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SHORT COMMUNICATION

Canine mycotic keratoconjuntivitis caused by *Acremonium kiliense*

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Mycotic keratoconjuntivitis caused by *Acremonium kiliense* in a German Shepherd bitch was diagnosed with the aid of laboratory tests. The dog presented with photophobia, tearing, corneal edema and reduction of the visual capacity. A thick white layer partially covered the right eye. The left eye showed irritation and small brown stains which were diagnosed as pigmentary keratitis. The initial treatment consisted of 2% yellow mercury oxide. Natamycin was used as final treatment. Seven days later, the natural brightness of the eye as well as the visual capacity were restored.

Fungal keratitis may occur as a secondary condition to trauma, disease, antibiotic and/or steroid ophthalmic solutions [1, 6, 10]. The veterinary literature has most frequently reported keratomycosis in equines canines and felines [1, 6, 8, 10, 11]. The mycotic agents isolated from keratitis in animals have been *Asperigillus fumigatus, Asp. flavus* [6, 12, 16], *Candida* sp. [6, 16], *Fusarium* sp. [8, 11], *Cladosporium* sp. [10] and *Curvularia* sp. [12]. In addition, mycotic keratitis has also been reported in chickens [4] and boas (Python) [5].

Ocular invasion as a result of systemic mycosis such as blastomycosis [17], cryptococosis [7] and less frequently coccidioidomycosis [15] and histoplasmosis [14] has been found. Chorioretinitis caused by *Prototheca* was also reported in dogs [2]. This report deals with the diagnosis of a keratoconjuntivitis, caused by *Acremonium kiliense*, in a German Shepherd bitch.

Case report

An 8-year-old German Shepherd bitch was brought to the Veterinary School, showing photophobia, tearing and reduction of the visual capacity. Examination of the right eye revealed an erythematous sclera, corneal opacity produced by a white layer, edema, small corneal ulcers and inflammation of the conjunctiva (Fig. 1). The

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left eye presented irritation, with small brown stains that were diagnosed as pigmentary keratitis.

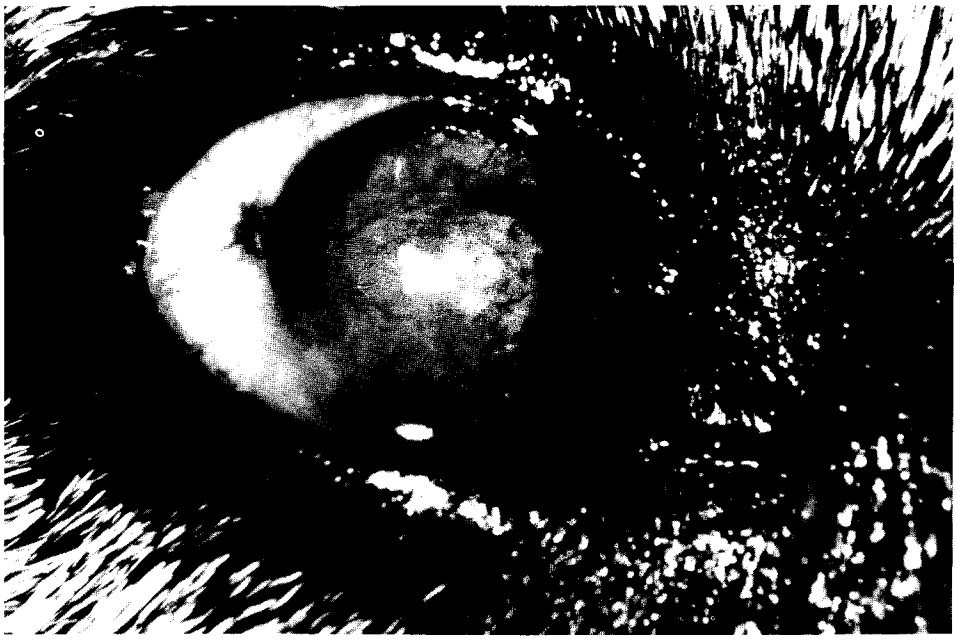

FIG. 1. Right eye showing erithermatous sclera and corneal opacity produced by the white layer.

Samples collected by scraping and sterile swabs from the white layer which covered the right eye were examined on slides with 1·8 M KOH and others were cultured on Sabouraud dextrose agar with chloramphenicol, and human blood agar. Direct microscopy of the KOH mounts showed a large quantity of septate hyaline hyphae and cellular detritus (Fig. 2). In cultures after 4 days of incubation at 25°C and 37°C, white colonies developed which had a glabrous and humid texture. Microscopically, the cultures showed hyphae with solitary conidiophores and 1-celled conidia accumulating at the conidiophore apex, which was classified on the basis of its microscopic features as *Acremonium kiliense.*

Samples collected from the left eye did not show fungal elements in KOH mounts and no fungi grew in the cultures.

