# Facial Trauma

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## ABSTRACT

THIS is a retrospective study of facial trauma for one year (January 1978 to December 1978). During this period it has been found that facial trauma constitute a considerable number and the most common of these is the nasal fracture. This study showed that assault, accidental fall and road traffic accidents are the major causal factors of facial trauma.


## MATERIAL & METHOD

A review of the number of patients treated for facial trauma in Salmaniya Medical Center for one year has been studied, the study included the age group affected, type of trauma, classification of facial fractures and review of the literature.

## RESULT

**Table No. 1**

Frequency and distribution of facial accidents by age

| | |
|---|---|
| 1 to 12 | — 11 |
| 13 to 30 | — 31 |
| 31 and above | — 15 |

This shows that young people are more prone to these accidents than others.

**Table No. 2**

Frequency and distribution according to the type of trauma.

| | |
|---|---|
| Road Traffic Accident | — 8 |
| Assault | — 23 |
| Accidental Fall | — 25 |
| Sports Injury | — 2 |

The main cause of facial fracture in U.S.A. and Europe in adult group is due to road traffic accidents, in this study it seems to constitute a smaller number compared with assault and accidental fall, but the most common causes of facial fracture in the pediatric age group in U.S.A. are falls, motor vehicle accidents, and child abuse. In automobile accidents the child is injured either while riding as a passenger or when hit as a pedestrian.

**Table No. 3**

Frequency and distribution according to the facial fracture.

| | |
|---|---|
| Nasal fracture only | — 45 |
| Maxillary fracture | — 2 |
| Zygomatic fracture | — 4 |
| Blow out fracture | — 1 |
| Le Fort One | — 1 |
| Le Fort Two | — 0 |
| Le Fort Three | — 1 |
| Multiple fracture | — 2 |
| Mandible fracture | — 2 |

This table shows that fracture of nasal bones is much more common than other facial fractures.

## DISCUSSION

It is interesting to note that trauma is increasing while deformity and death due to infectious disease declining, therefore it is necessary at the present to direct all our efforts to prevent trauma to human being, whether it is resulting from violence or traffic accidents.

Facial trauma is tragedy to the patient because of resulting deformity because facial contour is the presenting feature of human being.

Facial trauma is classified into soft tissue injury, facial fracture and combined. Soft tissue injury is very serious if not looked upon critically, ugly scars or keloids could result from inappropriate attention to these injuries.

Patients with maxillofacial injuries may be suffering from other injuries and diseases and a thorough general medical examination is therefore essential. Signs of shock and cerebral damage must be sought. It must be remembered that a fracture base of skull coexists not uncommonly with a fractured maxilla. The most important consideration in maxillofacial injuries is the maintenance of an airway. Foreign bodies, e.g., broken dentures and teeth, must be removed from the mouth and great care must be taken to see that the patient is not laid on his back, when the tongue may fall back and asphybate him. Dentures may frequently be used as splints, even if they are broken, and they should therefore be kept and not thrown away.

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Fracture nasal bones, usually caused by blows to the front or side of the nose, occasionally by penetrating wounds. The nasal bones may be involved in more extensive injuries of the facial bones and base of skull.

Radiograph, is of importance medico-legally. The fracture line is frequently near the tip and is often comminuted and/or compound.

