A RARE CASE REPORT:- INTACT EYE BALL IN MAXILLARY ANTRUM FOLLOWING TRAUMATIC INJURY TO RIGHT ORBIT

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ABSTRACT
Accidental impaction of foreign body in maxillary antrum is not uncommon, but finding an intact eyeball in maxillary antrum with intact orbital rim is very rare. We have reported a very rare case of intact eyeball in maxillary antrum of right side in a 42 year old male admitted in our Dept. Of ENT VIMSAR, BURLA, ODISHA. The diagnosis was confirmed by clinical examination and further by CT-Scan findings. After diagnosis was made the eyeball was repositioned back in to the orbit under general anaesthesia by Caldwell-Luc’s and infra-orbital approach. The defect of floor of orbit was repaired by iliac crest graft. Perception of light was negative before surgery which remained unchanged even after surgery on follow-up for 3month post-op, which may be due to delay in surgery due to late presentation to us, but the structural function of eyeball was preserved, giving a good cosmetic result to patient.

Key words:- Intact eyeball, maxillary antrum, Caldwell-Luc’s approach, infra-orbital approach, iliac crest bone graft.

INTRODUCTION
Fracture of orbital floor is the most common presentation following blowout fracture, but its presentation as, herniation of intact eyeball in to the maxillary antrum with intact orbital rim is a very rare presentation. The structure and function of the eyeball can be preserved if urgent surgery is done by keeping back the eyeball into the orbit with orbital floor repair, which can be done by combined Caldwell-Luc’s approach and infra-orbital approach. The eyeball along with orbital contents should be removed from the antrum immediately to preserve the function of eyeball as well as to prevent serious infection inside the antrum, if left inside antrum as such. The orbital floor defect should be repaired with iliac bone graft, nasal septal cartilage or graft taken from rib cartilage, to prevent further herniation of orbital content in to the antrum.

CASE REPORT:-
A 42 year old Hindu male from Bhawanipatna attended to our ENT OPD of VIMSAR, BURLA, Odisha with the chief complaints of swelling of right maxillary antrum along with sudden loss of vision of right eye following trauma by horn of a cow since 5 days prior to attend this hospital.

5 days back following injury he was treated primarily at a local hospital then referred to Ophthalmology opd& admitted there on 10/8/15, again from there the patient was referred to our ENT Dept. and was admitted.

On general examination, patient was conscious, co-operative, and well oriented to time place and person, Temperature was 37°C, Pulse rate: 78 per minute, Blood pressure: 124/78 mm Hg in right arm supine position and Respiration rate: 16 breath per minute abdomino-thoracic, systemic examinations were with in normal limits.

On local examination, there was mildswelling over...
right maxillary area, on palpation there was no tenderness over maxillary antrum. There was loss of sensation along the distribution of infraorbital nerve on right side. On Anterior rhinoscopy, vestibules were normal, nasal mucosa of both nostrils were normal, nasal septum was in midline, nasal cavity on both sides were found to be free. On Posterior rhinoscopic examination of nasopharynx, choana was found to be free. Oral cavity, oropharynx were normal. On ocular examination there was swelling of both upper and lower eye lids of right eye (figure 2), which were tender to touch, inter palpebral fissure (IPF) was narrow in right eye (figure 2). Visual acuity was Negative on Right eye and normal on Left eye. Conjunctiva was congested and chemosed. Right eyeball was found to be absent from right orbit (figure 1). After admission contrast CT scan was advised to confirm diagnosis.

CT SCAN with CONTRAST showed: Pure orbital blow out fracture, Fracture of roof of maxillary antrum, whole of the intact eyeball inside Right maxillary antrum, Optic nerve seemed to be intact, Herniation of whole of right eyeball into the right maxillary antrum (Fig 4 A, 4B).

Fig-1: Absence of eye ball in orbit.

Fig-2: Swelling of both eye lids and decreased IPF.

Fig-4A: Intact & whole of the eyeball in max.antrum.

Fig-4B: Absence of eyeball in rt.orbit.

Patient was planned for surgery under general anaesthesia for repositioning of right eyeball into the orbit by Caldwell-luc’s approach and repair of the fracture of roof of the maxillary antrum by infra-orbital approach.

The patient was operated in ENT OT under general anaesthesia. Caldwell-Luc’s operation was done by giving a sublabial incision starting from 2nd incisor to 2nd molar on right side, peristeum was elevated, an opening was made over canine fossa, after which maxillary antrum was reached (fig 5). Through antrum whole of the intact eyeball was pushed up into the orbit through the defect over roof of maxillary antrum (fig7).
After that an incision was given over lower eyelid margin, periosteum was elevated and roof of of maxillary antrum was reached (fig 6). The eyeball which was already pushed up from maxillary antrum was repositioned manually into the orbit by ophthalmology surgeon (fig 7). The defect over roof of maxillary antrum was repaired by a graft taken from iliac bone (fig 8).

On gross examination, eyeball was found to be intact, pupils appeared dilated, cornea was hazy. Optic nerve and extraocular muscles were found to be intact. Postoperatively, the patient had no light perception with restricted mobility of the eyeball of the right eye.

**DISCUSSION**

Zygomatic and Le Fort II fractures are always accompanied by fractures of orbital floor.[3] However, isolated fractures of orbital floor, is seen mainly when a large blunt object strikes the globe directly i.e. “orbital blow out fractures”, in which orbital rim remains intact with fracture of one of the walls of orbit. Soft tissues of orbit, such as extraocular muscles, ligaments, and orbital fat always herniates into the fracture hole, when there is a blow out fracture to the orbit.[4-6]. However, complete dislocation of an intact globe into the maxillary antrum after an extensive blowout fracture is a rare incidence. In this case, a pure blow out fracture of the floor of the orbit occurred due to trauma by a cow horn with intact orbital margins, which resulted in the eyeball completely dislocated into the maxillary sinus. The floor of the orbit might be broken by an instant top-down force, which pushed the globe into the maxillary sinus.[6-7]. Because the eyeball sank into the maxillary sinus, globe lesions could not be checked. Although CT scan with contrast indicated that the integrity of the globe was not impaired. However, contusion of the eyeball may result in anterior and central vitreous hemorrhage, lens dislocation, secondary glaucoma, optic nerve damage and other complications.[8-11]. Urgent
surgery was done to reposition the eyeball in to the orbit, by combined Caldwell-Luc and Infraorbital approach, and the defect over the roof maxillary antrum was repaired by iliac bone graft\[1-3\]. After surgery the eyeball was saved and structure intact.

CONCLUSION:-

Traumatic dislocation of intact eyeball into the maxillary antrum with intact orbital rim is very rare. By doing urgent surgeries we can save the structure and function of eyeball. In our case the patients vision could not be preserved because of late presentation of patient to our OPD following trauma due to which surgery required for this was delayed, but the structural integrity of eyeball was achieved.

DISCLOSURES

(a) Competing interests/Interests of Conflict- None
(b) Sponsorships - None
(c) Funding - None
(d) No financial disclosures

HOW TO CITE THIS ARTICLE


REFERENCES:-