

P2182 Comparing three different identification methods for *Fusarium* species isolated from corneal ulcers

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Objectives: To study clinical characteristics of patients suffering from *Fusarium* keratitis in our hospital during 2018 and to compare the microscopic identification of *Fusarium* species isolated from corneal ulcers with Maldi-TOF MS (Bruker Daltonics) identification and with DNA sequencing of the ITS region (gold standard).

Materials/methods: Corneal scrapes were obtained by the Ophthalmology Service and sent to our laboratory. All samples were inoculated in blood agar, chocolate agar, MacConkey, Saboureaud agar and thioglycollate broth and incubated at 37°C in 5% of CO₂ for 10 days. Fungi isolates were examined by a Microbiologist, who studied macroscopic and microscopic characteristics with Lactophenol Cotton Blue, and were preliminarily identify by Maldi-TOF MS (Bruker Daltonics) following the instructions indicated for bacteria identification. In addition, Fungi isolates were sent to a Reference Laboratory for DNA sequencing of the ITS regions (ITS-4 and ITS-5), to get the definitive identification.

Results: Since 1st January 2018, five corneal ulcer cultures were positive for fungi. In all cases, macroscopic and microscopic exams showed filamentous fungi compatible with *Fusarium* sp. Identification by Maldi-TOF (Bruker Daltonics) was performed to all strains (n=5) and 4 of these strains were identified by DNA sequencing of the ITS regions in a Reference Laboratory. Identifications obtained by these methods are shown in Table 1. All patients with *Fusarium solani* isolation were wearing contact lens. The only patient who didn't wear contact lens suffered an injury with a tree branch and *Fusarium penzingerii* (*F. dimerum* complex) was isolated from the eye lesion.

Nº patient	Microscopy	Maldi-TOF	DNA Sequencing (ITS-4 and ITS-5)	Risk factor
1	<i>Fusarium</i> sp.	<i>Fusarium solani</i>	<i>Fusarium solani</i>	Contact lens
2	<i>Fusarium</i> sp.	<i>Fusarium solani</i>	<i>Fusarium solani</i>	Contact lens
3	<i>Fusarium</i> sp.	<i>Fusarium solani</i>	<i>Fusarium solani/petroliphilum</i> (no discrimination possible)	Contact lens
4	<i>Fusarium</i> sp.	<i>Fusarium dimerum</i>	<i>Fusarium penzingerii</i> (<i>Fusarium dimerum</i> complex)	Injury with a tree branch
5	<i>Fusarium</i> sp.	<i>Fusarium solani</i>	Unrealized	Contact lens

Conclusions: Microscopic analysis gave us identifications to only the genus level. The three *Fusarium solani* isolates indentified by MaldiTOF were confirmed by DNA sequencing of the ITS regions.

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