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Ex vivo confocal microscopy: a new diagnostic technique for mucormycosis.

Leclercq A, Cinotti E, Labeille B, Perrot JL, Cambazard F., *Skin Res Technol.* 2015 Oct 27. doi: 10.1111/srt.12251.

ABSTRACT

BACKGROUND: Skin-dedicated ex vivo confocal microscopy (EVCM) has so far mainly been employed to identify cutaneous tumours on freshly excised samples. We present two cases where EVCM has been used to diagnose cutaneous mucormycosis. **METHODS:** The skin biopsies were evaluated by the skin-dedicated ex vivo confocal microscope VivaScope 2500® (MAVIG GmbH, Munich Germany) under both reflectance and fluorescence mode. Conventional direct optical examination on skin scraping and histological examination were later performed.

RESULTS: Mucormycetes observed by EVCM presented as hyper-reflective elongated 20 µm in diameter structures with perpendicular ramifications. Fungi were found both under reflectance and fluorescence mode and were better visible with acridine orange under fluorescence EVCM. Conventional direct optical examination on skin scraping and histological examination found the same elongated and branching structures confirming the presence of Mucormycetes.

CONCLUSIONS: Ex vivo confocal microscopy has both the advantages of being fast as the direct optical examination, and to be able to show the localisation of the fungi in the tissue like the histological examination. In our cases, EVCM allowed to rapidly confirm the clinical diagnosis of mucormycosis, which is essential for the treatment of this fungal infection. Further studies are needed to compare the performance of EVCM with the findings of conventional histological and mycological examinations.