Fusarium Keratitis Cases Spur Call for Vigilance

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Contributing Writer

The recent outbreak of fusarium keratitis that spread to 33 states carried "a high degree of morbidity," with corneal transplantation required or planned for 55 of the 164 affected patients identified, reported Dr. Douglas C. Chang of the Centers for Disease Control and Prevention, Atlanta, and his associates.

The outbreak was linked to ReNu contact lens solution with MoistureLoc. The mechanism of infection remains uncertain, but researchers think that contamination of the contact lens solution occurred well after manufacturing and distribution, probably in the patients' homes.

"This outbreak may have been caused by a complex and as yet undetermined interaction between MoistureLoc, fusarium, and possibly the lens case or contact lens," they said.

"Clinicians should be vigilant in diagnosing and treating fungal keratitis, and users of MoistureLoc should discontinue the use of this product," the CDC investigators said (JAMA 2006;296:953-63).

In an editorial, Dr. Todd P. Margolis and Dr. John P. Whitcher of the University of California, San Francisco, said filamentous fungal keratitis is "notoriously difficult to treat," and fusarium keratitis is "truly a therapeutic challenge. Many patients require adjuvant surgery ranging from recurrent corneal debridement to corneal transplantation, but the visual outcome is often dismal."

Early treatment appears to improve the likelihood of resolving the infection. Clinicians should be alert for general signs and symptoms of keratitis, including redness, tearing, pain, light sensitivity, discharge, decreased vision, and a white corneal infiltrate, they noted (JAMA 2006;296:985-7).

Specific signs of fungal keratitis—such as a corneal stromal infiltrate with "feathery edges," satellite lesions, a ring infiltrate, a posterior endothelial plaque, or a waxing and waning hypopyon—have been absent in some of the recent cases. "A high index of suspicion and appropriate diagnostic studies, including cytological staining and microbiological cultures of material from the involved site" are key, they said.

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Just as important is avoiding the use of topical ophthalmic corticosteroids before commencing antifungal therapy.

Dr. Chang and his associates noted that Bausch & Lomb Inc., manufacturer of MoistureLoc contact lens solution, permanently withdrew the product from the market in May after reviewing preliminary CDC data on the outbreak, which began in June 2005 and peaked in April 2006. The CDC began investigating the outbreak in March 2006, after a New Jersey ophthalmologist reported treating three patients who had contact-lens–associated fusarium keratitis during the preceding 2 months.

Fungal keratitis is rare, and fusarium keratitis comprises less than 5% of microbial infections in contact lens wearers. The filamental fungus is commonly found in soil, plants, and water sources in tropical or subtropical regions. In 2004, 10 U.S. labs reported positive fusarium cultures from ocular specimens in only 12 cases.

As of June 30, the CDC had received 318 reports of fusarium keratitis in 2006. Of those, 164 cases had been confirmed and 32 had been categorized as possible. Most patients were adults, but 16 (10%) were children or adolescents. Of the 164 confirmed cases, 37 infections (23%) had resolved with topical or systemic antifungal therapy, 65 (40%) had not yet resolved and are still being treated with antifungals, and 55 (34%) required or were awaiting corneal transplant because of active disease, residual scarring, or both.

In the month preceding infection, 69% of the keratitis patients reported using MoistureLoc contact lens solution, compared with 15% of control subjects. At least 10 fusarium species were cultured from patient specimens and from samples from opened lens cases or bottles of solution, but no contamination was detected in unopened bottles of solution or in any of hundreds of samples taken at the manufacturing plant and distribution warehouse. ■

Pages 50a—50d