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Sir,

A closer look at anterior segment intraocular foreign bodies

Intraocular foreign bodies are not uncommon. We frequently see the patient with a red eye who has been hammering without eye protection. However, not all patients give such a clear history and it is of major importance that a foreign body is not missed especially by casualty departments. We present two case reports which highlight the need for vigilance and a high index of suspicion even if the plain X-ray is clear.

Case report 1

A 30-year-old white man had been working with a valve on a high-pressure gas cylinder when a blast of high-velocity gas hit his right eye. He had attended the local casualty department on two occasions since with a gritty red right eye. His orbital X-rays did not show any foreign body (Figure 1a). His symptoms persisted and after two weeks he was referred to the ophthalmic department. Snellen vision was 6/5 and the eye was mildly injected. There was a small faint corneal scar with an upward track at the 4 o' clock position near the limbus which was felt to be an entry site. Gonioscopy revealed a foreign body in the inferior angle. He underwent removal of a metallic foreign body with uncomplicated recovery. Snellen vision remains 6/6.

Case report 2

A 40-year-old white man was referred to the ophthalmology department 1 month after a foreign body struck his right eye while hammering a steel nail. Plain X-rays failed to show an intraocular foreign body (Figure 1b), but he suffered persistent blurring of vision in the right eye. He was noted to have a small, axial, full thickness central corneal scar, with some pigment on the anterior lens surface. Snellen vision was 6/6. Gonioscopy revealed a foreign body in the inferior angle. He underwent surgical removal of this foreign body. Recovery was uneventful and vision remains 6/6.

In both cases, the surgical technique involved dissection of a small scleral flap at the 6 o' clock position with dissection into the anterior chamber and direct removal of the foreign body with forceps (Figure 2a and b).

Figure 1 (a) Plain orbital X-ray of patient 1. No foreign body is detected. (b) Plain orbital X-ray of patient 2. Again no foreign body is demonstrated.

Comment

These two cases highlight the fact that a plain X-ray will not exclude with certainty an intraocular foreign body. Any patient with a significant history should be viewed with a high index of suspicion and a plain X-ray does not replace thorough clinical examination including gonioscopy. Davidson and Sivalingam[1] reported a similar case of a foreign body in the anterior chamber angle which was eventually discovered after gonioscopy was performed because of the high clinical suspicion.[1]

Our two cases reinforce the fact that plain X-rays are of limited value when dealing with suspected intraocular foreign bodies (IOFB). The overall detection rate of foreign bodies for plain X-rays has been reported as low as 40% with particularly poor pick-up rates for graphite, wood, and perspex.[2] Metallic foreign bodies can also be missed.[2,3] This is an important issue when considering screening before MRI scanning, as ocular damage has

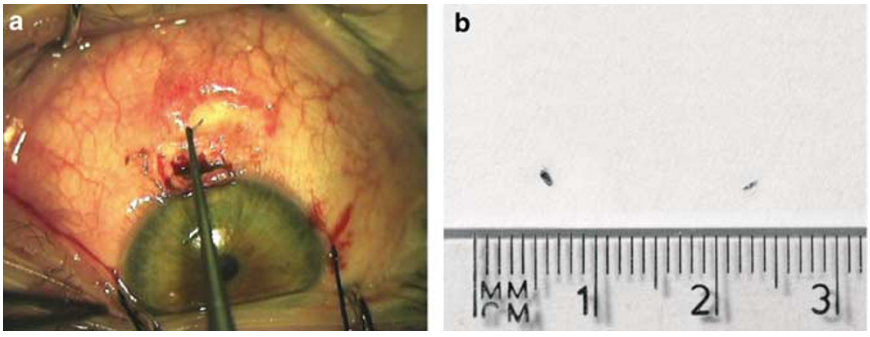

Figure 2 (a) Surgical technique demonstrating removal of foreign body (patient 2). (b) Photograph of the foreign bodies removed during surgery. Left = case 1 and right = case 2.

been reported if a metallic IOFB is undetected. The movement of the metallic fragment within the magnetic field has been found to cause problems such as cataract and hyphaema.[3,4] Lagalla *et al*[5] compared plain X-ray, CT, and MRI capabilities in IOFB detection *in vitro* and in pig eyes. They recommend that CT scanning is the preferred investigation when it is necessary to exclude an IOFB.[5] However, even then there have been isolated reports of the failure of computed tomography to find metallic foreign bodies.[6,7]Modern spiral CT scanning techniques offer a shorter examination time (than previous conventional CT scanning). Good sensitivities with 3 mm cuts have been reported to match 1 mm cuts in sensitivity of detection of small glass, stone and metallic IOFBs.[8,9]

