not emphasized in previously reported cases: (1) early diagnosis; (2) successful combination of topical, oral, and intraocular therapy with drugs that can reach therapeutic levels in aqueous and vitreous and are effective in vivo for other Acanthamoeba infections; and (3) guiding treatment by effective monitoring of the response by Acanthamoeba.

We think oral and topical administration of voriconazole must have achieved a sustained therapeutic dose and frequent administration of intraocular voriconazole produced high peak levels, increasing effectiveness. Topical chlorhexidine was used before the PK but the keratitis worsened, raising the question of its effectiveness in our patient. It is unknown whether topical chlorhexidine can reach aqueous therapeutic levels; however, rabbit studies have shown that frequent instillation of chlorhexidine, 0.02%, in epithelialized corneas produces concentrations 10 to 40 times lower than voriconazole but, in our experience, a similar 90% inhibitory concentration. Moreover, in the other described cases, topical antiseptics such as chlorhexidine used after PK did not prevent endophthalmitis. Therefore, we believe chlorhexidine did not play a major role in our case. The susceptibility of Acanthamoeba to trimethoprim/sulfamethoxazole, also used in our patient, is based on a few reports; we have not tested the susceptibility of the patient’s strain and cannot be sure of its real contribution.

Figure 2. Evolution of total and viable Acanthamoeba concentrations in an aliquot of anterior chamber during follow-up until resolution.

**Figure 2.** Evolution of total and viable Acanthamoeba concentrations in an aliquot of anterior chamber during follow-up until resolution.

**Author Affiliations:**

Francisco Arnalich-Montiel, MD, PhD
Carmen M. Martin-Navarro, PhD
Jorge L. Alió II, MD
Rogelio López-Vélez, MD, PhD
Enrique Martínez-Carretero, PhD
Basilio Valladares, PhD
José E. Piñero, PhD
Jacob Lorenzo-Morales, PhD

**Correspondence:** Dr Arnalich-Montiel, Servicio de Oftalmología, Hospital Ramón y Cajal de Madrid, Carretera de Colmenar Viejo km 9.100, 28034 Madrid, Spain (farnalich@gmail.com).

**Conflict of Interest Disclosures:** None reported.

**Funding/Support:** This work was supported in part by project RICET (project RD06/0021/0005 of the Programme of Redes Temáticas de Investigación Cooperativa, Fondo de Investigación Sanitaria), Spanish Ministry of Health, and the project “Protozoosis emergentes por amebas de vida libre: aislamiento y caracterización molecular, identificación de cepas transportadas de otros agentes patógenos y búsqueda de quimioterapias” PO10/01298, Spanish Ministry of Science and Innovation. This work was also supported by grants to Dr Arnalich-Montiel from DGATX, Ministerio de Sanidad y Consumo (Proyecto TRA-036), and Fundación Mutua Madrileña. Dr Lorenzo-Morales was supported by the Ramón y Cajal subprogram RYC-2011-00863 of the Spanish Ministry of Science and Innovation.


**Topical Linezolid for Refractory Bilateral Mycobacterium chelonae Post-Laser-Assisted In Situ Keratomileusis Keratitis**

Keratitis after laser-assisted in situ keratomileusis (LASIK) caused by Mycobacterium has been widely reported. Different regimens of antibiotic treatments have been published, but fourth-generation fluoroquinolones are the most effective drugs. However, management may be difficult owing to the delay in diagnosis, the long-term antibiotic treatment required in most cases, and the presence of multidrug-resistant pathogens. Systemic infection by multidrug-resistant Mycobacterium has been successfully treated with linezolid ( Zyvoxid), an oxazolidinone antibiotic. We report a case of bilateral post-LASIK keratitis due to Mycobacterium chelonae resistant to fourth-
generation fluoroquinolones that was successfully treated with topical linezolid. After an automated search in PubMed, this appears to be the first case of Mycobacterium keratitis treated with topical linezolid.

