Emergency management: penetrating eye injuries and intraocular foreign bodies

Penetrating injuries require immediate first aid and urgent referral to a specialist, particularly if there is a foreign body in the eye.

A retained IOFB in the posterior segment is usually hidden from view (occult). Assume that the patient has a retained IOFB until proven otherwise, even after a long period of time.²

Record the baseline best-corrected visual acuity in each eye and conduct a complete examination of both eyes and adnexae. Use Desmarre's retractor to avoid undue pressure on the globe during examination.

History and clinical findings that should raise the suspicion of an IOFB include: a history of hammering a metal object, a scleral wound with uveal prolapse, a corneal entry point with oedema, a shallow anterior chamber, an iris hole, an irregular pupil, a lens defect and vitreous haemorrhage.

Remedies and immediate management

After examination, you should:

1 Protect the eye from further damage by using an eye shield.
2 Administer systemic analgesics.
3 Administer prophylactic broad-spectrum systemic antibiotics.
4 Administer anti-emetics if the patient has nausea or vomiting.
5 Update tetanus prophylaxis.
6 Recommend 'nil by mouth' status in preparation for surgery.
7 Carefully document all findings and actions taken.

Take note:

- Defer IOP measurements in patients with lacerations
- Avoid any pressure on the globe; for example, do not press on the sclera
- Do not attempt to pull out any foreign material that may be sticking out of the eye.
How to apply an eye shield

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Rationale
Applying an eye shield protects an injured eye from further damage.

What you need
• Tape
• A rigid eye shield

If you do not have an eye shield, make one by cutting out a round piece of card approximately 8 cm in diameter. Make a single cut from the edge to the centre. Overlap the two edges and secure in place with tape to form a shallow cone (Figure 2).

Instructions
1. Explain to the patient that the eye needs to be protected.
2. Ensure that there is good lighting.
3. Wash your hands.
4. Prepare the eye shield.
5. Ask the patient to close the affected eye.
6. Clean and dry the skin around the eye, as well as the forehead and cheek. This will allow the tape to hold fast.
7. Place the shield carefully over the eye. Ensure that the edges rest comfortably on the bones around the eye and not on the eye itself, or on the soft tissues surrounding it, as this can cause further damage.
8. Cut an appropriate length of tape (Figure 3).
9. Use the tape to hold the shield in place (Figure 4).

References