The right eye was initially treated with 2% yellow mercury oxide (Ophthalmic pomade CUSI, Laboratories Cusi, SA Masnov, Barcelona, Spain) twice a day for 8 days. This treatment resulted in a reduction of the pupillary dilatation and irritation as well as closure of the small ulcers. The treatment was followed with natamycin (Pimafucin, G ist-Brocades NV Delft/Netherlands) twice daily for 2 consecutive weeks. During the last treatment, the white layer and corneal edema disappeared. Restoration of the visual capacity and natural brilliance of the eye was also observed. Throughout the entire treatment, the dog was kept indoors avoiding direct solar exposure at all times.

Discussion

Keratomycosis is common in animals that have undergone antibiotic and/or steroid treatment [1, 6, 10], and in those suffering from corneal wounds caused by foreign vegetative bodies [10, 16], in which saprophytic fungi may become potential pathogens

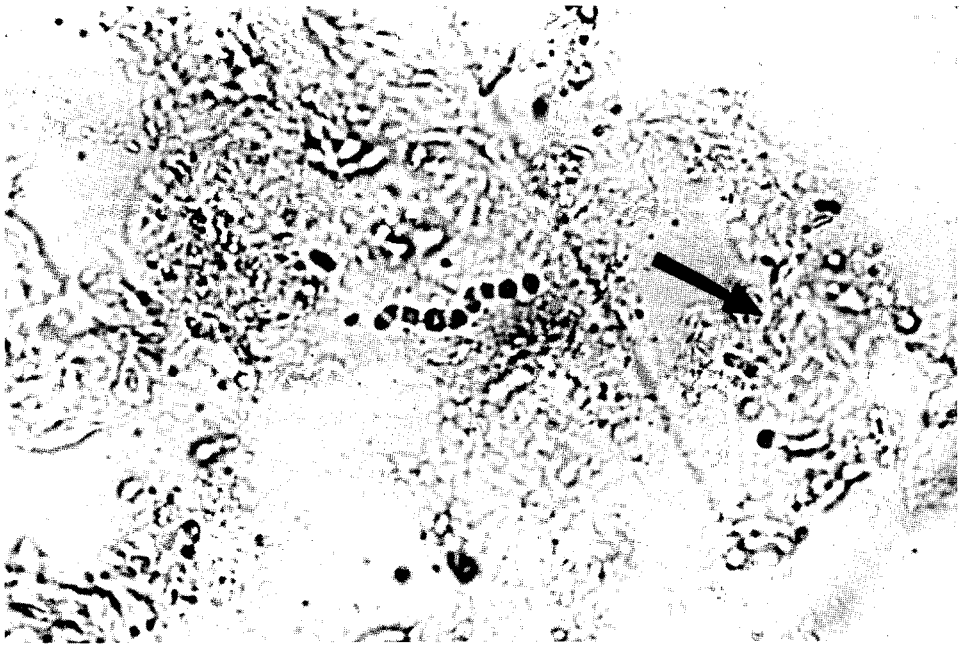

FIG. 2. The microphotograph shows hyphae with cellular detritus in a potassium hydroxide mount (×400).

when taking advantage of corneal lesions. In the present case, the dog did not receive antibiotic and/or steroid treatment before laboratory diagnosis; we dealt with a bitch raised on a farm, where foreign vegetative bodies could have wounded the cornea and produced the fungal implantation.

Acremonium kiliense, A. falciforme and *A. recifei* have been found producing mycetomas [3] and keratitis [13] in humans. At present, keratitis caused by *A. kiliense* has not been reported in animals; we found that the species of *Acremonium* that produced the disease in animals is the same species reported producing the disease in humans. This is important because it reveals that *A. kiliense* is pathogenic for animals as well as human beings.

Natamycin has been used successfully as treatment in keratomycosis in humans [9] and in keratitis caused by *Fusarium* sp. in horses [8, 11]. In the present case, we used natamycin twice daily and after 7 days, the white layer which covered the right eye disappeared. Jones, in 1975 [9], using different concentrations of natamycin, found that the drug inhibited growth of *Aspergillus, Candida* and *Fusarium*, but the author did not describe the response of *Acremonium* to the different concentrations of natamycin. According to our result, natamycin may be used as treatment in keratitis caused by *A. kiliense* in animals.

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