The following case documents a culture-proved fungal keratitis secondary to injury which healed without specific antifungal therapy only to recur as a posterior corneal abscess eight months later. A diagnostic and therapeutic keratoplasty at that time documented the same organism, *Acremonium potronii* (Vuillemin),¹ that was cultured from the cornea eight months previously.

**Case Report**

A 15-year-old boy sustained a corneal laceration of the right eye while pulling apart a wooden box in his yard. He was initially treated on Oct. 1, 1972, with corticosteroid-antibiotic drops and atropine sulfate, which was discontinued Nov. 15. He was referred to the resident service of the Bascom Palmer Eye Institute on Dec. 16, approximately two months after the original trauma. Ocular examination revealed a visual acuity of 20/80 on the right, improved with a pinhole to 20/40. The left eye was normal. The conjunctiva was moderately hyperemic, and the cornea had a partially healed, necrotic, and edematous perforation with adherent iris and a shallow, quiet anterior chamber. There were no lens changes and the posterior pole was unremarkable. X-ray films to detect foreign bodies were normal.

He was admitted to the hospital, started on a regimen of topical gentamicin, 3 mg/ml, and taken to surgery where the corneal wound edges were scraped and cultured, the wound sutured with 10-0 nylon, and the iris adhesions lysed. A water-tight closure could not be obtained, and therefore the wound was sealed with isobutyl cyanoacrylate tissue glue. The culture on Sabouraud's agar was positive for an *Acremonium* species.

Healing was uneventful. He received topical atropine sulfate 1% and bacitracin-polymyxin-neomycin, and received no antifungal agents. Six weeks after surgery the visual acuity was 20/100. The sutures and glue (Fig. 1) were removed on Feb. 20, 1973, eight weeks after surgery, and the vision was then 20/60. He had a small, well-healed scar, clear anterior chamber and lens, and a few keratic precipitates or pigment on the posterior cornea underlying the scar. On March 15, visual acuity was 20/50.

He returned on Aug. 7, 1973, with a three-day history of getting sand in his eyes at the beach, moderate photophobia, and redness in the right eye. Vision was 20/40, corrected with a pinhole to 20/30. He had moderate conjunctival hyperemia and a discrete dense white plaque or abscess involving the deep stroma and posterior surface of the cornea in the area of the previous scar. Active, interstitial vessels entered the abscess from below (Fig. 2). There was no corneal stain or ulcer. He was placed on topical gentamicin, 3 mg/ml hourly, and pimaricin 5% suspension, hourly. He was seen by another physician who discontinued the above medications and placed him on systemic tetracycline and antihistamines for five days. The patient was restarted on gentamicin and pimaricin on Aug. 28. Because the keratitis and anterior chamber reaction were worsening after 30 days of pimaricin treatment (Fig. 3), a 5-mm diagnostic and therapeutic penetrating keratoplasty was performed on Sept. 10. The posterior portions of the abscess were adherent to fibrin. The cornea was halved and cultured on Sabouraud's and blood agar maintained at 26°C, and remaining fragments stained histopathologically with hematoxylin and eosin, PAS, and Gomori's methenamine silver technique.
In four days the cultures were positive for *A. potronii*, the same organism cultured eight months previously from the original corneal wound (Fig. 4). Histopathologic interpretation was equivocal, but some degenerated hyphal forms could be seen by Gomori's methenamine silver stain.

The patient was treated with cycloplegics and bacitracin-polymyxin-neomycin topically, and after five days was placed on 1% prednisolone acetate topically. He healed uneventfully with moderate edema of the graft and inferior synechiae. On April 2, 1974, six months after surgery, there was no evidence of recurrent infection and the visual acuity was 20/80 over the top of the graft.

**DISCUSSION**

We are not aware of a case of keratitis with a culture-proved fungal isolate apparently healing without antifungal treatment, and then recurring months later with the same fungus reisolated from the cornea. This case is distinctive in being the first reported central corneal ulcer due to *A. potronii*, and secondly in the recurrence eight months after apparent uneventful
healing with the same fungus cultured in both instances. The original specimen had been maintained in our lyophilized stock collection and was subsequently compared with the isolate obtained at the time of keratoplasty.

In 1958 Veirs and Davis2 reported a posterior corneal abscess after a thorn injury which demonstrated septate mycelia but negative cultures. Kinnas3 reported a punctate keratitis secondary to *A. potronii* which healed within six or seven days.

Presumably the failure to respond to pimaricin after 30 days of treatment can be attributed in part to poor penetration of this medication. Whether use of antifungal agents at the time of original culture would have prevented this is speculative.

**Summary**

In a 15-year-old boy a culture-proved keratitis after a corneal perforation healed without antifungal agents after corneal suturing and application of tissue glue. Eight months later a posterior corneal abscess developed. Diagnostic and therapeutic penetrating keratoplasty was performed when the lesion failed to respond to pimaricin. Cultures were positive for *Acremonium potronii*, the same fungus isolated from the original corneal laceration eight months previously. To our acknowledge, this is the first case report of a central corneal ulcer or abscess due to this specific organism.

**Acknowledgments**

We thank Mary G. Wirta for technical assistance, and Fred Gonzalez, Joe Goren, and Arthur Smialowski for photography.

**References**