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Case Report

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Late Presentation of Self-Sealed Ruptured Globe from a Rose Thorn

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Abstract

Purpose: *To report a case of delayed presentation of a self-sealed full-thickness corneal laceration following rose thorn penetration.*

Observations: *A 56-year-old Asian American female presented one week after being struck in the left eye by a rose branch. Examination revealed a peripheral, sealed full-thickness corneal laceration with surrounding inflammatory haze and subtle iris chafing. The anterior chamber was formed and Seidel testing was negative. The patient was treated conservatively with topical antibiotic followed by topical corticosteroid, resulting in complete symptomatic and visual recovery. Mild lens changes developed over long-term follow-up.*

Conclusions and Importance: *Self-sealed open globe injuries may present late with minimal symptoms. Careful slit lamp examination and high clinical suspicion are critical after plant-related trauma. Conservative management may be appropriate when the globe is stable and infection is excluded.*

Keywords: *Late presentation of ruptured globe, penetrating injury of eye, eye trauma, rose thorn eye injury*

Introduction

Open globe injuries represent a significant cause of preventable vision loss worldwide. Corneal lacerations from organic material, including plant thorns, carry particular concern for occult penetration and infectious complications [1]. Some full-thickness wounds may self-seal and present in a delayed fashion, making diagnosis challenging.

We report a case of a presumed rose thorn penetrating injury resulting in a self-sealed corneal laceration with iris chafing that was successfully managed conservatively.

Case Report

A 56-year-old Asian American female presented for evaluation of persistent irritation in the left eye one week after being struck by a rose branch while walking outdoors. She reported immediate pain at the time of injury but did not seek medical care. Over the following week she experienced foreign body sensation, redness, and mild irritation, prompting evaluation.

Examination

- **Best-corrected visual acuity:**
  - OD: 20/25
  - OS: 20/50 (pinhole 20/30)
- **IOP (applanation):**
  - OD: 11 mmHg
  - OS: 9 mmHg

Slit lamp examination of the left eye demonstrated (Figure 1):

- Approximately 1-mm peripheral full-thickness corneal laceration
- Extension toward the limbus
- Wound appeared self-sealed
- Mild surrounding stromal haze/infiltrate partially obscuring the underlying iris
- Mild conjunctival injection
- Anterior chamber deep and formed
- No cells or flare
- Seidel test negative

Figure 1: Slit lamp photo showing a faint corneal wound at 1 O'Clock area with faint corneal haze and conjunctival injection.

Dilated fundus examination revealed a normal posterior segment without retinal tear or detachment.

Closer inspection of the left upper eyelid revealed a small healed puncture mark consistent with possible entry of a rose thorn.

Initial Management

Given concern for possible early infectious keratitis versus sterile inflammatory response, topical ofloxacin was initiated. There was no clinical evidence of corneal ulceration at presentation.

One-Week Follow-up

Corneal clarity improved significantly. With reduction of stromal haze, focal iris chafing directly beneath the corneal laceration became visible (Figures 2). The anterior chamber remained quiet.

Because the patient continued to report mild discomfort and redness, topical prednisolone acetate was initiated.

