Diagnosis at first sight

Infectious keratitis in a patient with KID syndrome

Queratitis infecciosa en paciente con síndrome KID

M. Pilar Bermúdez-Ruiz a,*, Elisabeth Gómez-Moyano b, Rocío Sainz-Rodríguez a, Rafael Garín-Ferreira c

a Servicio de Microbiología, Hospital Regional Universitario de Málaga, Málaga, Spain
b Servicio de Dermatología, Hospital Regional Universitario de Málaga, Málaga, Spain
c Servicio de Oftalmología, Hospital Regional Universitario de Málaga, Málaga, Spain

Case report

A 36-year-old man diagnosed with Keratitis-Ichthyosis-Deafness (KID) syndrome who had loss of vision in his right eye. He had been treated with penetrating keratoplasty on four previous occasions (the last time four years earlier) because of ulcers, corneal leucoma and infections caused by Candida albicans and Pseudomonas aeruginosa. The patient is forced to wear permanent contact lenses because of corneal epithelialisation problems related to his illness. Slit lamp examination revealed diffuse opacification of the corneal graft, with spontaneous opening of the previous surgical incision. Several bright, brownish, nodular lesions were observed closely attached to the surface of the cornea (Fig. 1). After no response to the usual antibiotic treatment with topical vancomycin and ceftazidime, penetrating keratoplasty was performed once again, this time for therapeutic and diagnostic purposes.

The cornea was processed for culture of bacteria, mycobacteria and fungi. At three days, a number of colonies were observed on Sabouraud agar, acquiring an olive-black colour as they grew (Fig. 2). The same colonies were also isolated in the Lowenstein medium incubated at 30°C. Microscopic examination revealed thick, irregular septate hyphae with hyaline or light brown, oval or circular, single-celled conidia arranged in groups attached to the hyphae, multiplying by budding (Fig. 3). Identification was performed by MALDI-TOF mass spectrometry (Bruker, Germany) from the isolated colonies and the result obtained was Exophiala dermatitidis, with a score higher than 2. The strain was sent to the Spanish National Microbiology Centre, where the identification was confirmed through the sequencing of the Internal Transcribed Spacer region, and antifungal susceptibility testing was carried out using the European Committee for Antimicrobial Susceptibility Testing reference technique.

Fig. 1. Bright, brownish nodular lesions attached to the centre of the corneal surface on examination with ophthalmic biomicroscope (slit lamp).

Fig. 2. Olive–black colonies isolated on Sabouraud dextrose agar at 7 days.

DOI of original article: http://dx.doi.org/10.1016/j.eimc.2017.03.005
* Please cite this article as: Bermúdez-Ruiz MP, Gómez-Moyano E, Sainz-Rodríguez R, Garín-Ferreira R. Queratitis infecciosa en paciente con síndrome KID. Enferm Infecc Microbiol Clin. 2017. https://doi.org/10.1016/j.eimc.2017.03.005
* Corresponding author.
E-mail address: bermudezmp@gmail.com (M.P. Bermúdez-Ruiz).

2529-993X/© 2017 Elsevier España, S.L.U. and Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica. All rights reserved.
and expensive techniques that are not available to all laboratories. Mass spectrometry (MALDI-TOF) has proven to be a powerful tool for the identification of bacteria and fungi, especially yeasts and, although with greater difficulty for the moment, filamentous fungi. Several recent studies have demonstrated that mass spectrometry is a reliable, rapid and cost-effective tool for the identification of *E. dermatitidis* and other fungi in this genus which are difficult to identify by conventional methods.7–9

In terms of treatment, although efficacy in vivo has not yet been determined, in vitro susceptibility tests demonstrate that *E. dermatitidis* is susceptible to amphotericin B, itraconazole, voriconazole and posaconazole, while the echinocandins show low activity.10–12 In our strain, low MIC (mg/l) values were obtained for voriconazole (0.12), itraconazole (0.12), posaconazole (0.06) and amphotericin B (0.25), and high MIC values for caspofungin (16), micafungin (2) and anidulafungin (>4).

This case demonstrates the need to think of uncommon opportunistic microorganisms in patients with keratitis with chronic corneal problems, immunosuppressed patients and contact lens wearers, as well as the importance of sending appropriate samples to the laboratory to allow the recovery of these microorganisms. We also want to highlight the great advances that the use of mass spectrometry (MALDI-TOF) in microbiology laboratories has meant for the rapid identification of these fungi.

**Acknowledgements**

To Dr Ana Alastruey, of the Spanish National Centre of Mycology’s Mycology Laboratory, for her collaboration in the molecular identification and susceptibility study of this strain.

**References**