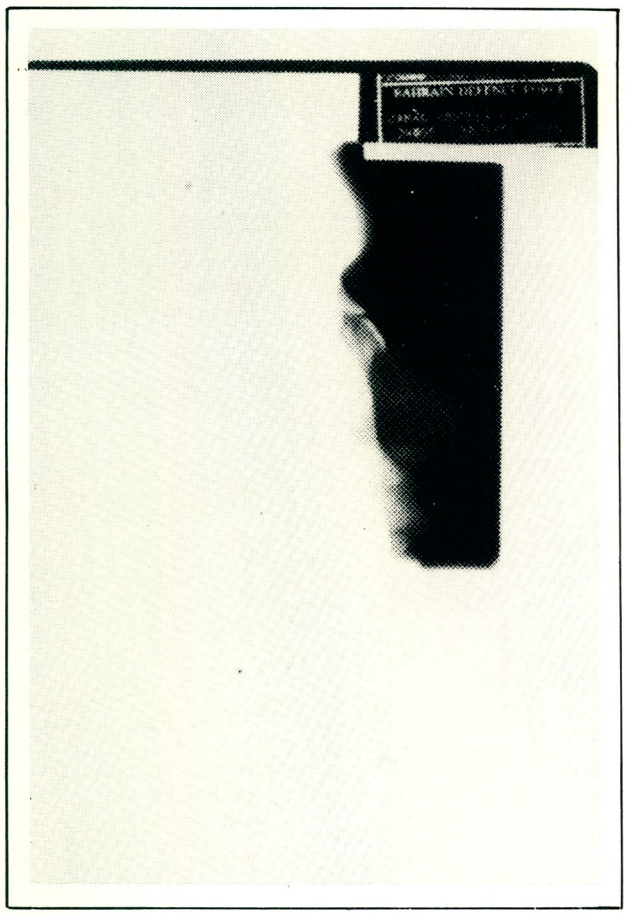

*Fig. 1 – Fracture - Nasal Bone*

The fracture needs reduction as soon as possible, otherwise if malunion occurs, the patient may require Rhinoplasty.

Fracture of the middle-third of the face, which is involving that part of the face between the supra-orbital ridge and the upper teeth. These are two principal types but variations and combinations are encountered.

Central otherwise known as fracture of the nasomaxillary complex. The fracture line crossess the nasal arch and runs outwards across the medial walls of the orbitals, crossess their floors, and then passess down the anterolateral walls of the maxillae to the pterygoid fossae.

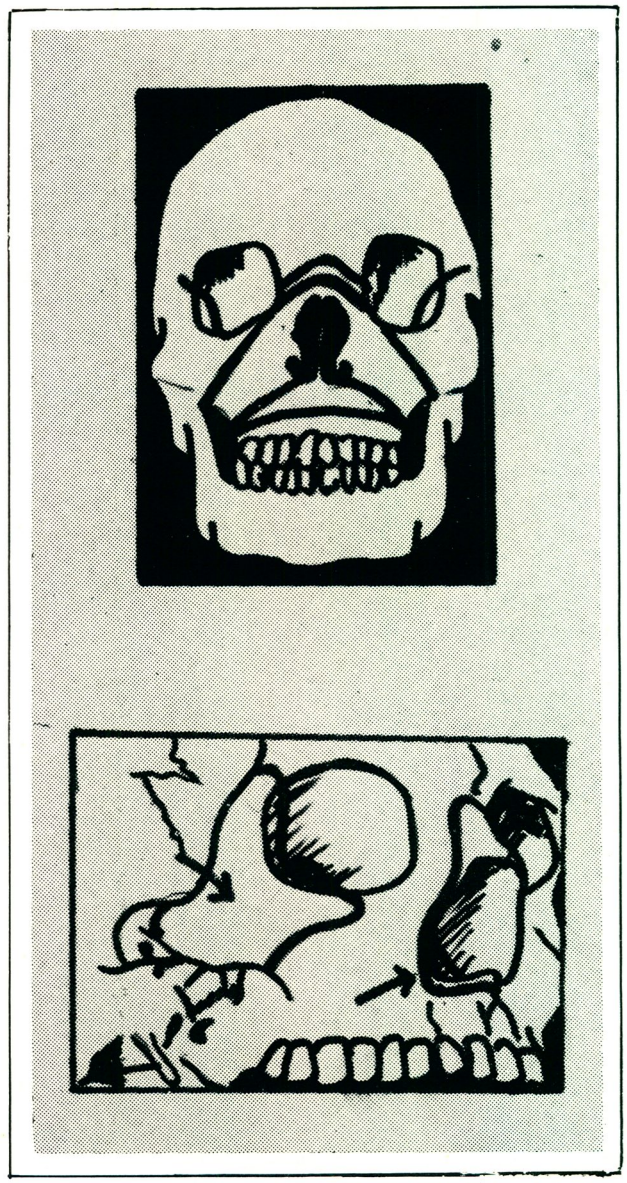

*Fig. 2 – Le Forte I, II, III Lines*

This type is due to direct anteroposterior force applied to heavy blows, as in head-on crashes. Reduction by lion forceps and if late osteotome and open reduction is needed, splinting is necessary to maintain the position of the replaced fragments. Dental cap splints hold together the teeth of the upper and lower jaws. Metal bars, attached to the head with a plaster-of- paris cap, keep the bones forward. Continuous traction may be effected by elastic bands or weights suitably attached. This may suffice to effect reduction in some cases.

