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Intralenticular Foreign Body: A Case Report of an Unusual Presentation

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Abstract

This case report describes a rare case of intralenticular foreign body subsequent to a penetrating eye injury that was asymptomatic for six months. While early surgical intervention is preferred in these cases, the conservative approach may be an alternative approach.

Keywords: Intra Lenticular Foreign Bodies, Cataract

1. Introduction

Intraocular foreign bodies (IOFBs) account for approximately 40% of the penetrating eye injuries and intralenticular foreign body (ILFB) is an unusual complication of IOFB that occurs approximately in 5 to 10% of cases (1, 2). Risk factors of IOFB include male sexuality and not wearing eye protection while performing a metal-on-metal task (hammering or chiseling a metal object) (3, 4).

The most observed foreign body is metallic but glass, eyelash, steel, plastic, and coal are also reported (5). Metallic foreign bodies can penetrate the cornea to cause intraocular inflammation and mature cataract (6-8).

The other important complication of metallic foreign bodies is siderosis bulbi that may be sight-threatening (9). Majority of ophthalmologists prefer early surgical intervention in these cases but some conservative approach is also reported (2). In this report, we present a rare case of ILFB that was asymptomatic for six months.

2. Case Presentation

A 40-year-old man presented to our emergency department with a chief complaint of pain in the left eye immediately after metal hammering while he did not wear the protective glass. In his past medical history, there was no significant disease and no history of drug consumption. On examination, the best-corrected visual acuity (BCVA) was 10.10 and 4.10 in the right and left eyes, respectively. Biomicroscopy and fundoscopy revealed normal anterior and posterior segment examination in the right eye. In the left eye, there was a mild to moderate conjunctival injection and a 1 mm self-sealed full-thickness corneal laceration that was in paracentral and inferior to the visual axis. The Seidel test was negative. The anterior chamber was deep and well formed with only mild inflammation. The iris sphincter was irregular and had a small tear at six o'clock. Moreover, a small metallic intralenticular foreign body (ILFB) was apparent (Figure 1). It was in the mid-periphery of the lens and out of the visual axis. The anterior capsule of the lens was torn but the posterior capsule was intact. Fundoscopy was normal.

The patient received an intravenous and topical antibiotic and indeed topical cycloplegic. After three days, his BCVA improved to 8.10; so, he was discharged and followed closely by periodic electroretinography (ERG) (Figure 2).

During a six-month observation, he was well but in a few days, he noted that the sight of his left eye was dim and visual acuity dropped rapidly to hand motion. On the slit lamp examination, a mature cataract was detected (Figure 3). The posterior segment was not visible.

Because the visual function was reduced, the patient was scheduled for cataract surgery and ILFB removal of the left eye. Under general anesthesia, the ILFB was removed. Then, phacoemulsification and posterior chamber intraocular lens (PCIOL) implantation were performed. The patient visual acuity improved to 20.20 postoperatively (Figure 4).

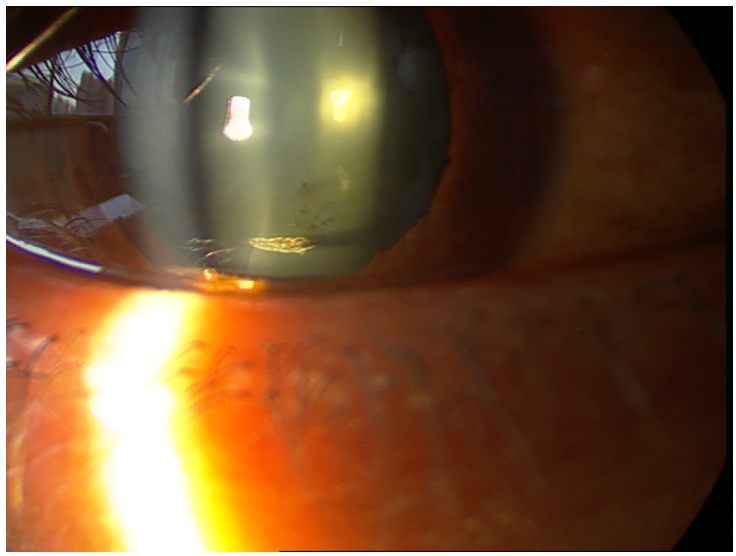

Figure 1. A slit-lamp photograph of the left eye at the first visit showing a metallic intralenticular foreign body.

