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SHORT COMMUNICATION

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Endophthalmitis after Lasiodiplodia theobromae corneal abscess

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Abstract ● Background: *Lasiodiplodia theobromae* is an exceptional cause of human keratomycosis. ● Patient: We treated a 53-year-old man with fungal keratitis, which had been treated with topical betamethasone and gentamicin for 1 month, and endophthalmitis due to *Lasiodiplodia theobromae*. Despite intensive systemic, topical and intravitreal fungicidal treatment, enucleation had to be performed. ● Results: The vitreous aspirate cultures were negative as of the second amphotericin intravitreal injection. However, histology revealed that the fungus was present in the cornea, ciliary body, iris and retina. ● Conclusion: The use of topical steroids may worsen the outcome of the infection.

Introduction

Lasiodiplodia theobromae is an uncommon cause of keratomycosis with a total of only 10 cases having been described in the world literature [1–6]. In most of these cases, the outcome was good. Therapeutic penetrating keratoplasty was necessary in two cases, and perforation occurred in two cases. We treated a patient with keratomycosis and endophthalmitis, the outcome of which was poor, despite strong fungicidal treatment.

Case report

A 53-year-old white male banana planter from Guyana, with myeloid leukemia, was referred for endophthalmitis. He was treated for 1 month for "conjunctivitis" in the left eye with topical betamethasone and gentamicin. He then received topical oxybuprocain for 3 days prior to seeing his local ophthalmologist, who diagnosed a corneal ulcer. Despite topical and oral antibiotic and steroid treatment, the corneal ulcer worsened and a corneal abscess with hypopion, cataract and a pupillary membrane appeared. The patient was then referred to our institution. Visual acuity was finger counting in the left eye and 20/20 in the right eye. There was severe pain, photophobia, and tearing. Aqueous and corneal scrapings were cultured on blood agar and Sabouraud's media. After 2 weeks, colonies of a fungus appeared on Sabouraud's media inoculated with aqueous and corneal scrapings, indicating that the fungus had invaded the aqueous. The fungus was identified as *L. theobromae*. Topical treatment with a 0.25% amphotericin suspension six times daily was started when the patient was referred to us. After 3 days, orbital cellulitis with increased intraocular pressure appeared and the endophthalmitis worsened. A therapeutic anterior vitrectomy with lens extraction and 5 µg amphotericin intravitreal injection was performed. One month later, as the vitreous was infected with the fungus, a central vitrectomy was performed. The vitreous aspirate cultures showed numerous *L. theobromae* colonies. The patient was treated with amphotericin 1 mg/kg intravenously and 5 µg weekly intravitreal injections for 5 weeks. He was given 60 mg of prednisone a day orally because of severe intraocular inflammation. As the creatinine level increased after 2 weeks, intravenous amphotericin was stopped and the patient was given 400 mg of itraconazole a day orally. The vitreous aspirate cultures performed at each intravitreal injection were negative as