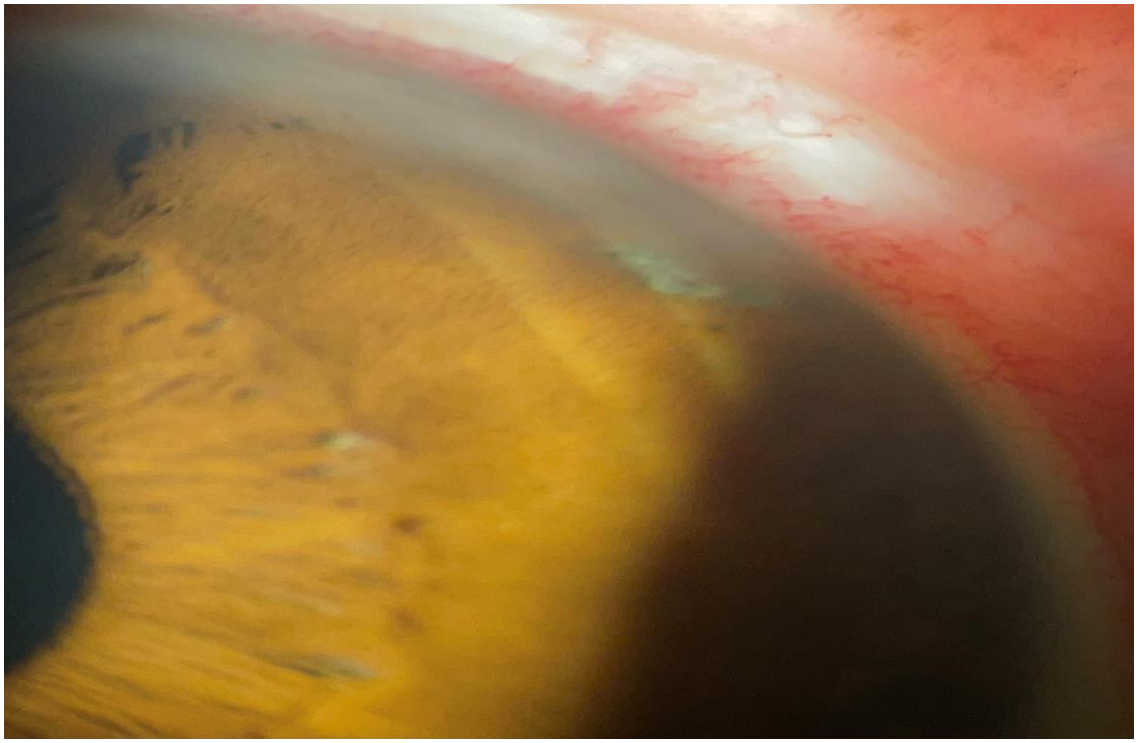

Figure 2: Slit lamp photo showing iris trauma after corneal haze clearing.

Subsequent Course

Over the following week:

- Symptoms resolved completely
- Conjunctival injection cleared
- Cornea remained stable and well-sealed
- Visual acuity returned to baseline

Long-Term Follow-up

Over the subsequent 18 months:

- The patient maintained good vision without sequelae
- Trace cortical sclerosis developed in the left eye
- Trace posterior subcapsular sclerosis developed in the right eye

These lenticular changes were felt most likely age-related but possible contribution from prior trauma to the left eye could not be excluded.

Discussion

This case highlights several important features of occult open globe injuries.

Self-Sealed Corneal Lacerations Can Present Late

Full-thickness corneal lacerations may spontaneously seal due to corneal elasticity, stromal swelling, and endothelial pump function [2]. Such cases may present with relatively preserved vision, formed anterior chamber, and negative Seidel testing, potentially masking the severity of the original injury.

In this patient, the combination of:

- peripheral radial laceration
- iris chafing
- eyelid puncture mark
- history of thorn injury

strongly supports a transient full-thickness penetrating event.

Plant-Related Trauma Requires High Suspicion

Organic matter injuries carry elevated risk of:

- fungal keratitis
- bacterial keratitis
- delayed inflammation

Prior studies emphasize that vegetative trauma should prompt careful monitoring even when initial findings appear mild [3]. Early topical antibiotic coverage in this case was prudent given the mild infiltrative appearance.

Conservative Management May Be Appropriate

Because the wound was:

- Seidel negative
- associated with formed anterior chamber
- without intraocular inflammation
- without endophthalmitis

observation with topical therapy was reasonable. The patient experienced full visual recovery without surgical intervention.

Potential for Traumatic Lens Changes

Blunt or penetrating ocular trauma is a recognized risk factor for later cataract formation, including cortical and posterior subcapsular changes [4]. Although the patient's mild lens findings may be age-related, traumatic contribution to the left eye cannot be excluded.

Clinical Lessons

This case reinforces several practical points:

- Minor-appearing plant injuries can represent occult globe penetration
- Careful slit lamp examination is essential
- Eyelid inspection may reveal the trajectory
- Conservative management can succeed when the globe is stable
- Long-term follow-up is advisable

Conclusions

Delayed presentation of a self-sealed corneal laceration from plant trauma can occur with minimal symptoms and preserved ocular integrity. Maintaining a high index of suspicion and performing meticulous anterior segment examination are essential to avoid missed open globe injuries. When infection and leakage are excluded, conservative management may result in excellent outcomes.

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