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PHOTO QUIZ

Answer to Photo Quiz: *Scolecobasidium* sp.

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The organism was identified as *Scolecobasidium* sp. (also reported as *Ochroconis* sp. [1]). The lactophenol cotton blue staining showed olivaceous conidiophores arising from aerial hyphae and sympodial, denticular conidiogenous cells. Conidia are smooth, subhyaline, and restricted at the septum, having a peanut-like shape, with the two cells being symmetrical or with the distal cell being smaller and more elongated while the proximal cell presents a small denticle (2). Sequencing of 28S rRNA showed 100% sequence identity with reference NCBI sequences of *Scolecobasidium musae* strain CBS 124.65 (GenBank accession no. KT272085.1).

Scolecobasidium includes different ubiquitous moulds, among which are *S. musae* and other species previously classified as *Ochroconis* spp. These fungi are characterized by slow or moderate growth, brownish colonies, and septate cylindrical conidia that are either smooth or rough walled. Even though it is mainly considered a nonpathogenic mold, with most species growing at 25 to 30°C, *Scolecobasidium* has been associated with respiratory, skin, and systemic infection (3). In particular, due to its presence in humid and warm environments, including sinks and bath edges, a case of a subcutaneous infection by *S. musae* in an immunocompetent host has been reported (4). Our patient presented multiple risk factors for development of infectious keratitis: an epithelial defect, contact lens use, and inflammatory dry eye secondary to cicatricial conjunctivitis. The actual source of infection is unknown but may be related to contamination with nonsterile water sources, inadvertent trauma, eyelid involvement, or possibly contamination of eye drop bottles. Only one other case of fungal keratitis by *Ochroconis* sp. has been reported so far (5), possibly because of frequent misdiagnosed infections and taxonomic rearrangement.

Since morphology cannot differentiate between *Scolecobasidium* sp. and *Ochroconis* sp., laboratories should refer to morphological features that could help start empirical therapy. Currently no particular resistance to antifungal drugs has been reported for discrete species. Susceptibility testing, however, should be performed in reference laboratories to help the management of local therapy (6). In our case, despite low MICs of triazoles and amphotericin B, the infiltrate worsened and the patient was scheduled for emergency therapeutic penetrating keratoplasty with intracameral irrigation of voriconazole. Histopathology of the corneal button revealed superficial involvement without penetration of hyphae in the deep layers. Culture-based assay of the corneal explant confirmed the presence of the same species. After 2 months of follow-up, the patient had a clear corneal graft in the right eye without signs of recurrence of fungal keratitis.

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REFERENCES

1. Shen M, Zhang JQ, Zhao LL, Groenewald JZ, Crous PW, Zhang Y. 2020. Venturiales. Stud Mycol 96:185–308. https://doi.org/10.1016/j.simyco.2020.03.001.
2. Hao L, Chen C, Zhang R, Zhu M, Sun G, Gleason ML. 2013. A new species of Scolecobasidium associated with the sooty blotch and flyspeck complex on banana

from China. Mycol Progress 12:489–495. https://doi.org/10.1007/s11557-012-0855-5.
3. Giraldo A, Sutton DA, Samerpitak K, de Hoog GS, Wiederhold NP, Guarro J, Gené J. 2014. Occurrence of Ochroconis and Verruconis species in clinical specimens from the United States. J Clin Microbiol 52:4189–4201. https://doi.org/10.1128/JCM.02027-14.
4. Shi D, Lu G, Mei H, de Hoog GS, Samerpitak K, Deng S, Shen Y, Liu W. 2016. Subcutaneous infection by Ochroconis mirabilis in an immunocompetent patient. Med Mycol Case Rep 11:44–47. https://doi.org/10.1016/j.mmcr.2016.04.007.
5. Borman AM, Fraser M, Patterson Z, Linton CJ, Palmer M, Johnson EM. 2022. Fungal infections of implantation: more than five years of cases of subcutaneous fungal infections seen at the UK Mycology Reference Laboratory. J Fungi 8:343. https://doi.org/10.3390/jof8040343.
6. Seyedmousavi S, Samerpitak K, Rijs AJ, Melchers WJ, Mouton JW, Verweij PE, de Hoog GS. 2014. Antifungal susceptibility patterns of opportunistic fungi in the genera Verruconis and Ochroconis. Antimicrob Agents Chemother 58:3285–3292. https://doi.org/10.1128/AAC.00002-14.