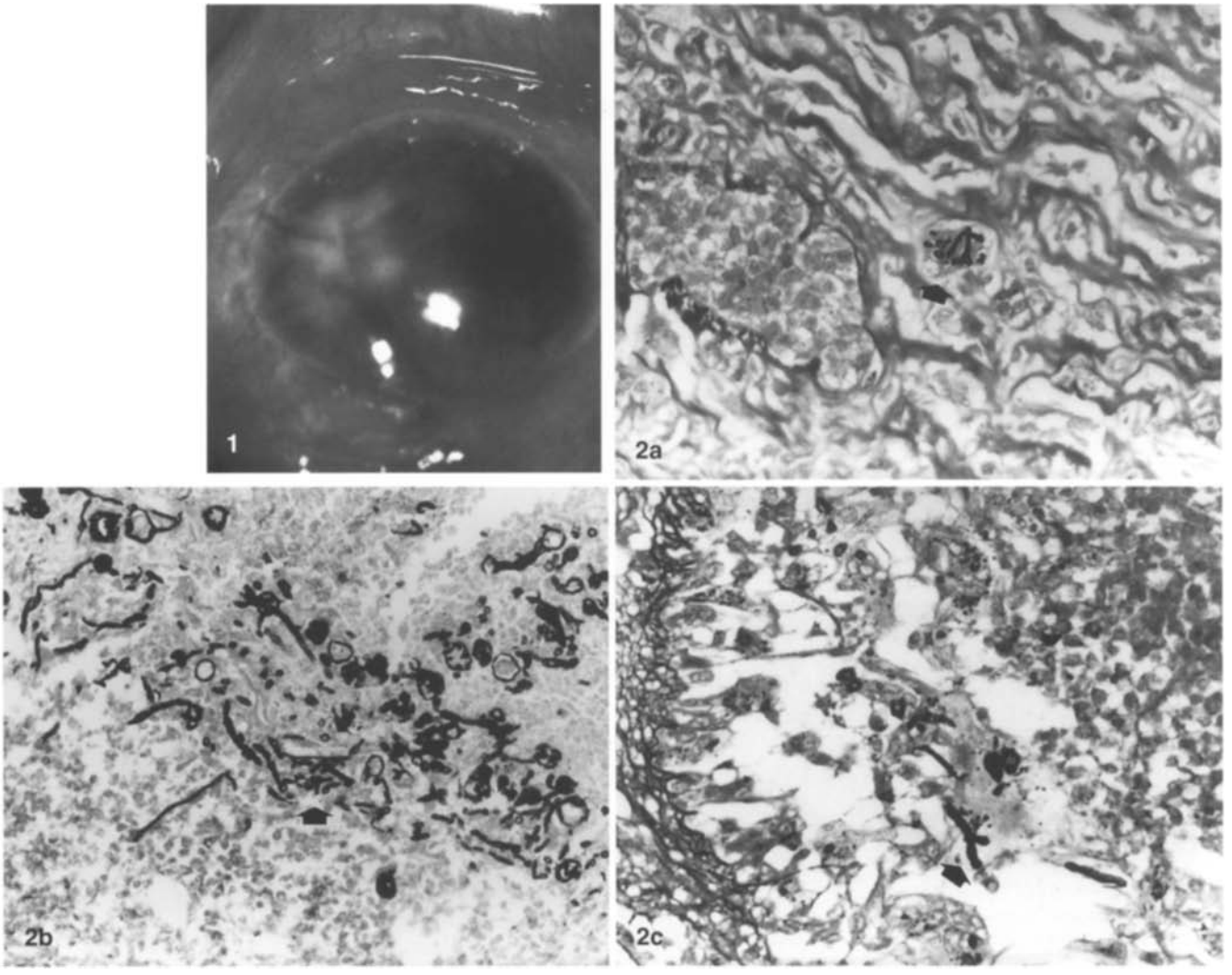

Fig. 1 External photograph showing prominent nasal corneal infiltrative abscess due to *Lasodiplodia theobromae* with stromal edema

Fig. 2 Histology of the eye showing numerous fungi (*arrows*) and inflammatory infiltrates in the corneal stroma (**A**), iris (**B**) and retina (**C**). Grocott staining

of the second injection. Itraconazole concentrations in blood and vitreous were 1720 and 128 ng/ml respectively (high-pressure liquid chromatographic determination; therapeutic level: 1000 ng/ml). After 5 weeks, symptoms improved and visual acuity improved to 20/70. Intraocular pressure was normal. The slit-lamp examination showed a corneal scar. There were no cells in the anterior chamber. The fundus showed an epiretinal membrane. The treatment was then stopped. One month later, the improvement was followed by more severe symptoms with pain and deterioration in visual acuity to hand motions. Slit-lamp examination revealed a large corneal abscess (Fig. 1) with stromal edema and aqueous cells. The patient was treated with itraconazole orally, 60 mg of prednisone a day orally and 5 µg amphotericin twice a week by intravitreal injections. Despite this treatment, the eye became atrophic and enucleation was performed 9 months after the beginning of the keratitis. The histological examination of the eye revealed that the fungus was present in the cornea, ciliary body, iris and retina (Fig. 2). The sclera was intact. There was no subsequent significant development in this case.

Discussion

Lasiodiplodia theobromae is a common fungus in tropical regions. It can be isolated by culturing from bananas [4]. However, it is an exceptional cause of human keratomycosis. The previously reported cases occurred in Florida, India, the Philippines, Sri Lanka and Colombia. The severe outcome of the reported case may be explained by the use of topical oxybuprocain and topical steroids without fungicidal drugs during the first month. In fact, rabbits inoculated with *L. theobromae* develop more severe ulcers when pretreated with steroids [4]. Myeloid leukemia may also promote growth of the fungus by impairing immunity. The keratomycosis initially went unrecognized as such, and 4 weeks went by before precise identification of the fungus, resulting in delayed com-

mencement of specific antimycotic therapy. In addition, the duration of systemic amphotericin application was limited due to renal side effects, and detection of recurrence was delayed. Lastly, the prognosis of mycotic endophthalmitis is generally poor compared to that of bacterial endophthalmitis. Amphotericin is the most effective fungicidal treatment against *L. theobromae* [4]. Topical amphotericin is useful for the treatment of keratitis without fungal intraocular spread. Intravitreal injections allowed the vitreous aspirate cultures to become negative and the endophthalmitis to regress, but not to be completely cured. We used systemic antimycotic agents in order to avoid extraocular fungal spread. A therapeutic blood level was achieved with 400 mg of itraconazole a day orally, but the vitreous level was really too low.

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