

Commentary: *Acremonium* species – A saprophytic fungus causing keratitis

The current issue of the Indian Journal of Ophthalmology (IJO) highlights a not very commonly reported saprophytic fungus causing microbial keratitis.^[1] This is probably the largest series reported in the literature of keratitis caused by this species. In a retrospective analysis, the authors have reported >50 years of age and a delay of >15 days in reporting to the clinic after infection as risk factors for poor visual outcomes. Clinical features of this keratitis vary from the typical raised dry infiltrate with hyphate edges to the ring infiltrate with hypopyon and endothelial exudates.

The *Acremonium* species was previously called *Cephalosporium*. Approximately 150 species are reported. *Acremonium* is spread widely in the environment and is isolated from dead plants, soil, and air conditioning systems. As a species, *Acremonium* was considered pathogenic only in the 20th century.

In all studies, trauma with vegetative matter is the most common etiological factor, followed by intra-ocular surgeries such as cataract surgery. Infection following laser *in situ* keratomileusis was reported by Alfonso *et al.*^[2] in four cases that were operated in the same operation room by different surgeons during the same period and even after exposure to a windstorm.^[3] Post-herpetic keratitis fungal infection attributed to the *Acremonium* species has also been described.^[4] Das *et al.*^[5] reported 17 cases of corneal ulcers caused by different species of *Acremonium*.

An interesting case of *acremonium* keratitis presenting as a brown-colored mass resembling prolapsed uveal tissues was reported by Mukhija *et al.*^[6] The mass was composed of a fungal ball full of septate hyphae, and the entire underlying cornea was infiltrated by the fungal hyphae needing a therapeutic penetrating keratoplasty.

The diagnosis of the *Acremonium* species is by corneal smear and culture in various media such as blood agar, Saboraud dextrose agar without cycloheximide, and Mac Conkey agar. The growth varies from white powdery colonies to smooth velvety colonies. The color may vary from white, gray, or rose and may be pink or yellow on the reverse side of the plate. The *Acremonium* species is characterized by thin septate hyphae with erect unbranched phialides or conidiophores at right angles to the hyphae. The conidia clustered on top of the phialides are one or two-celled and are elliptical or crescent-shaped. The different species of *Acremonium* causing keratitis include *A. kiliense*, *A. recifei*, *A. reseogriseum*, *A. strictum*, *A. potronii*, *A. alabamensis*, and *A. falciform*.^[7] The different species are morphologically very similar. A DNA-based method is necessary to identify the different species, which is expensive and may not be necessary for the management of the infection.

The fungus is susceptible to amphotericin B, itraconazole, nystatin, and ketoconazole. Oral and topical voriconazole may also be effective against this fungus. Natamycin may be the most effective anti-fungal. Caspofungin is an expensive alternative treatment. Crosslinking with UVA/riboflavin may help in the treatment of more superficial infections.^[8] Deep stromal involvement may need surgical intervention.

In conclusion, although the *Acremonium* species is a rare cause of fungal keratitis, prompt diagnosis and early treatment can improve the prognosis and avoid the need of surgical interventions.

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Conflicts of interest

There are no conflicts of interest.

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