

Isolated orbital wall blowout fractures due to primary blast injury

Sir,

We read with interest the review article on primary blast injuries to the eye [1]. Further correspondence from the department of Ophthalmology at Birmingham [2] emphasised the types of injury they have seen due to blast effects and mentions orbital blow out fractures.

In reviewing the Joint Theatre Trauma Registry since 2003 we have identified 2 cases of orbital wall fractures from primary blast injury that had no damage to the globe. Both cases had mild facial burns.

Head and neck trauma patients are seen by primary trauma teams and then referred on to general trauma surgeons, ophthalmic surgeons, neurosurgeons or maxillofacial surgeons. As we report, primary blast injury may cause orbital wall fractures without damage to the globe. It is therefore incumbent on all military personnel who see patients with blast injuries to the head to actively look for orbital wall fractures.

The eye and orbit should be thoroughly examined looking for damage to the globe, enophthalmos and diplopia. Visual acuity must be recorded using a Snellon Chart. If diplopia is present a Hess chart should be done to distinguish between neurological and entrapment causes. The orbital rims are examined for step defects and infra-orbital nerve sensation is tested. If paraesthesia is present this gives a high index of suspicion of an orbital floor fracture. Axial CT radiographs reformatted to show coronal and sagittal sections are the best form of imaging to detect orbital wall fractures.

References

1. Abbotts R, Harrison S E, Cooper G L. Primary Blast Injuries to the Eye: A Review of the Evidence. *J R Army Med Corps* 2007; **153**: 119-123
2. Blanch R J, Scott R A H. Primary Blast Injury of the Eye. *J R Army Med Corps* 2008; **154**(1): 76

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