



Case study of fracture floor of orbit following trauma

Vanila C

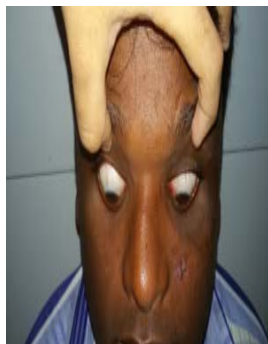
Department of Ophthalmology, Madras Medical College and Government General Hospital

Abstract : Reporting a case of Orbital floor fracture following road traffic accident. Patient presented with enophthalmos and restriction of elevation. Patient was diagnosed to have blow out fracture floor of left orbit ,also there is associated fracture of anterior and lateral wall of maxillary sinus with herniation of retroorbital fat, for which patient underwent open reduction and internal fixation for left orbital floor fracture with orbital plate in our institute. Following surgery enophthalmos was corrected and movements were full.

Keyword :Enophthalmos, Infraorbital anaesthesia

A 23yrs old male came with complaints of left eye pain and redness, which he developed following road traffic accident. On clinical examination vision in both eyes 6/6p, right eye anterior segment was normal, left eye enophthalmos was present, periorbital oedema with infraorbital maxillary fullness, ecchymosis, conjunctiva- subconjunctival haemorrhage, cornea -clear, anterior chamber - normal depth, pupil - reacting to light, lens -clear. Extra ocular movements right eye was full, Left eye elevation was restricted, periorbital tenderness, infraorbital anaesthesia was present.

PRE OPERATIVE PICTURES:



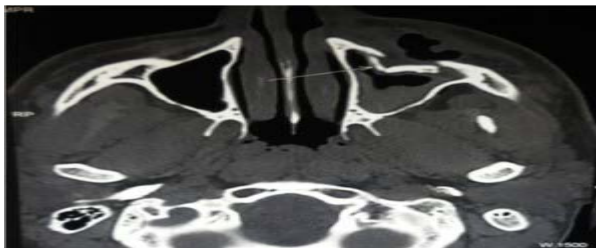
INVESTIGATION: Hertels exophthalmometry-RE-20mm, LE-18mm

On fundoscopy both eyes media clear, disc & vessels appear normal, macula foveal reflex present. Forced duction test positive in left eye. Patient had 1-2mm of elevation restriction. No diplopia on diplopia charting.



X-ray orbit showed irregularity of orbital wall along the inferior rim of left orbit.

CT-Scan orbit showed comminuted & displaced fracture floor of left orbit, anterior and lateral wall of left maxillary sinus with herniation of retrobulbar fat through the fracture site, left maxillary haemorrhage, extraocular muscles appear normal. Soft tissue oedema in premaxillary, preseptal and infratemporal regions



With above findings left eye was diagnosed as a case of blow out fracture floor of left orbit involving orbital rim (impure), also there is associated fracture of anterior and lateral wall of maxillary sinus with herniation of retro orbital fat with enophthalmos. Oro Maxillary Facial Surgeon Opinion obtained. Advised open reduction and internal fixation of floor of left orbit.

PLAN:

Patient was planned for open reduction and internal fixation of left orbital floor fracture as enophthalmos is an indication for surgical repair, giving good cosmetic and functional improvement.

TREATMENT:

This patient underwent open reduction and internal fixation of left orbital floor fracture with orbital plate under general anaesthesia. Post operatively enophthalmos was corrected (On Hertels exophthalmometry right eye-20mm, left eye-20mm), and extra ocular movements were full.

POST OPERATIVE PICTURES



DISCUSSION:

Blowout fracture refers to fracture of orbital wall caused by blunt trauma with an object greater than orbital diameter leads to increase in the orbital pressure. The force is transmitted to the floor medial wall of orbit since the bones of the lateral wall and roof are able to withstand. Site and extent of the orbital fracture depends upon the degree and direction of impact, common presenting symptoms-pain on eye movements, defective vision, diplopia, enophthalmos. Majority of orbital wall fracture do not need surgical correction. Surgery is indicated in fractures with entrapment of orbital contents, enophthalmos > 2mm, persistent and significant diplopia in primary gaze and should be repaired within 2 week. If delayed leads to secondary fibrotic changes. Surgical approach to blowout fracture of the orbital floor can be made through infraorbital incision or a conjunctival (Inferior fornix) incision with or without lateral cantholysis. The development of miniplating & micro plating systems & their various metallic orbital implants has improved the management of large unstable orbital floor fractures. Implants can be alloplastic like porous polyethylene, supramid, goretex, teflon, silicon sheet, titanium mesh. Autogenous like split cranial bone, iliac crest bone or fascia.