
TRAUMA-INDUCED *ACINETOBACTER LWOFFI* ENDOPHTHALMITIS WITH MULTI-ORGANISM RECURRENCE: STRATEGIES WITH INTRAVITREAL TREATMENT

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SUMMARY

Endophthalmitis and its treatment are challenging, controversial subjects. We report here a patient whose recurrent endophthalmitis required several modes of treatment.

CASE REPORT

A 27-year-old white man sustained a corneal laceration and traumatic cataract by an unknown mechanism after a fall on a ship. One day after primary corneal repair and cataract removal, scattered vitreous cells were noted. The patient was given intravenous gentamicin and cefazolin, and topical ciprofloxacin and steroids. By postoperative day 3, the inflammation was deemed stable, and the patient was discharged on oral antibiotics and topical steroids and antibiotics.

Two days later, the patient was referred to the LSU Eye Center. Vitreous cells were again detected, and low-grade endophthalmitis was suspected. A computed tomography (CT) scan of the eye and orbit revealed no radiopaque foreign body. The eye was tapped and injected intravitreally with amikacin (200 µg), clindamycin (200 µg) and dexamethasone (1 mg).

The intravitreal inflammation increased over 4 days, and the patient underwent a pars plana vitrectomy, capsulectomy, reinforcement of corneal sutures, and intravitreal amphotericin B (5 µg) and dexamethasone (1 mg). The infusion fluid contained gentamicin (4 µg/ml) and dexamethasone (64 µg/ml). The patient was discharged on topical natamycin,

tobramycin and dexamethasone, and prednisone acetate. Cultures from the initial intravitreal tap grew *Acinetobacter lwoffii*, a rare cause of endophthalmitis.¹⁻³

The eye reached a visual acuity of 20/25. Over several months, a mild anterior chamber inflammation persisted with a quiet vitreous. The patient had a corneal suture removed and 4 days later began complaining of increased irritation. Vitreous cells (2+) were noted and another vitreous tap and injection were performed. Intravitreal tobramycin (200 µg), imipenem (80 µg) and dexamethasone (500 µg) were administered. The following day, a medically non-responsive pressure rise was treated by a paracentesis. Several hours later there was a hypopyon, and no view of the retina.

A repeat pars plana vitrectomy and intravitreal injection of antibiotics were performed at one-tenth the doses recommended in non-vitrectomised eyes (clindamycin, 50 µg; gentamicin, 50 µg; and dexamethasone, 1 mg). Infusion fluid additives were gentamicin (8 µg/ml) and vancomycin (20 µg/ml) in the first 400 cm³ and clindamycin (9 µg/ml) and gentamicin (8 µg/ml) in the next 200 cm³.

The cultures from the second vitrectomy grew multiple organisms: *Pseudomonas maltophilia*, *Spingobacterium multibovum*, *Streptomyces* sp., an aerobic non-spore-forming Gram-positive rod, and Staph-coagulase negative.

Over the next 3 weeks the eye had a mild, persistent anterior chamber inflammation. The patient complained of unrelenting pain and developed a hypopyon and vitreous cells. The eye was again tapped and injected intravitreally with vancomycin (50 µg), amphotericin B (5 µg) and dexamethasone (1 mg). Cultures were negative. Because of the continuous pain in the superior fornix, an orbital foreign body or abscess was suspected. A B-

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scan and repeat CT scan were both negative for a metallic foreign body but suspicious for an orbital abscess. On orbital exploration, no orbital abscess or foreign body was found.

Family members disclosed a possible explanation of the patient's recurrent infections. He was discovered placing injectable novocaine (given to him by a dentist friend) into his topical antibiotic bottle. He reused the same syringe, rinsing it with tap water between withdrawals from the anaesthetic vial. Probably, he contaminated his eye drops with multiple unusual water-borne organisms⁴ and infected his eye through the corneal suture tracts.

All corneal sutures were removed. The patient returned 1 month later with moderate pain and vitreous cells and was tapped and injected again with intravitreal vancomycin (50 µg), clindamycin (50 µg) and dexamethasone (500 µg). The eye responded well, and the patient's course finally began to improve. Remarkably, his visual acuity with a hard contact lens was 20/25. He was considering refractive surgery for his irregular astigmatism until he developed an epiretinal membrane, decreasing his visual acuity to 20/80, and then elected to have no more surgery.

DISCUSSION

This patient not only had a rare organism, *Acinetobacter lwoffii*,¹⁻³ isolated from the initial infection, but

also had multiple recurrences of endophthalmitis, probably from self-contamination as a result of using non-sterile antibiotic drops.

This case illustrates the need for research on the causes of multiple recurrences of endophthalmitis.

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Key words: *Acinetobacter lwoffii*, Endophthalmitis, Recurrent infection, Trauma.

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