

Bilateral Acanthamoeba Keratitis: A Case Report Exemplifying Minimizing Visual Morbidity

Submission No:

666

Submission Type:

Case Report Abstract

Author:

Dr Scott Hauswirth, OD

University of Colorado Anschutz Medical Campus

Reviewer:

Dr. Luanne Chubb

Optometry

Submitter:

Dr Scott Hauswirth, OD

University of Colorado Anschutz Medical Campus

Background:

Acanthamoeba keratitis is a rare but potentially visually devastating condition that has a high predilection for contact lens wearers. Typically it presents as a unilateral condition, but rarely may present as a bilateral condition. Early diagnosis is a critical step to preventing visual morbidity, although it does not guarantee such. We present a case of a young patient who developed bilateral keratitis following storage of her contacts in tap water. She presented to our office 11 days following onset of symptoms. Clinical presentation was consistent with early Acanthamoeba infection, and confocal microscopy confirmed diagnosis the day of presentation. She was placed on topical compounded chlorhexidine drops 0.02% q1h OU as well as Neomycin QID OU. Subsequent visits showed initial worsening of symptoms, visual acuity, and clinical signs in both eyes, followed by gradual improvement in all metrics and by 12 weeks best corrected vision had returned to 20/20 in both eyes. In this case, early diagnosis and appropriate intervention led to an excellent outcome.

Case Summary:

A 20 year-old Caucasian female was referred to our clinic for evaluation and treatment of suspected bilateral Acanthamoeba keratitis. The patient noted bilateral discomfort and irritation following storage of her soft contact lenses in tap water which quickly progressed to increasing pain and photophobia in both eyes. She presented to our office 11 days following onset of symptoms. Initial clinical presentation revealed a young woman with extreme photophobia and bilateral ocular

pain. Entering visual acuity was 20/40 OD and 20/30 OS. Corneal signs showed irregular epithelium in both eyes with no frank epithelial defect. Perineural infiltrate was noted just superior to the irregular epithelium in the right eye. Confocal microscopy confirmed diagnosis, showing multiple cystic structures consistent with Acanthamoeba in both eyes. She was placed on topical compounded chlorhexidine drops 0.02% and neosporin QID OU. Additional medications were prescribed to assist in pain management.

Subsequent visits showed initial worsening in both eyes for the first three weeks, accompanied by worsening vision to 20/200 in the right eye and 20/70 in the left eye and enlargement of the region of the cornea affected by keratitis. At week 6 she began to note improvement in the right eye and the left eye followed two weeks later. Over the subsequent weeks there was continued gradual improvement of vision, keratitis, and pain in both eyes.

At 12 weeks, the patient was pain free, the cornea was absent of any significant scarring or haze, and BCVA was 20/20 OD and OS.

Conclusions:

In this case the primary variable which contributed to the successful treatment of an otherwise difficult ocular pathology was the short period of time between onset of symptoms and initiation of appropriate treatment. As described by Maycock and Jayaswal in 2016 as well as multiple other studies, significant delay often occurs in cases of suspected acanthamoeba keratitis, and contributes to increased visual morbidity and poorer outcomes, while early diagnosis and treatment can contribute to improved outcomes. Awareness of risk factors which are associated with acanthamoeba infection as well as recognition of clinical presentation in the early stages of infection is often helpful in directing management strategies. In this case, overnight storage of contact lenses in tap water was the primary risk factor and likely route of contamination; over 95% of acanthamoeba infections occur in contact lens wearers (Stapleton, OVS 2009). Clinical signs which assisted in early diagnosis were superficial keratitis presenting as irregular epithelium, which is a common feature in early stage infection as well as perineural infiltrate, which is a recognized feature of early acanthamoeba infection.

Additionally, while corneal culture is often less productive, we employed in vivo confocal microscopy which allows visualization of the organism in situ, often shortening the additional lag cultures may create. We have described the use of confocal microscopy in a previous poster (Hauswirth, AAO 2019) and feel it is an exceptional clinical diagnostic tool for these cases.

Case Report Abstract:

Ocular Disease

Submitted By

Name:

Dr Scott Hauswirth, OD

Institution:

University of Colorado Anschutz Medical Campus

Position/Title:

Assistant Professor

Address1:

1675 Aurora Court, Mail Stop F731

City:

Aurora

State/Province:

CO

Postal Code:

80045