*Fig. 3 – Splenting*

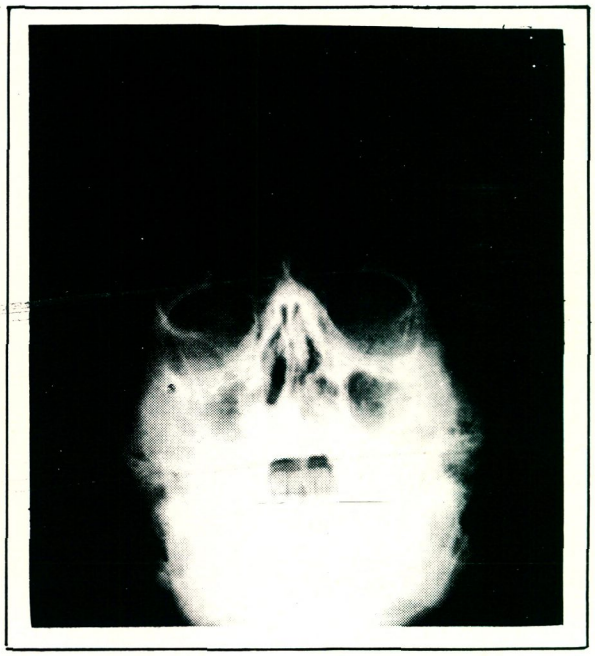

*Fig. 5 – Fracture – Zygoma*

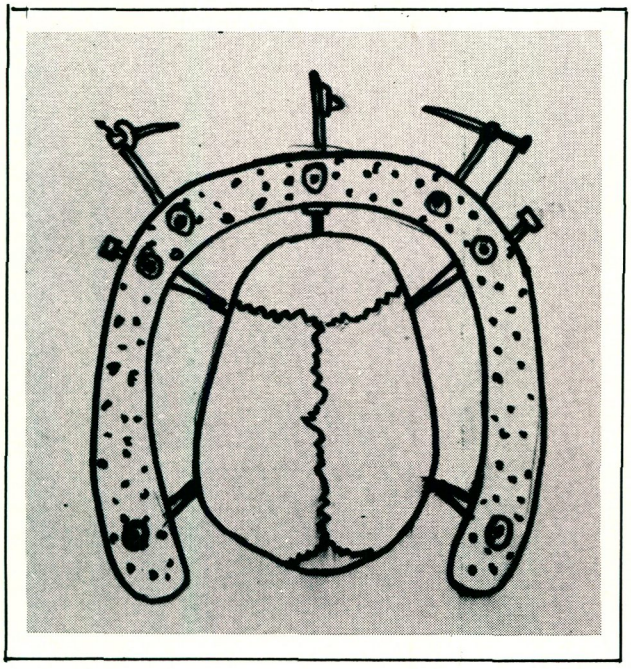

*Fig. 4 – Berkshire Hello*

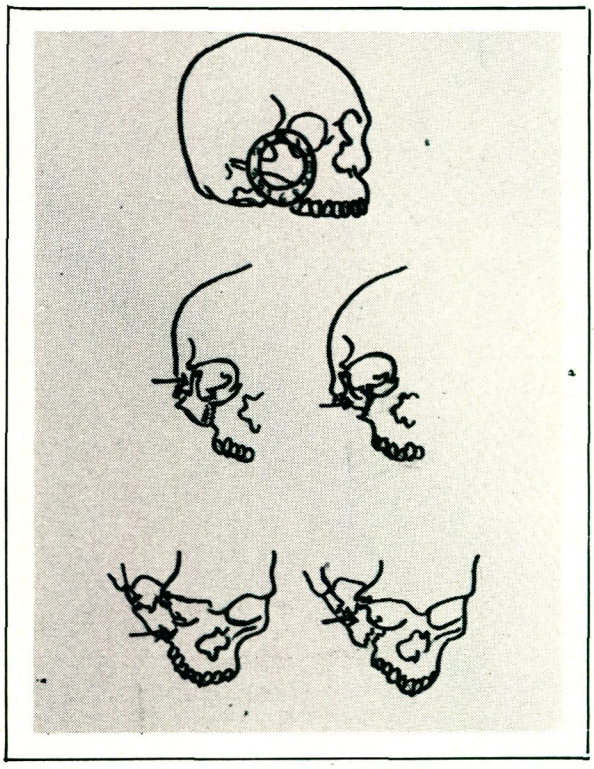

*Fig. 6 – Fracture – Zygoma*

Lateral otherwise known as the malar maxillary complex fractures. This type is due to blows struck from the side. They fracture the malar bone and force it backwards and downwards into the antrum. Treatment should be undertaken within 10 days of the injury.

