Suture-related endophthalmitis due to *Morganella morganii*

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Acute endophthalmitis developed 4 months after uneventful cataract surgery. Intraocular bacterial inoculation was thought to be due to a suture abscess. The enteric bacillus *Morganella morganii* was isolated by culture. The infection was successfully treated with suture removal and intravitreal and topical antibiotic therapy. This case confirms a rare risk of suture placement in cataract surgery and an effective approach to management.

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Because bacteria may gain access inside the eye during cataract surgery or immediately thereafter, endophthalmitis typically presents within several days of surgery. After the wound heals, late-onset infections are rare. Suture abscess occurs infrequently after cataract surgery but has been reported to cause endophthalmitis. We report a case of late-onset suture-related endophthalmitis due to *Morganella morganii*. This enteric bacillus is considered an especially virulent pathogen in the eye, but the infection was successfully treated in our patient with suture removal and early aggressive antibiotic administration.

**CASE REPORT**

A 66-year-old healthy woman had uneventful cataract surgery in the left eye by phacoemulsification using a temporal approach with a single 10-0 nylon suture placed for closure of a 2.8 mm corneal limbal wound. The postoperative course was uneventful, and at the 1-month examination, the corrected distance visual acuity (CDVA) was 20/25.

Four months after surgery, the patient awoke at night with sudden onset of pain and reduced vision in the left eye. Examination of the eye later that morning revealed a CDVA of 20/30, diffuse conjunctival injection, and a small abscess at the corneal side of the suture (Figure 1, A). Dense cellular reaction with hypopyon was present in the anterior chamber and 2+ white blood cells in the vitreous chamber. A small yellow-white fluffy perifoveal retinal infiltrate was present (Figure 1, B), localized to the outer retina by optical coherence tomography (Figure 1, C).

Acute endophthalmitis was diagnosed. The suture was removed and along with an anterior chamber aspirate, sent for culture. Intravitreal injections of vancomycin (1.0 mg/0.1 cc) and ceftazidime (2.25 mg/0.1 cc) were given and hourly applications of moxifloxacin 0.5% (Vigamox) and prednisolone 1.0% eyedrops started.

Cultures grew *M morganii*. Within 2 days, the pain, corneal abscess, and intraocular inflammation were improved but the macular lesion persisted. Three days after diagnosis, a second intravitreal injection of ceftazidime (2.25 mg) was given. Topical antibiotic and steroid drops were gradually tapered. Two weeks after presentation, the anterior and vitreous chambers were quiet and the macular lesion was barely evident. Two months later, the CDVA was again 20/25 and anterior and posterior segment examinations were unremarkable.

**DISCUSSION**

Our case is of interest for 3 reasons. First, *M morganii*, a gram-negative enteric bacillus, is infrequently associated with ocular infections and has been rarely reported to cause endophthalmitis.

Visual outcomes were typically poor in previously reported *Morganella* endophthalmitis. Successful management of our patient may be due to suture removal and onset of antibiotic therapy within hours of symptom onset.

Second, this case highlights a complex relationship between suture placement and postoperative endophthalmitis in cataract surgery. Suture placement after cataract surgery may reduce the incidence of wound-related complications, including infection. However, subsequent suture removal is itself a rare cause of
endophthalmitis, whereas suture retention may result in corneal abscess and provide a route for bacterial entry into the eye. A recent report describes 6 cases of delayed-onset endophthalmitis arising from a culture-positive corneal suture; unlike in our case, the patients were using topical steroid eyedrops and had suture manipulation in the setting of an active corneal infection prior to the onset of endophthalmitis. The optimal protocol for suture placement and removal after phacoemulsification remains uncertain and will vary with the size and method of wound construction. The present case suggests that even without suture removal and topical steroid use, the risk for developing endophthalmitis persists indefinitely.

Finally, our case shows that a suture-related infection must be considered in the differential diagnosis of late-onset postoperative endophthalmitis.

In summary, we present a successfully managed case of late-onset endophthalmitis due to an unusual pathogen that likely gained intraocular access via a suture-related abscess.

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Figure 1. A: External view at presentation showing a temporal suture abscess and hypopyon. B: Hazy view (due to anterior chamber and vitreous infiltrate) of a perifoveal fundus lesion. C: Outer retinal location of lesion by optical coherence tomography.