

## Prolonged Ocular Foreign Body Found on Repeat Visit to a Second Emergency Department

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# Prolonged Ocular Foreign Body Found on Repeat Visit to a Second Emergency Department

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## History

The patient presented to an eastern Pennsylvania ED as a 28-year-old male with no reported past medical history and a chief complaint of right eye irritation for one week. Per the patient, he began to experience right eye irritation approximately one week prior to evaluation in the ED with no apparent insult to the affected eye. He noted that he was an out of state temp worker from Texas contracted to drive a forklift in a local warehouse but denied any work or non-work-related trauma, environmental, chemical, or allergen exposures since arriving to the area one month prior to complaint. He described the irritation starting as a severe, central pain that caused tearing for the first 3-4 days, then progressed to a constant burning sensation with concurrent conjunctivitis. The patient also denied fever, chills, headaches, visual field deficits, extra-ocular range of motion defects, eye drainage/purulent discharge, nasal drainage, sore throat, oral swelling, ear pain or discharge, changes in hearing, numbness or tingling of the face/neck, or abnormal skin changes. He decided to present to the ED for evaluation due to inability to tolerate the pain any longer and new onset blurry vision in the right eye. He has no history of use of corrective lenses.

## Exam and Diagnostics

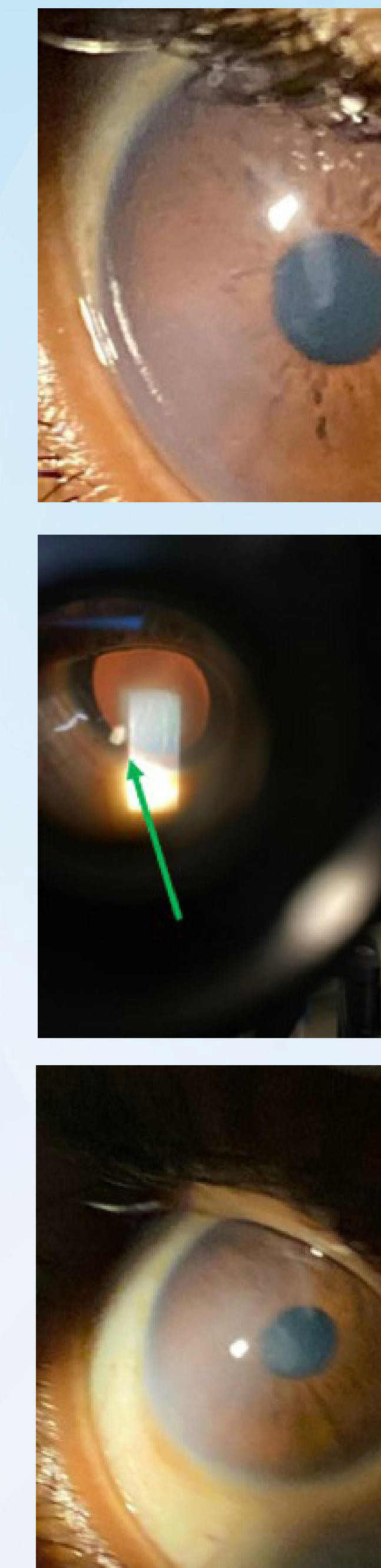
On exam, the patient was afebrile, demonstrated no cranial nerve deficits including CN III/IV/VI, no sensory deficits, negative abnormal surround skin changes, no abnormal erythema/swelling/tenderness in the mouth/ears/nose, and no change in voice or hearing. The patient's right eye demonstrated significant conjunctival injection. His pupils were equal and appropriately reactive to light. His right eye was negative for abnormal/purulent drainage, periorbital tenderness, or proptosis. Visual acuity was found to be 20/20 in the left eye and 20/30 in the right.

The patient was then given 0.5% proparacaine ophthalmic solution and a bedside slit lamp examination was performed. During examination, an abnormal reflection of light was noticed between the 6 and 7 o'clock position of the limbus of the cornea. The anterior chamber of the right appeared hazy, but no distinct cells and flare were appreciated. Abnormal light reflection was noted. Fluorescein stain test was then performed which revealed a negative Seidel's test but positive uptake in the 3 o'clock position. Due to the abnormal reflective findings raising concern for possible uveitis, poor historical correlation to the abrasion findings, and multiple social barriers to close outpatient follow up, ophthalmology was called to the bedside for further evaluation to determine the appropriateness of topical steroids.

## Course

Upon further examination with higher magnification, it was determined by the ophthalmologist the reflective phenomenon was due to an embedded suspected glass fragment measuring approximately 1.7mm x 1.2mm with irregular borders. Along with this, there was evidence of prior scarring, likely the source of the ED notation of anterior chamber haziness. These recurrent symptoms were felt to indicate the glass fragment had recently partially erupted. Upon further discussing these findings with the patient, the patient then remembered that he had been exposed to glass shards approximately 4 months prior to evaluation. He revealed his cousin had been in car accident in which the windshield had shattered and, a few days afterwards, he had been in the car after windshield replacement. He remembered noticing a few fine particles on his hands that day and may have rubbed his eye prior to cleaning them off. He notes, he did have some irritation then, but was told of no foreign bodies in his eye after being evaluated in the ED and a local ophthalmologist in Texas. The irritation then spontaneously resolved without other problems until this recent complaint.

Patient was then prescribed moxifloxacin ophthalmic drops QID, prednisolone drops QID, and atropine 1% drops BID with plans for surgical removal when inflammation was improved. Unfortunately, patient was lost to follow up after multiple attempts were made to contact the patient.



## Diagnosis: Retained Foreign Body of the Corneal Limbus

### Education

This case is an important topic for discussion in emergency medicine due the danger retained foreign bodies can pose to a patient's health and sight as well as demonstrate the importance of a thorough history and physical examination. A high index of suspicion must be maintained for foreign bodies which are translucent. Foreign bodies of the cornea/conjunctiva if left untreated can lead to numerous complications including infection, corneal abrasions/ulcers, reactive iritis, cornea/globe rupture, corneal scarring, and permanent vision changes/loss. It is, therefore, pertinent to quickly identify, remove if possible, and treat with appropriate antibiotic prophylaxis and prompt ophthalmology follow up. In such cases, it is always important to check for globe rupture with a fluorescein stain test under UV illumination. If there is concern for intraocular foreign body, CT imaging of the globe should be pursued for further evaluation in intraocular contents.

In this case, the history, the physical exam using slit lamp examination, and prompt involvement of ophthalmology were key to arriving to the diagnosis. In terms of the history, it is atypical for a simple corneal abrasion to both have no clear inciting event or to present with persistent symptoms for one week. This prompted investigators to examine the eye more closely and utilize the slit lamp for a more detailed exam. Initial examination with a Wood's lamp was unable to appreciate the abnormal findings of the corneal limbus later seen with the aid of the slit lamp. The prompt consultation with ophthalmology then allowed for specialized magnification instrumentation to be brought in for identification of the abnormality and further history taking. Emergency physicians should consider social determinants of health, including the ability to follow up, in high risk ophthalmologic cases.

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