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*Case Report*

# *Cataract in Low-Grade Uveitis Due to Scleral Foreign Body*

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***ABSTRACT***

*We report a case of a 32 year-old male with cataract in the right eye who has a history of explosive industrial accidents 25 years ago. Foreign body reflection was seen into the old conjunctival scar with slit-lamb examination. Metallic foreign body was expolored and surgically removed from the sclera. One month later, the patient underwent an uneventful cataract surgery in the right eye. This case showed a scleral foreign body may result in cataract formation most probably due to low-grade anterior uveitis even in intact globes.*

***Key words:*** *Ocular siderosis, scleral foreign body, cataract, uveitis*

***Skleral Yabancı Cisime Bağlı Hafif Uveitte Katarakt***

***ÖZET***

*Bu çalışmada 25 yıl önce patlayıcı endüstriyel kaza geçirmiş, sağ gözünde katarakt tespit edilen 32 yaşında erkek hasta sunulmaktadır. Biyomikroskobik muayenede eski konjonktiva skar dokusunda yabancı cisim reflesi görüldü. Metalik yabancı cisim bulundu ve cerrahi olarak skleradan çıkarıldı. Bir ay sonra komplikasyonsuz fako cerrahisi ile hastanın kataraktı alındı ve göz içi lens yerleştirildi. Bu olguda intraskleral yabancı cisimin globu delmeden katarakta sebep olabileceği görülmüştür.*

***Anahtar kelimeler:*** *Oküler siderozis, skleral yabancı cisim, katarakt, uveit*

## INTRODUCTION

Ocular metallic foreign body may produce ocular siderosis which can cause iris heterochromia, cataract, uveitis, retinal pigmentary changes and progressive visual loss. Lens siderosis involves iron depositions in the epithelial cells of the anterior capsule, forming many brownish or rusty spots (1,2). Among intra-ocular foreign bodies, those of iron are the most numerous ones seen, as a result of industrial accidents (3). Intraocular foreign body toxicity changes are well known, but there is less knowledge that has embedded into the sclera. Intrascleral foreign bodies can causing focal changes in the choroid and retina due to migration of iron but there is few report related to it (4-6). We report a young man with cataract and uveitis in the right eye who has a history of explosive industrial accidents 25 years ago.

## CASE

A 32-year male patient referred to our clinic with 5-6 months history of right eye pain, photophobia redness, decreased vision. He has a history of explosive industrial accident 25 years earlier with multiple foreign bodies hit his face. At the initial examination, his visual acuity with best-correction of right eye was counting-fingers and left eye was 20/20. Intraocular pressure values

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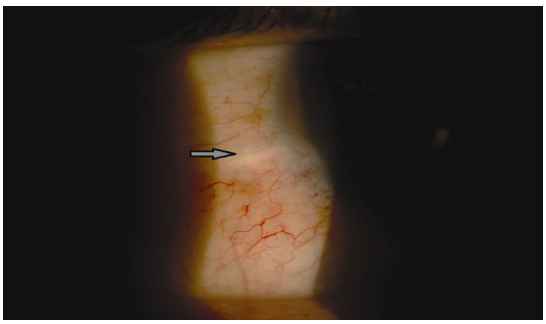

***Figure 1**. Perilimbal scar and foreign body reflection.*

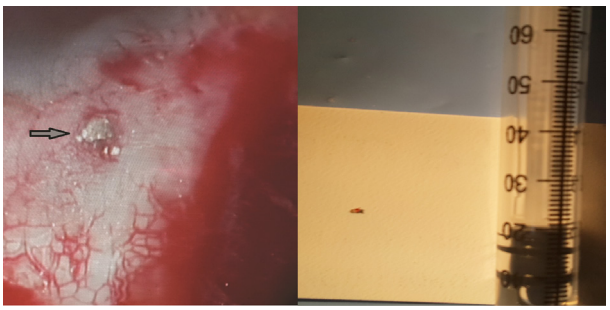

***Figure 3**. Metallic foreign body.*

were 12 and 14 mmHg in right and left eye, respectively. In examination of the right eye there was a horizontal linear conjunctival perilimbal scar and foreign body reflection was seen at 9 o'clock (Figure 1). The involved eye demonstrated low-grade anterior chamber inflammation and keratic precipitates. Posterior subcapsular cataract was present (Figure 2). There were no finding of iris darkening with hyperchromic and orange pigment clumps on the anterior lens capsule suggestive of siderotic cataract clinically.