In these two cases, the foreign body was located in the anterior chamber. Ultrasound biomicroscopy has been described as a useful tool in this situation. 50 MHz ultrasound method when available enables imaging of anterior segment details at high resolution up to about 5 mm depth. It has been reported to detect IOFBs even when CT scanning failed.[10,11] However, it is recommended only as a second-line investigation once computed tomography has failed to give the desired answers or as an initial investigation in small, nonmetallic anteriorly located intraocular foreign bodies.[11]

In conclusion, these two patients highlight the importance of good clinical examination including gonioscopy when there is suspicion of an intraocular foreign body. Plain X-ray cannot be relied upon and CT with or without ultrasound biomicroscopy should be performed to help detect anterior segment foreign bodies if they cannot be found clinically. We need to emphasise this fact to accident and emergency department clinicians to avoid missed diagnoses.

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Sir,

Listing of cataract patients by optometrists

We see in the *Short Notes from Council* (12 September 2003) that the College felt that 'medical intervention was vital in order to ensure that the diagnosis and indications for surgery were appropriate, at a stage *before the actual day of surgery*'.

At Peterborough, we have been running a one-stop cataract surgery project since September 1999 where patients are listed by trained optometrists. Patients have their surgery on the first day they come to the eye department, following a brief examination by the surgeon at the slit lamp after mydriasis.

We recently looked at the difference of rates of cancellation of surgery on the day for 'one-stoppers' and conventionally listed patients for the period January 2002–August 2003. This difference would be a broad measure of the appropriateness of listing of the one-stoppers.

Of roughly 600 one-stoppers, 67 (11%) were cancelled on the day. This compared with 153 (8%) of around 1800 conventionally booked patients cancelled on the day. This 3% difference equates to the loss of 18 surgical slots, but our theatre coordinators estimate that they refill 90% of slots with patients prepared to come in at short notice, or even with patients just listed during the same session by other surgeons in clinic. This comes as a surprise for the patient concerned, but is not compulsory and saves a theatre slot.

Thus, over the given period, without medical intervention before the day of surgery, we have lost about two operating slots, but saved 600 outpatient appointments.

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Sir,

Successful combined cataract surgery and drainage of a needling-induced chronic ciliochoroidal detachment

Needle revision is an accepted method of management for failed or poorly functioning trabeculectomy blebs.[1–3] We report a case of chronic ciliochoroidal effusion occurring after needle revision of failed trabeculectomy bleb in an only eye with poor vision due to cataract. The effusion failed to resolve with conservative management and required subsequent surgical intervention.

Case report

An 80-year-old-woman was referred to a glaucoma team for further management of her glaucoma. She was blind in her left eye from uncontrolled glaucoma. She had had an unaugmented fornix-based right trabeculectomy 8 years previously that had failed. The intraocular pressure (IOP) in the right eye was uncontrolled despite maximal tolerated medical therapy (Guttae Timoptol 0.25% b.d., Guttae Xalatan nocte, and Guttae Trusopt 2% bd).

At presentation she had a flat, scarred right trabeculectomy bleb, the IOP was 22 mmHg OD, and the optic disc was cupped with a vertical cup–disc ratio of 0.8. A right nuclear sclerotic cataract (grade 2+) was noted with almost 360° posterior synechiae. Angles were open with a patent sclerostomy. Snellen visual acuities were 6/36 OD and PL OS.

In order to maximise residual vision, a right phacoemulsification of cataract was planned. A target IOP was set at less than 15 mmHg and the option of combined cataract extraction and trabeculectomy was considered. Prior to any final decision with regards surgical procedure, it was decided to carry out a needle revision of the trabeculectomy bleb. If the bleb could be salvaged and satisfactory IOP control achieved, a combined procedure would be unnecessary.

The patient underwent slit-lamp needling of trabeculectomy bleb with injection of 5-fluorouracil (5-FU). A good flow of aqueous was visualised with reformation of a bleb. At 1 week the bleb had once more flattened and the IOP was 26 mmHg. A further needling with 5-FU injection was undertaken. Postprocedure, the IOP was 6 mmHg with an elevated bleb. After 2 days, the IOP had risen to 12 mmHg and the anterior chamber was