Isolated medial blowout fracture with medial rectus entrapment

Resmi Bhaskar DO, Reena.A. MS, Anitha Balachandran MS, DNB, Regional Institute of Ophthalmology, TVM., Jayaprabha.S. MS (ENT) Medical College Hospital, TVM

Introduction
Isolated fracture of the medial orbital wall is infrequent. They often remain undetected as extensive facial trauma can mask the clinical features or they can be even asymptomatic. We here report a case of isolated medial blowout fracture who presented as divergent squint following trivial trauma.

Case report
A 17 yrs old student presented to our OPD with history of deviation of right eye since 10 days. On detailed history taking he revealed a trauma to face with coconut leaf 10 days back & double vision following it. There was no episode of epistaxis or loss of consciousness.

General & systemic examinations were WNL.

Ocular examination
BCVA 6/6 N6 BE
RE 45º exotropia with marked limitation of adduction & minimal limitation of abduction. Diplopia charting showed crossed horizontal diplopia with maximum separation on attempted adduction.

Rest of anterior & posterior segment were normal.

LE WNL.

Forced duction test & differential tonometry were surprisingly negative. Suspecting the possibility of medial rectus disinsertion, we suggested axial & coronal CT scan of orbit for this patient. CT scan showed blowout fracture medial wall with entrapment of medial rectus & orbital fat in the ethmoid sinus.


Post operatively patient was put on systemic steroid & antibiotics. There was gradual improvement in the extraocular movements. At the end of the 4th week extraocular movements were full & patient was orthophoric.

Discussion
Medial blowout fracture refers to fracture of lamina papyracea with an intact orbital rim. It can occur alone or along with orbital floor fracture. Commonest presentation is horizontal diplopia, others include periorbital oedema, ecchymosis, subconjunctival haemorrhage, subcutaneous emphysema, epistaxis, CSF rhinorrhoea, enophthalmos and globe retraction.

Patients with medial rectus & its soft tissue entrapment can present with horizontal diplopia, pain & restriction of horizontal movements. Usually a positive FDT of medial rectus helps to distinguish entrapment from restricted movement due to nerve damage, muscle oedema & haematoma. Unlike orbital floor fracture which usually presents with restrictive pathology of muscle, medial blowout fracture can have combination of paralytic & restrictive element, hence FDT can be inconclusive.

Indications for surgery include persistent diplopia, painful restriction of eye movement, positive FDT, muscle entrapment on CT scan, enophthalmos > 2mm. Goal of surgery is to release the entrapped muscle & its soft tissue and to cover the bony defect.

Conclusion
Medial blow out fracture which can occur even with trivial trauma can be easily missed. So a great deal of suspicion has to be there for early identification & prompt treatment so that patient can have good ocular motility & cosmesis.

References
2. McCarthy plastic surgery, Vol II: The Face
3. Repair and Reconstruction of orbital region, John Clark Mustardé