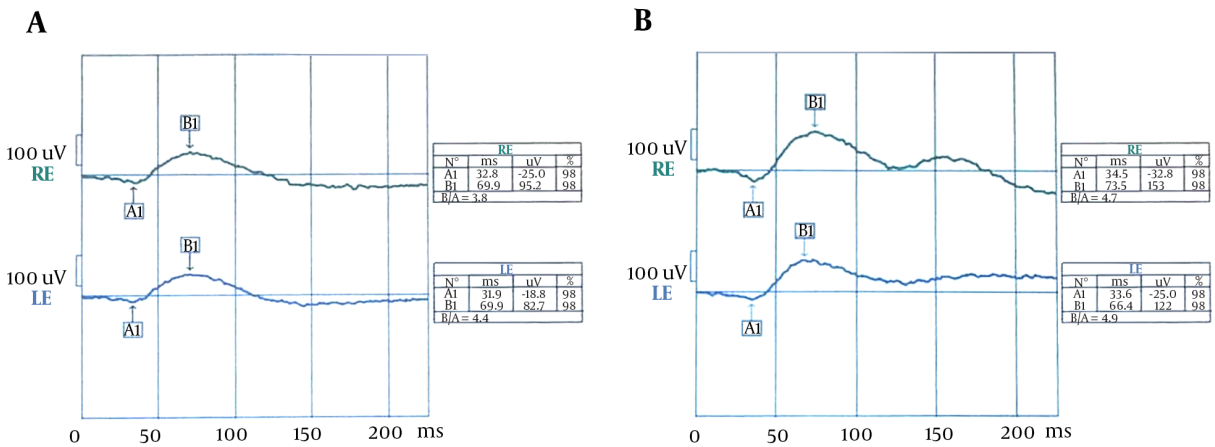

Figure 2. A and B, Periodic multifocal electroretinogram (ERG) images of the same patient.

3. Discussion

ILFB is one of the uncommon complications of penetrating eye traumas and its management depends on multiple factors including the characteristics of the patient, the severity of cataract, size, material, and location of the foreign body, visual acuity, and accompanying injuries.

Most cases of ILFB develop to cataract but it is not inevitable (10, 11). There are case reports of asymptomatic ILFB for a long time such as 20 years or even more (12, 13). It is believed that the healing capacity of the anterior capsule is due to the subscapular epithelium that prevents cataract formation secondary to the restriction of the free fluid influx to the lens. If the anterior capsule defect is small (less than 2 mm), it will repair itself and limit the free fluid influx to lens material and causes the cataract formation. If the defect is greater than 3 mm, the progressive cataract formation will probably occur (14).

Furthermore, in cases of IOFB following iron material entrance, Siderosis bulbi should be considered that could occur 18 days to 8 years after ocular injury 9. Consequently, in patients that are managed conservatively, periodic ERG is necessary.

In our case, the ILFB was small and out of the visual axis and the patient was satisfied with his visual acuity. He was middle-aged and had partially good accommodative power. Indeed, there was not accompanying injuries.

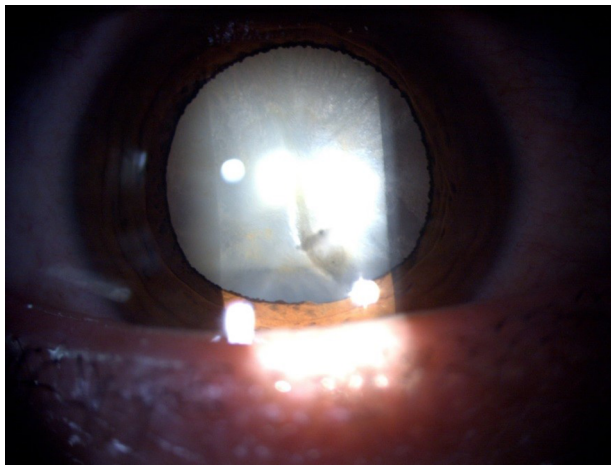

Figure 3. A slit-lamp photograph of the left eye showing a mature cataract at six months after the trauma.

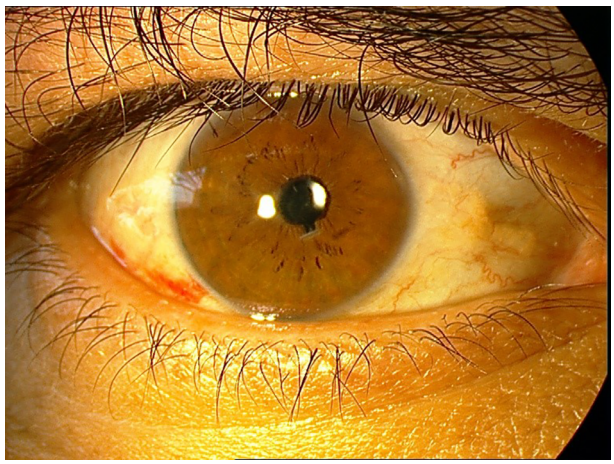

Figure 4. At 30 days postoperatively, slit lamp photography shows a clear cornea and a well-seated PCIOL.

Therefore, we chose the close observation with periodic ERG as his therapeutic plan (Figure 4). During six months of follow-up, he was well but then, in the few days, he got a mature cataract. Therefore, we had to perform the cataract surgery for him.

3.1. Conclusion

Generally, making a decision about the asymptomatic ILFB is difficult and needs to consider different parameters. We can suggest if the patient is young or middle-aged with good visual acuity, the conservative treatment using periodic ERG along with close follow-up is preferable.

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Footnotes

Authors' Contribution: Seyyed Hashem Daryabari and Mohammad Zare Joshaghani made treatment decisions regarding the patient's care and treatment. Esmaeil Shabaninezhad wrote and edited the manuscript. Hamid Reza Torabi and Khosrow Jadidi assisted with the development and preparation of the manuscript.

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