Orbital computed tomography (CT) didn't show any evidence of high-density foreign bodies in the eyeball or peribulbar regions. B-scan ultrasonography revealed moderately dense mobile vitreous opacities no evidence of foreign bodies was found. Patient was operated for scleral foreign bodies. During the operation, about 1×1×1mm metallic foreign body was expolored and surgically removed from the sclera. (Figure 3).

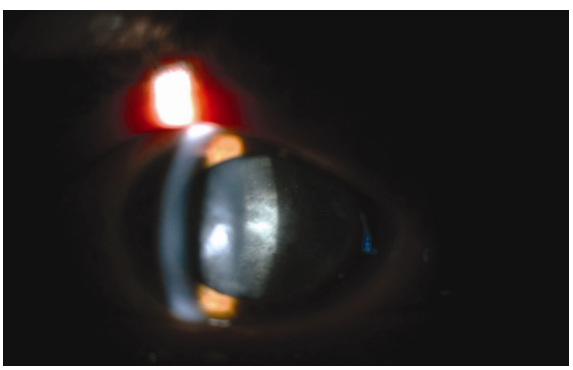

***Figure 2**. Posterior subcapsular cataract.*

One month later, the patient underwent an uneventful cataract surgery in the right eye. Postoperative visual acuity was 80/200. Slit lamp examination showed that little inflammatory reaction was present in the vitreous. Anterior lens capsule was sent for histologic examination, iron was not identified in the lens capsule. Electroretinographic examination (ERG) examination was performed in postoperative period. Standard full-field ERG of both eyes was normal without significant asymmetry.

## DISCUSSION

The iron is a frequent component of metallic intraocular foreign bodies and may lead to ocular siderosis, which commonly presents as reduced visual acuity (7). There is few case reports about siderosis which produced by extraocular foreign body. Sironi reported a case of cataract due to orbital foreign bodies (8). Burch and Albert demonstrated that scleral iron is capable of diffusing through an intact globe and depositing in intraocular tissue in rabbits (6). In addition ocular siderosis was demonstrated with an iron-containing foreign bodies which embedded into the sclera after one year (5). Our case is the second case report which shows that intrascleral foreign body affects intraocular structure.

The development of ocular siderosis is not completely understood. Moreover siderosis may occur with only a small amount of intraocular iron, some patients with intraocular iron show no evidence of siderosis up to 46 years (9). In our case an embedded metallic foreign bodies in the sclera which caused cataract after 25 years. Cataract formation may be an indicator of early sidero-

sis (7). Computed tomography (CT) is the gold standard for the detection and location of an occult foreign body. Small foreign bodies may be missed with CT until signs of ocular siderosis have occurred (5). In our case foreign bodies was undetectable by CT may be due to small size of the foreign body.

ERG responses can detect retinal toxicity of siderosis. The ERG may be normal early in the disease process but diminishes as the disease progresses (2,5). In our case ERG of both eyes was normal. Its probably due to the fact that the foreign bodies influenced the anterior of the eye. The ocular toxicity of metallic foreign bodies depends on size and location (1,2). Because of foreign bodies close to limbus it might less influenced the posterior segment. There would be some irregularity with ERG overtime if foreign bodies was not removed. Postoperatively, visual acuity improved to 80/200. Its probably due to inflammatory reaction within the vitreous. We didn't see siderotic cataract findings. There may have been low permeability through sclera of iron molecules because of the small size of foreign body. We believe that the intrascleral foreign bodies was probably the cause of the patient's recurrent uveitis which resulted with cataract.

In this case iron was not identified in the lens capsule. The reason for this may be lower amount of iron concentrations of foreign bodies or poor transition into the intraocular structure of the iron molecules. In conclusion, this case showed that the importance of close monitoring of patients with history of explosive accidents even with negative imaging findings with CT. Conjunctival lacerations should be explored for foreign bodies patients with explosive trauma. Scleral metallic foreign bodies may develop cataract formation at late stage.

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