An Audit of Nasal Fracture Bone and Managementent

Salem F. Elfleleh, Halima A.K. Albargaty,Hussain Alkhamry Belkhair

Abstract
This retrospective study was conducted at Department of O.R.L, 7th April Hospital, Benghazi. Patients were divided into four groups depending upon the causes of the fracture; I-Fall Down. II-Road Traffic Accident (R.T.A). III-Physical aggression (Blow). IV-Sports. The most frequent causes were physical aggression (blow) in males 77(57.5%), and 7 (5.2%) in females, the most common age was between 11 and 30 years. The incidence cause of fracture nasal bone due to fall down in females 17 (12. 7 %), and decreased in male's patients 10 (7.4 %), the most common age was between 11-20 years. R.T.A, was 14 (10.5%), the most common age was between 21-30 years. Sports was lower most cause of fracture nasal bone, which were 9 (6.7 %) years.

Key Words: Fracture Nasal Bone and Reduction

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Introduction
Road traffic accidents are defined as an unforeseen occurrence specially one of an injurious character.1 The mandible fractures used to be more common than middle third facial injuries. Schuchardt et al [1966]2 found that the mandible was fractured either alone or in combination in no less than 2103 out of 2901 facial bone injuries. Oikarinenand Lindqvist (1975)3 studied 729 patients with multiple injuries & unstained in traffic accidents; 11% of the patients had fracture of facial bones. The most common fractures were in mandible (61%), followed by the maxilla (46%), the zygoma (27%) and the nasal bones (19.5%). Book and wood (1983)4 has examined this trend over four decades in retrospective study. During this period, personal assaults increased by 75% and fractures of the Zygoma become more common than fractures of the mandible, facts which may well be related. Although fracture of the mandible condyle is the commonest site for mandible fracture, the angle fracture is the frequent site when only one fracture is present Halazonetis (1968)5 Ellis, Moos and El Attar (1985)6. Among patients sustaining general injury as a result of personal assault, Shepherd et al (1990)7 found that 83% of all fractures and 68% of all lacerations were facial. The pattern of RTA and types of mandible fractures are quite different in developed and undeveloped countries. Van hoof et al (1977)8 analyzed the differing patterns of fracture of the facial skeleton in four European countries and observed considerable variation in the experience of the treatment centers from which they collected statistics. Injuries caused by fights were commoner in German Urban areas than a unit in Holland, whereas the latter center experienced a much higher incidence of road traffic trauma. In developing countries with a rapid increase in road traffic, motor vehicle trauma is the major cause of fractures (Adekaye, 1980)9, Sandhu et al [1981]10 found that the fracture of mandible was commonest (64.37%) followed by maxilla (21.84%), malar bone 5.75%, Nasal bone 4.59%, and Zygomatic arch 3.45%. Oikarinen and linqvist (1975)3 studied 729 patients with multiple injuries sustained in traffic accident, 11% of patients had fractures of facial bones. The most common facial fractures were in mandible (61%) followed by the maxilla (46%), the

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Zygoma (27%) and the nasal bone (19.5%). Peter Banks (1988)11 has emphasized the relative importance of various factors which affect the incidence of mandibular fracture as geography, Social trends, road traffic legislation and seasons.. The study reveals that the closed reduction is a common method (78%) and 22% open reduction for management of facial fractures as previous study10.Injuries to the nose are relatively common; in cases of facial trauma, nasal fractures account for approximately 40 percent of bone injuries 12.The general consensus regarding the preferred treatment for simple displaced nasal fracture is closed manipulation 13,14,15,16.

**Subjects and Methods**

This retrospective study was conducted at Dep. O.R.L, 7th April Hospital, Benghazi, from January 2001 to December 2003. All fracture nasal bone were blunt injuries, this means that, lacerated nasal injuries, septal hematoma, and other facial injuries, were excluding. Data related to age, sex, etiology and treatment were collected from case notes. Depending upon the causes of fracture. They were divided into four groups; I-Fall Down. II-Road Traffic Accident (R.T.A). III-Physical aggression (Blow). IV-Sports.

**Result**

This study included 134 patients, of them 81% were males and 19% were female. The age ranges between 1-60 years and the most common age affected between 21 and 30 years. Fig 1. The most frequent causes was physical aggression 62.7%, next cause was fall down which forms 20.1% of the cases, (females 17 (12. 7 %), and males 10 (7.4 %)), the most common age was

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<tbody>
<tr>
<td>Group I Fall Down</td>
<td>28.8% n 66</td>
<td>20% n27</td>
<td>23.9% n 40</td>
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<tr>
<td>Group II R.T.A</td>
<td>9.6% n 22</td>
<td>10% n 14</td>
<td>18.5% n 31</td>
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<tr>
<td>Group III Blow</td>
<td>21.3% n 49</td>
<td>63% n 84</td>
<td>34.13% n 57</td>
</tr>
<tr>
<td>Group IV Sport</td>
<td>26% n 60</td>
<td>7% n 9</td>
<td>7.18% n12</td>
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<tr>
<td>Total</td>
<td>230</td>
<td>134</td>
<td>167</td>
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**Fig.1 Age & sex distribution of fracture nasal bone**

**Fig.2 causes of facture nasal bone**

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between 11-20 years. R.T.A forms 14 (10.5%) of the cause of nasal fracture. The most common age was between 21-30 years. Sports was lower most cause of fracture nasal bone noticed in 6.7% of patients. Males are injured frequently by blow whereas females are injured frequently as a result of fall down as in Fig.2.

Discussion

Treatment by closed reduction and immobilization were practiced patient who were managed in early period showed good results. The total number of patients with fracture nasal bone were 134, only 125 (93%) patients had reduction, and 9(7%) patients did not underwent reduction because they had no external nasal deformity. most of patients had reduction were between. Fig 3, 1-10 days 67(54%) patients.11-15 days 51(41%) patients.16-24 days 7 (6%) patients. The incidence of nasal fracture varies with age, region, climate, socioeconomic differences, road traffic accidents and preventive measures taken in different countries. Nasal bone fracture may cause cosmetic and functional deformities. In this study, we thought that early intervention-reduction stabilization of fractures will decreases revision surgical intervention: Rhinoplasty or Septo-Rhinoplasty operation. Fracture nasal bone being a male dominant society. Male's workout doors and hence are more susceptible to accidents. Different causes of trauma are shown in comparison with other studies: Korean and Brazil as in Table 1 & Fig. 4. Table 1. comparison with Korean and Brazil studies

Fig. 4 shows the causes of fracture nasal bone in different studies.

Fig. 3. Timing of reduction fractured nasal bone

![Graph showing the timing of reduction for fractured nasal bone.](image)

Conclusion

Against popular believe that R.T.A is the most common cause of fracture nasal bone, this study prove that physical aggression is the main cause, especially in young age. It is recommended to start reduction technique as early as possible within 10 days' post injury.

References

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8. Van Hoof, R. P; Merkr, C. A; Steckelburg, E. C. The different patterns of fractures of the facial skeleton in four European countries.
What disease does Stephen Hawking have?

Balo concentric sclerosis
Multiple Sclerosis MS
Creutzfeldt-Jakob disease CJD

**Lou Gehrig's disease ALS**

Hawking has a rare early-onset, slow-progressing form of amyotrophic lateral sclerosis (ALS) that has gradually paralysed him over the decades. He now communicates using a single cheek muscle attached to a speech-generating device.