

Introduction

- Corneal foreign bodies are the second most common form of ocular trauma
- Management of foreign bodies categorized as (1) Removal
(2) Prevention of Infection
(3) Pain Management
- Delayed removal increases risk of clinical endophthalmitis
- 1991 Gulf War, data from one army field hospital showed 14% of the injuries seen were due to ocular trauma. Of these, 17% were corneal foreign bodies, and only 3% of the injured patients were wearing their provided protective goggles.
- 7-48% of retained intraocular foreign bodies with risk of Endophthalmitis
 - Increased risk for organic material, delayed removal, and posterior segment penetration
- Removal of a retained intraocular foreign body within 24 hours of injury markedly reduces the risk of infectious endophthalmitis developing.

Our Patient

- 59 year old male with no significant medical history presents after direct trauma of steel brush to the eye 1 week prior
- Seen at outside facility where “corneal foreign body was removed.” Discharged without topical or oral antibiotics, only medication was tetracaine
- Progressively worsening vision, foreign body sensation
- Extreme Photophobia, covering eye with gauze and towel
- Constant mucopurulent discharge
- **Presentation:**
 - VA: 20/20, Hand Motion; IOP: 14/37,40, Non-reactive left pupil, + rAPD by reverse
 - Right Eye: Within normal limits, 1+Nuclear Sclerosis, AC deep and Quiet. Dilated Examination within normal limits
 - Diffuse corneal edema, mucopurulent discharge, 4mm Hypopyon
- Intravitreal Ceftazidime and Vancomycin
- Stromal Foreign body, not believed to be penetrating the endothelium at time of examination
 - Removal at slit lamp with 20G to burrow around steel brushhead evacuate manually
- After management, now concern that IOFB penetration to anterior chamber

Results



Figure 1: Image taken at bedside once patient on IV pain medications



Figure 2: CT Scan taken after transfer to the Emergency Room when there was concern for a retained IOFB in the clinic

CT Scan Orbits with contrast:

1. Curvilinear 5-mm metallic foreign body within the anterior chamber and lens of the left eye.
2. Hyperenhancement of the left conjunctiva and left lacrimal gland with surrounding periorbital edema consistent with infection/inflammation

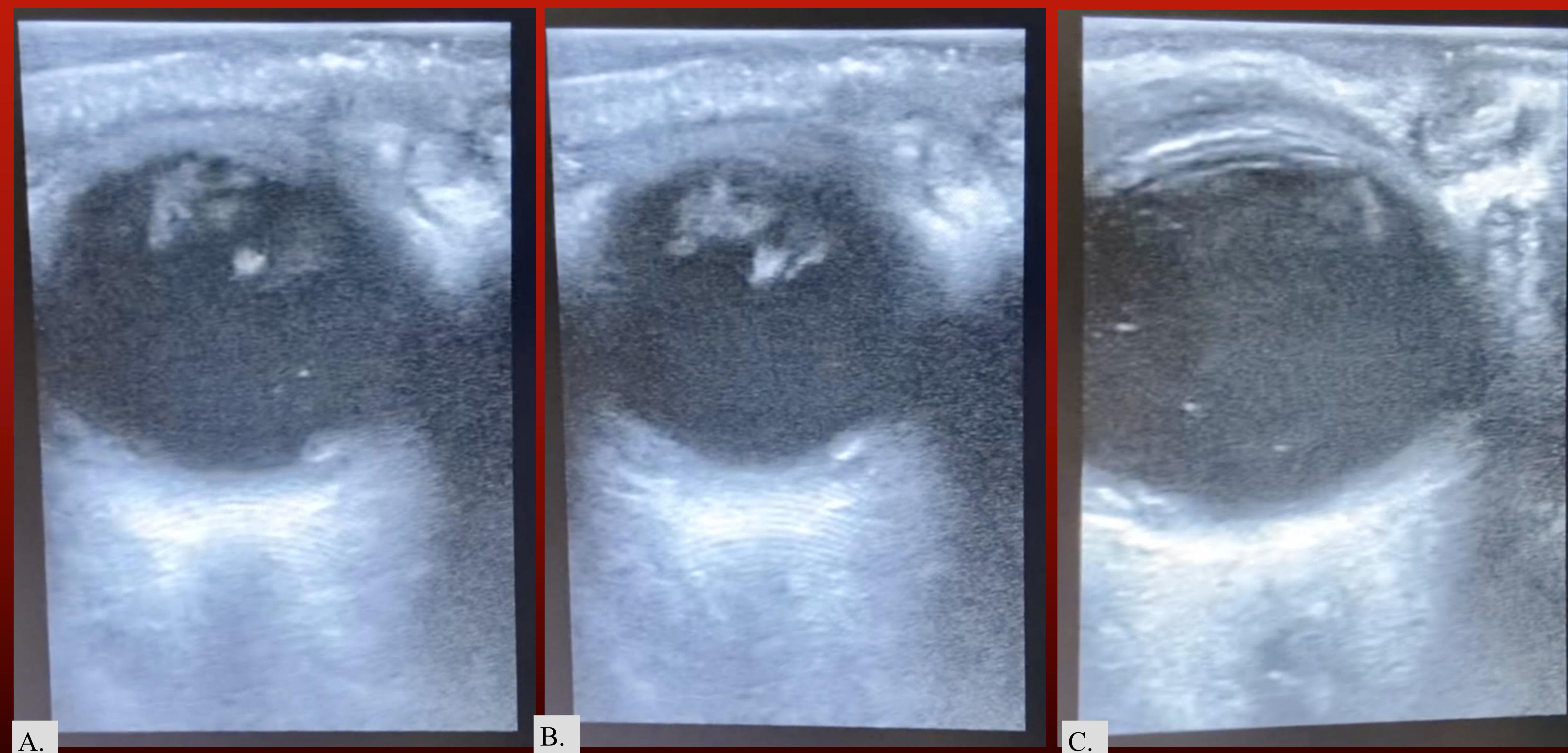


Figure 3: B-Scan Imaging at time of examination [A and B] with signs of vitreitis and presumed endophthalmitis, prior to Vitreous Paracentesis and Intraocular Antibiotics. [C] with continue vitreitis, shadow of steel fiber seen on Ultrasound imaging

Outcomes

- Vitreous Paracentesis Cultures **NEGATIVE** for aerobic, anaerobic, and fungal organisms
- Corneal cultures **POSITIVE** for Proteus Mirabilis
- Multiple subconjunctival injection of gentamycin in the clinic
- Improved endophthalmitis after vitrectomy
- Corneal Ulceration with necrotizing keratitis, requiring penetrating keratoplasty
- Visual acuity continues to be limited, hand motion vision
- Most recent visit: Visual Acuity Hand motion, IOP 17, necrotizing keratitis with clear mucoid discharge. Pain improved.
 - On Trimethoprim/polymyxin and Moxifloxacin alternating every two hours while awake.
 - Prednisolone Forte q4h added to help with corneal inflammation
- Pain greatly improved, visual acuity unresolved
- OTS score of 43
 - Likely visual outcome NLP to HM

Conclusion

- The importance of early removal of intraocular foreign bodies is important in the visual prognosis and clinical management of the patient
- CT-Scans at presentation crucial for ensuring that corneal foreign bodies not retain beyond superficial layer for removal
- Early antibiotic therapy necessary in corneal foreign bodies
- If patient's seen in Emergency Department without Ophthalmologist on call, patient should be evaluated by Ophthalmologist within 24 hours
- Management of expectations

Sources and Acknowledgments

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