In minor cases : The zygomatic arch may usually be elevated through a small vertical incision, through skin and then temporal fascia, above the zygoma. It may also be elevated and the fracture reduced by an intra-oral incision in the buccal sulcus over the

tuberosity. This is an excellent method in skilled hands as it allows one not only to elevate the arch but also to see the fracture and, if necessary, to wire it.

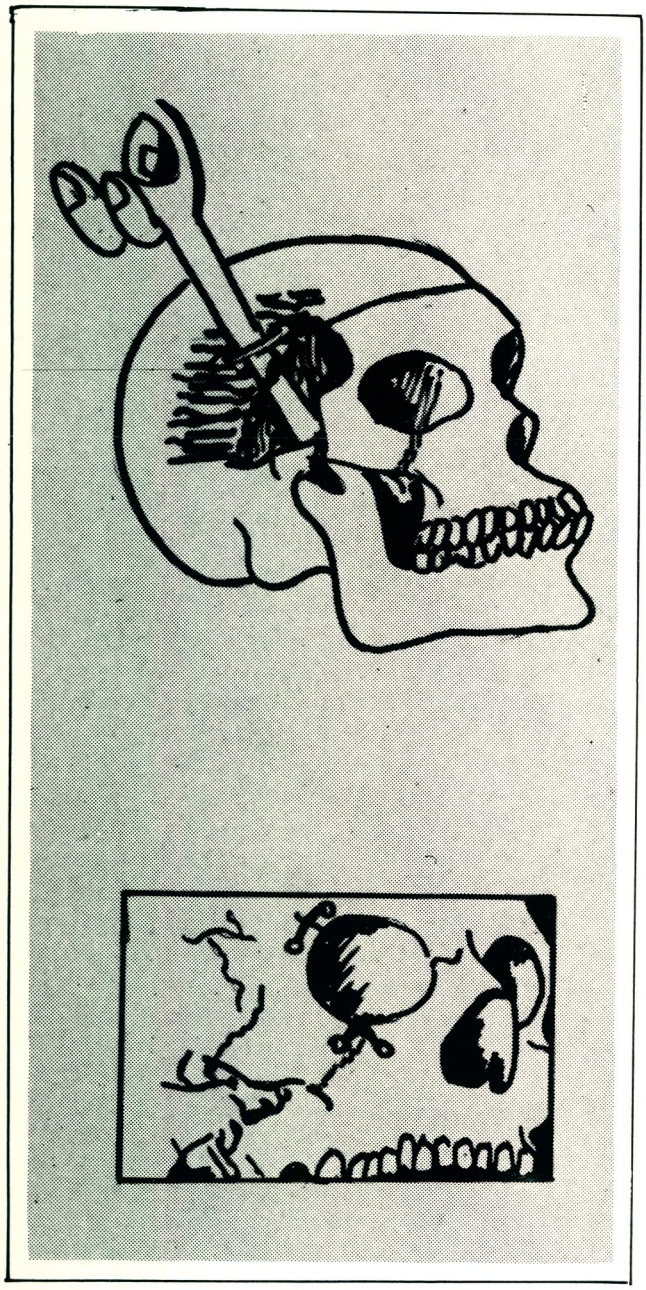

*Fig. 7 – Temporal approach*

In severe cases, reduction is effected by opening the antrum through a sublabial incision and elevating the orbital floor it can be combined with zygomatic elevation. The reduced fragments are kept in position by gauze packing in the antrum after creation of an antrostomy.

Maxillary sinus, is involved in the central and lateral fracture of the middle-third of the face described before. It may also be involved by horizontal fracture line which separates the upper alveolus from both maxillae (Guerin's fracture).

*Fig. 8 – Blow out Fracture*

Occasionally a blow on the eyeball will fracture the orbital floor which then opens into the antrum like a trap-door - 'Burst-orbit' or 'Blow-out' fracture of orbit. The closing trap grips the inferior rectus muscles as the globe rises again into the orbit so as to prevent the upward rotation of the eyeball. Other movements are unimpaired. Treatment is to free the caught muscle soon as possible and reduce the fracture.

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