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CASE REPORT

Polymicrobial Keratomycosis in a Three-Year-Old Child

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ABSTRACT *Purpose*: To describe a previously unreported case of polymicrobial mycotic keratitis caused by an association between *Candida lusitaniae*, *C. parapsilosis*, and *Geotrichum candidum*. *Methods*: A three-year-old child with an antecedent trauma with vegetable matter and a prolonged use of corticosteroid eyedrops developed fungal keratitis. *Results*: The isolates of the corneal scraping using Sabaraud dextrose agar grew *C. lusitaniae*, *C. parapsilosis*, and *G. candidum*. After topical 0.2% and systemic fluconazole treatment, the corneal lesion resolved with no recurrence. *Conclusions*: Corneal trauma with vegetables and the indiscriminate use of corticosteroids are important risk factors for mycotic keratitis. A combination of topical 0.2% and systemic fluconazole therapy was effective in the treatment of this mycotic association. This is the first report of fungal keratitis caused by *C. lusitaniae* and *G. candidum*.

KEYWORDS Keratitis; polymicrobial keratomycosis; child; *Candida lusitaniae*; *Candida parapsilosis*; *Geotrichum candidum*

INTRODUCTION

Microbial keratitis in children is a rare, but potentially devastating condition. Risk factors for infectious corneal ulcers include trauma, systemic illness, contact lenses, prolonged topical corticosteroid, and concomitant corneal pathology.[1] Although increasingly reported, mycotic infection of the cornea accounts for only 10–18% of cases.[1] Polymicrobial keratitis is exceptional and generally reported in immunocompromised patients or after surgery.[2] *Candida parapsilosis* has rarely been reported as an etiological agent of keratitis. Based on a review of the recent literature, this is the first report of polymicrobial mycotic keratitis caused by an association between *C. parapsilosis*, *C. lusitaniae*, and *Geotrichum candidum*.

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CASE REPORT

A three-year-old healthy child was examined for a three-week history of left eye irritation. Previous ocular trauma with vegetable matter and subsequent therapy with a dexamethasone-tobramycin eyedrops association were noted. After a period of apparent improvement, the child developed a white lesion

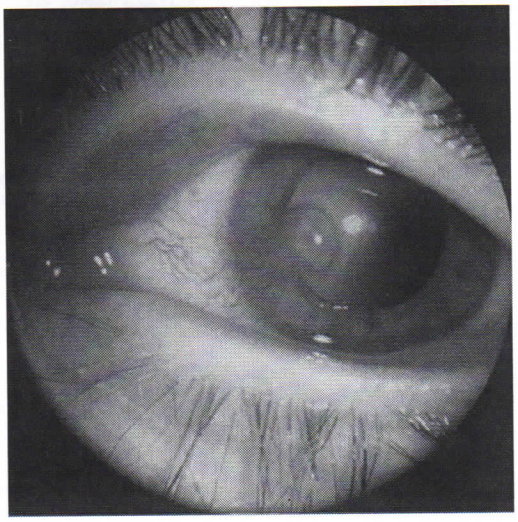

FIGURE 1 Elevated, white round lesion of the left cornea with corneal neovascularization.

in the left cornea. Corticosteroid eyedrop medication was immediately stopped and examination under narcosis was performed. Slit-lamp biomicroscopy revealed an elevated, gelatinous, white round lesion with corneal neovascularization and without epithelial defects (Fig. 1). Diagnostic scrapings were performed. As the bacterial cultures were sterile, Sabaraud dextrose agar was used. *C. parapsilosis*, *C. lusitaniae*, and *G. candidum* were found in this medium. To rule out contamination of the scraping, the culture was repeated twice with the same result. Topical 0.2% and systemic fluconazole (50 mg) were begun. After five weeks of treatment, the corneal lesion resolved with no recurrence (Fig. 2).

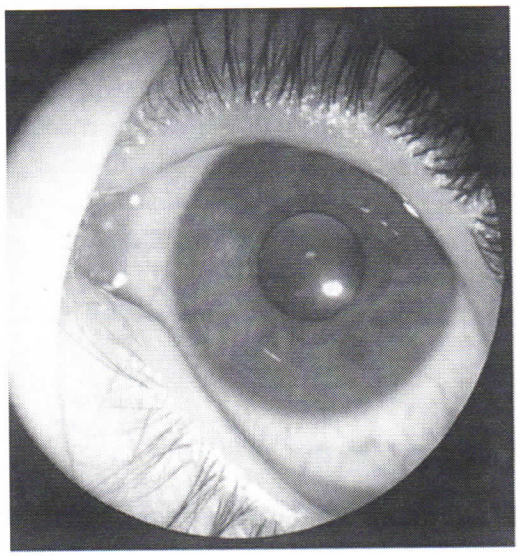

FIGURE 2 Improvement after five weeks of therapy.

DISCUSSION

Mycotic infections of the cornea present with a higher incidence in tropical areas;[3] in these countries, filamentous fungi, such as *Aspergillum* and *Fusarium*, are the predominant isolates. *Candida* species are more frequently involved in the temperate areas. New fungal species are frequently reported as agents of keratitis. A computer search using 'Medline' indicated *C. parapsilosis* as an important nosocomial pathogen and an emerging cause of mycotic keratitis associated with ocular surgery. No reports of eye infection due to *C. lusitaniae* and only one case of *G. candidum* keratitis, published in 1964, were found.[4]

Candida lusitaniae is a component of the normal mycoflora. It is emerging as an opportunistic pathogen in immunocompromised hosts and may present therapeutic difficulties secondary to resistance to amphotericin B therapy. *Geotrichum candidum* is an imperfect yeast of low virulence. Geotrichosis generally affects patients with systemic diseases, like diabetes mellitus and neoplasm. Clinically, it is similar to candidiasis and may occur as an oral, vaginal, skin, or systemic infection.

This case emphasizes the role of trauma with vegetative matter and the risk of the indiscriminate use of corticosteroid-containing eyedrops in the development of mycotic keratitis. The long-term topical administration of corticosteroids and antibiotics may lead to a local immunosuppression and to a modification of the saprophytic microbial flora. In our immunocompetent child, these factors appeared to be essential in the manifestation of this opportunistic keratomycosis.[5]

Since keratomycosis is a potentially devastating condition, rapid diagnosis and an efficient administration of appropriate antifungal therapy are mandatory to preserve visual function.[6,7] In our case, topical and systemic fluconazole administration gave excellent clinical results. Fluconazole, therefore, may be considered a good alternative to amphotericin B for the treatment of *Candida* keratitis, especially in the forms associated with *C. lusitaniae* infection.[8] The use of systemic antifungals in corneal disease appears to be controversial. Nevertheless, there are many reports in the literature that confirm the usefulness of systemic antifungals.[9,10]

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