Report of a Case. A 33-year-old man had mild photophobia and redness in his right eye with blurred vision 1 month after an uneventful bilateral LASIK procedure using the same blade for both eyes. Slitlamp examination revealed mild ciliary injection and a white corneal infiltrate in the interface 1.5 mm from the flap edge, with no overlying epithelial defect. With suspicion of bacterial keratitis, topical treatment with ciprofloxacin hydrochloride (Oftacilox) and tobramycin (Tobrex) was initiated. After the first week, the inflammation was reduced but the infiltrate increased in size; thus, lifting and scraping were performed and samples were obtained from the stromal bed of the ulcer. The microbiological study revealed multiple acid-fast bacilli; therefore, treatment was initiated with amikacin, 0.1%, clarithromycin, 1%, vancomycin hydrochloride, 1%, moxifloxacin, 0.3% (Vigamox), and oral clarithromycin. The intensive treatment failed to control the infection and the infiltrate coalesced, with new satellite lesions appearing. The final result of the culture showed M. chelonae resistant to amikacin and clarithromycin; thus, topical linezolid (2 mg/mL) was initiated (6 times daily). Both the infiltrate and the inflammation improved dramatically after the first week of treatment. Control of the infection was achieved after 2 months. The final examination showed a subtle leukoma, larger in the left eye. The final result of the culture showed M. chelonae resistant to amikacin and clarithromycin; thus, topical linezolid (2 mg/mL) was initiated (6 times daily). Both the infiltrate and the inflammation improved dramatically after the first week of treatment. Control of the infection was achieved after 2 months. The final examination showed a subtle leukoma, larger in the left eye.

Comment. Infection following LASIK procedures is uncommon, with a reported incidence of 1 in 5000 to 10 000 surgical procedures. It usually appears as a prominent conjunctival inflammation and a dominant corneal lesion involving the flap limits. In contrast, infection with atypical Mycobacterium species may be indolent with mild inflammation, therefore delaying the diagnosis. Several cases of mycobacterial keratitis following LASIK have been reported in the literature. The most frequently involved pathogen is M. chelonae (66%). To our knowledge, only 3 cases of bilateral keratitis due to M. chelonae have been published, and all cases responded to classic treatment with fourth-generation fluoroquinolones amikacin and vancomycin.

To our knowledge, this is the first case of multidrug-resistant bilateral M. chelonae keratitis after LASIK that was successfully treated with topical linezolid. This drug may be an effective alternative in treating post-LASIK keratitis, which is a dreaded complication with difficult diagnosis and management.

Rosa Dolz-Marco, MD
Patricia Udaondo, MD
Roberto Gallego-Piñazo, PhD, DISSO
J. Maria Millán, PhD
Manuel Díaz-Llopis, PhD

Author Affiliations: Departments of Ophthalmology (Drs Dolz-Marco, Udaondo, Gallego-Piñazo, and Díaz-Llopis) and Genetics (Dr Millán), University and Polytechnic Hospital La Fe, Valencia, Spain. Correspondence: Dr Dolz-Marco, Department of Ophthalmology, University and Polytechnic Hospital La Fe, Bulevar Sur s/n, Valencia 46026, Spain (rosadolzmarco@gmail.com).

Conflict of Interest Disclosures: None reported.


Cystic Epithelial Ingrowth in a Case of Deep Anterior Lamellar Keratoplasty

In deep anterior lamellar keratoplasty (DALK), complications related to barirng of the Descemet membrane such as incomplete exposure or perforations are well known. Epithelial ingrowth, on the other hand, is rare following anterior lamellar keratoplasty and usually occurs as a sheet of cells across the interface. Herein, we report the first case, to our knowledge, of a cystic pattern of epithelial downgrowth in a case of DALK and its subsequent management.

Videos available online at www.archophthalmol.com

Report of a Case. A 29-year-old man had a translucent, cystic growth in the anterior chamber (approximately 6 × 8 mm) of the right eye extending from the...