effective treatment modality of depressed zygomatic complex fractures, whereas a nonsurgical approach is often used for nondisplaced zygomatic complex fractures.
Key words: Zygomatic fractures, Profile

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INTRODUCTION

The zygoma is a bone that provides vital contributions to both the structure and aesthetic of the midface and articulates with several bones of the craniofacial skeleton. The zygoma and its articulations comprise the zygomaticomaxillary complex (ZMC). Fractures of the zygomatic arch (ZA) or any of its bony articulations can cause significant functional and cosmetic morbidity. The management of the zygomatic arch and ZMC fractures should be patient-specific but range from simple observation to open reduction with internal fixation (ORIF).[1- 3]

Facial bones results extremely exposed to trauma as for their anterior location and the zygomatic complex injuries are very common in trauma patients. They might be isolated or in combination with other serious injuries, including cranial, spinal, upper and lower body injuries. The prevalence and location of zygomatic complex fractures and facial fractures in general depend on sample population studied3 but the zygomatic complex fractures represent the second most frequent fractures of the middle face after the nasal bones. These occur for the rotation of the zygoma associated with the disarticulation of the zygomatic bone at the zygomaticofrontal suture, the zygomaticomaxillary suture, and along the zygomatic arch to the temporal bone.[4- 6] Hence; the present study was undertaken for assessing the profile of patients with Zygomatic fractures.

MATERIALS & METHODS

The present study was conducted for assessing profile of patients with zygomatic fracture. A total of 50 patients with presence of Zygomatic fractures were enrolled. Complete demographic and clinical details of all the patients were obtained. A Performa was made and complete details of clinical examination findings were recorded. Treatment planning was done according to radiographic findings. All the results were recorded and analysed by SPSS software.

Univariate regression curve was used for evaluation of level of significance.

RESULTS

In the present study, a total of 50 patients were enrolled. Mean age of the patients was 43.8 years. Among these patients, 31 were males while the remaining 19 were females. Out of 50 patients, depressed fracture was seen in 18 patients. In the patients with depressed fractures, treatment was done by employing surgical intervention and internal fixation. In patients with non-displaced Zygomatic fractures, non-surgical approach was used.

Table 1: Demographic profile

Variable	Number of patients	Percentage
Mean age (years)	43.8	
Males (%)	31	62
Females (%)	19	38

Table 2: Type of fracture

Variable	Number of patients	Percentage
Depressed fractures	18	36
Non-displaced fractures	32	64

Table 3: Treatment

Variable		Number of patients	Percentage
Depressed fractures	Surgical intervention and internal fixation	18	36
Non-displaced fractures	Non-surgical approach	32	64

DISCUSSION

The zygomatic bone defines the anterior and lateral projection of the face and articulates with the frontal, sphenoid, temporal, and maxillary bones. The zygomatic complex is responsible for the protection of the orbital contents and the mid-facial contour. Fracture of the zygomatic complex is one of the most common facial injuries in maxillofacial trauma and predominately appears in young adult males. The etiology of zygomatic complex fractures primarily includes road traffic accidents, violent assaults, falls and sports injuries.[7- 9] Hence; the present study was undertaken for assessing the profile of patients with Zygomatic fractures.

In the present study, a total of 50 patients were enrolled. Mean age of the patients was 43.8 years. Among these patients, 31 were males while the remaining 19 were females. Out of 50 patients, depressed fracture was seen in 18 patients. C Ungari et al investigated epidemiological data (age, gender), sites, etiology and surgical approach of zygomatic fracture. A 9 years retrospective clinical and epidemiologic study evaluated 642 patients treated for zygomatic fracture. There were 569 men and 77 women. The age range was 2 to 86 years with 205 (31.9%) in the 21 to 30 years age group. A number of parameters, including age, gender, cause of injury, site of injury, treatment modalities were evaluated. There were 552 (86%) zygoma fractures and 90 (14%) zygomatic arch fractures. The left zygoma was involved in 309 cases (56%); the right zygoma was involved in 243 cases (44%). Concerning the zygomatic arch, the left side was involved in 43 cases (48%) and the right side in 47 cases (52%). 7% of the patients were younger than 9 years old, about 70% between 10 and 39 years, and 18% between 40 and 59 years, while 4% were older than 60 years. Causes of zygoma fracture were traffic accidents in 151 (26%), assault in 117 (20%), accidental falls in 105 (19%), sports injuries in 56 (10%), home injuries in 45 (8%), work accidents in 34 (6%). Causes of zygomatic arch fractures 28 (29.1%) were assaults in 28 (29.1%), traffic accidents in 20 (21.5%), sports injuries in 14 (15.8%), accidental falls in 11 (14%), domestic accidents in 8 (8.8%) and work accidents in 4 (5%). The access to the fronto-zygomatic suture (74.6%) and the maxillary vestibular approaches (66.8%) were the commonest method of reduction of zygomatic fracture. About arch fractures, the Gillies temporal approach was the most used method of reduction (94.4%). The findings, compared with similar studies reported in the literature, support the view that the highest prevalence is in young male patients and, concerning cause, traffic accidents and assault are the most frequent.[10]

In the patients with depressed fractures, treatment was done by employing surgical intervention and internal fixation. In patients with non-displaced Zygomatic fractures, non-surgical approach was used. Starch-Jensen T et al evaluated the 1-year treatment outcome of zygomatic complex fractures with surgical or nonsurgical intervention. One hundred and forty-two consecutive patients with a zygomatic complex fracture were enrolled. Sixty-eight patients underwent surgical intervention and 74 patients nonsurgical intervention. The 1-year examination evaluated cosmetic and functional outcome including malar symmetry, ocular motility, occlusion, mouth opening, neurosensory disturbances, and complications. Forty-six patients allocated to surgical intervention

responded to the 1-year follow-up examination. Satisfying facial contour and malar alignment was observed in 45 patients. All patients presented with identical position of the eye globe without enophthalmos and normal ocular movement. A habitual occlusion was seen in all patients with a mean interincisal mouth opening without pain of 49 mm. One patient presented with minor ectropion. Wound infection occurred in five patients. Persistent infraorbital neurosensory disturbance was described by 19 patients. The 1-year radiographic examination showed adequate fracture alignment in all patients with satisfying facial contour. However, dissimilar position of the orbital floor was seen in three patients having orbital reconstruction. None of the patients were re-operated or needed secondary correction of the zygomatic complex or orbital floor. Surgical intervention is an effective treatment modality of depressed zygomatic complex fractures, whereas a nonsurgical approach is often used for nondisplaced fractures.[11]

CONCLUSION

From the above results, the authors concluded that surgical intervention and internal fixation is an effective treatment modality of depressed zygomatic complex fractures, whereas a nonsurgical approach is often used for nondisplaced zygomatic complex fractures.

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