

Acrophialophora fusispora Misidentified as *Scedosporium prolificans*

Comment Letter 1

Arthur et al. reported an interesting case of human keratouveitis associated with the long-term intraocular retention of a contact lens, in which a filamentous fungus and *Staphylococcus aureus* were involved (1). In spite of no antifungal drug being administered, the infection was resolved. Histological examination revealed the presence of fungal elements in the tissue around the lens.

The fungus involved in such infection was identified by the authors as *Scedosporium prolificans* (1), an emerging hyphomycete which causes severe infections, mainly in immunocompromised patients (3). However, it was described as having “flask-shaped conidiogenous cells with elongated necks and individual conidia as well as chains. . .” (1). *Scedosporium prolificans* is indeed characterized by flask-shaped conidiogenous cells, often in brush-like arrangement, not single on hyphae as depicted in Fig. 2 of the mentioned article, and by its ovoid conidia in slimy heads, never in chains. This last feature is useful to inexperienced mycologists for distinguishing this species from other morphologically similar fungi such as *Scopulariopsis* spp. Some species of *Scopulariopsis* show dark colonies and also dark conidia, which arise from annellidic conidiogenous cells, forming dry, basipetal chains. However, the fungus shown in Fig. 2 does not seem to be a species of *Scopulariopsis*, because in this genus single conidiogenous cells are not common. They are mainly in branched and sometimes penicillated conidiophores. Furthermore, conidia of *Scopulariopsis* spp. are more or less spherical and usually with a wide truncate base, while those of Fig. 2 seem to be fusiform or lemon-shaped.

It is difficult, merely by observing the mentioned figure, to ascertain the species to which the fungus belongs. However, the images are reminiscent of *Acrophialophora fusispora*, which has been recovered recently in several clinical cases. Its colonies are greyish brown, and the conidia are pale brown. An important distinctive feature of this species is the ornamentation of the conidia, which is finely echinulate and often with distinct spiral bands. *Acremonium* sp. could be another possibility due to the presence of single conidiogenous cells (phialides) emerging from ropes of vegetative hyphae (Fig. 2B), which is typical of this genus, although dark colonies are rarely produced.

To provide figures of a fungus involved in a reported case, even if the species is common, constitutes a good practice. This allows readers to agree or not, as in this case, with the identification of species involved. We would like to encourage the authors to deposit cultures of clinical isolates in an international culture collection, from where it could then be obtained by interested people for further studies. Without the availability of the isolates, the published etiology is of low value (2).

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Comment Letter 2

We are writing concerning the identification of the fungus causing keratouveitis recently reported by Arthur et al. (2). The fungus was identified as *Scedosporium prolificans*, but the figures and text description of the fungus do not match this species. *S. prolificans* has dark gray colonies, and conidia are not produced in chains (3). The text describes the fungus as a white mold that turned dark with age. The figures demonstrate conidia in chains and clusters. These characteristics led us to suspect that the case isolate was actually *Acrophialophora fusispora*, the features of which we have described in a recent report (1). The report by Arthur et al. indicated that the isolate was sent to University of Texas Health Sciences Center (UTHSC) at San Antonio for susceptibility testing. Isolates received by UTHSC for susceptibility testing are not routinely reexamined to confirm the identification but are maintained in their stock collection. This afforded us the opportunity to examine the isolate from this case (UTHSC 00-436 = UAMH 10149) and to confirm its identity as *A. fusispora*. Although colonies of *A. fusispora* are often darkly pigmented, isolates vary in pigmentation. The features of the present isolate corresponded with those described for the isolate from the brain tissue of a patient in Saudi Arabia (1).

Acrophialophora fusispora is not well known by many microbiologists, and its role in mycotic infection is still being evaluated. Our review noted another instance of misdetermination of this species in a case concerning disseminated infection in a dog. Nonetheless, an isolate that deviated so markedly in the characteristics recognized for *S. prolificans* should have been subjected to a more careful scrutiny by both the authors and reviewers.

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Authors' Reply

We read with great interest and much chagrin the letters to the editor by Drs. Sigler and Sutton and Drs. Guarro and Gene correcting our misidentification of *Acrophialophora fusispora* as *Scedosporium prolificans* (1). The original identification was indeed made by an inexperienced technologist, although it was confirmed by a more experienced person. However, both were unaware of the existence of *A. fusispora*, as were the authors.

In defense of our reviewers, Fig. 2 was added to the manuscript at the recommendation of one of the reviewers. We

don't know if the reviewers were given the opportunity to examine the added figure prior to publication.

Should we be so fortunate as to grow either organism again, we will not make this same mistake. Our error emphasizes the need for technical staff trained in mycology to keep up with recent journal publications. We hope others will learn from our error.

On the bright side, the literature now contains the first report of *A. fusispora* keratouveitis in association with a contact lens retained intraocularly over a long term.

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