Clinical Ophthalmology

Vancomycin-resistant *Staphylococcus hominis* endophthalmitis following cataract surgery

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**Abstract:** We report a case of acute postoperative endophthalmitis caused by vancomycin-resistant *Staphylococcus hominis*, treated at our hospital. An 80-year-old male presented 2 days after uncomplicated phacoemulsification and posterior chamber intraocular lens implantation, with a 24-hour history of progressive visual loss and redness in the operated (right) eye. On examination, best corrected visual acuity was counting fingers. Anterior segment examination revealed conjunctival injection, chemosis, corneal edema, and hypopyon. B-scan ultrasonography showed vitreous opacification, but no retinal detachment. Acute postoperative endophthalmitis was diagnosed. We performed vitrectomy with vancomycin in the irrigating solution, intraocular lens removal, and silicone oil tamponade. Culture of the vitreous grew *Staphylococcus hominis*. Antibiotic susceptibility testing showed the isolate was sensitive to trimethoprim/sulfamethoxazole and teicoplanin but resistant to ciprofloxacin, moxifloxacin, levofloxacin, cefazolin, and vancomycin. At 3 months, the visual acuity of the silicone oil-treated eye was 20/400.

**Keywords:** endophthalmitis, *Staphylococcus hominis*, vancomycin

**Introduction**

The incidence of infectious endophthalmitis after cataract surgery has been estimated to range from 0.07% to 0.13%. To our knowledge, there are no reports of vancomycin resistance to *Staphylococcus hominis* following endophthalmitis. We report a case of acute postoperative endophthalmitis caused by vancomycin-resistant *S. hominis* treated at our hospital.

**Case report**

An 80-year-old male presented 2 days after an uncomplicated phacoemulsification and implantation of a posterior chamber intraocular lens (IOL) (C-flex®; Rayner, Hove, UK), with a 24-hour history of progressive visual loss and redness in the operated (right) eye. Preoperative best-corrected visual acuity (BCVA) was 20/200 in the right eye. Past medical history was significant for hypertension, atrial fibrillation, and prostate cancer. On examination, the BCVA was counting fingers. Anterior segment examination revealed conjunctival injection, chemosis, corneal edema, and hypopyon (2 mm size). B-scan ultrasonography showed vitreous opacification but no retinal detachment (Figure 1). Acute postoperative endophthalmitis was diagnosed.

A vitreous biopsy was performed immediately, with an intravitreal injection of vancomycin 1.0 mg/0.1 mL and ceftazidime 2.25 mg/0.1 mL. Approximately 3 hours after the vitreous biopsy and intravitreal injection of antibiotics, an operating room
became available, and we performed 23-gauge pars plana vitrectomy (PPV), using vancomycin in the irrigating solution, and IOL removal with the capsular bag. During the vitrectomy, we saw severe vitreous opacification and a thick exudative membrane that covered the entire retina. After delicate vitrectomy-like shaving, we could see the disc and major vessel arcade faintly. The vitreous humor obtained during the vitrectomy and IOL were sent to the laboratory for smear and culture test. Finally, we finished surgery after fluid-air exchange and silicone oil tamponade.

Culture of the vitreous grew *S. hominis*. Antibiotic susceptibility testing (microbroth dilution MIC test) showed that the isolate was sensitive to trimethoprim/sulfamethoxazole (MIC sensitive [S] \( \leq \frac{2}{38} \)) and teicoplanin (S ≤4) but resistant to ciprofloxacin (MIC resistant [R] >2), moxifloxacin (R >4), levofloxacin (R >4), cefazolin (R >8), and vancomycin (R = 8–16). Postoperatively, the patient was treated with 2% teicoplanin eye drops, topical fortified vancomycin, and prednisolone acetate eye drops.

At 3 months, the visual acuity of the silicone oil-treated eye was 20/400. Although rare, we report that acute-onset, postoperative *S. hominis* endophthalmitis can occur in immunologically compromised host patients.

At 3 months, the visual acuity of the silicone oil-treated eye was 20/400. Although rare, we report that acute-onset, postoperative *S. hominis* endophthalmitis can occur in an immunocompetent patient.

**Conclusion**

We present a case of acute-onset, postoperative vancomycin-resistant *S. hominis* endophthalmitis managed with intravitreal antibiotics injection, PPV, IOL removal and silicone oil tamponade.

**Disclosure**

The authors report no conflicts of interest in this work.

**References**

