
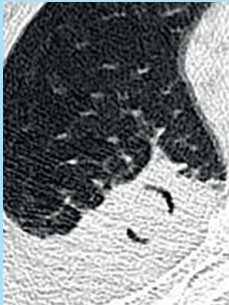
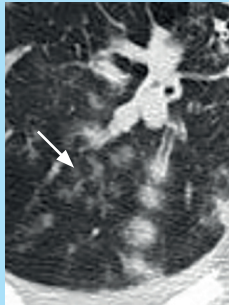
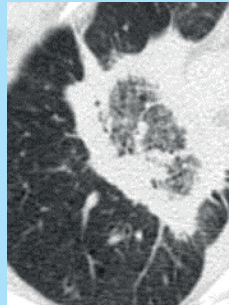




Invasive mould infections

Any immunosuppressed, neutropenic, GvHD, steroid exposed patient is at risk

Radiological and clinical pictures often caused by invasive mould infection

Halo sign	Air crescent sign	Tree-in-bud	Reversed halo sign	Skin manifestation	Skin manifestation
					
Area of consolidation (nodule or mass) surrounded by ground-glass opacity	Area of consolidation with crescent-shaped airspace separating the mass from chest wall	Centrilobular nodules and linear branching opacities with or without bronchiectasis	Central ground-glass opacity surrounded by a crescent or ring shaped consolidation	Eschar Erythematous lesion with black necrotic centre	Violaceous or erythematous, flat, indurated plaques disseminated mainly on extremities
Aspergillosis			Mucormycosis		Fusariosis

Diagnostic work-up



Biopsy (C+M+H+P), Blood culture (C), BAL (C+M+P),
Aspirates (C+M+P), Sputum (C+M), CSF (C+M+P),
Corneal scraping (C+M+P), Serology

Culture Microscopy with optical brighteners Histopathology PCR

Diagnosis	Aspergillosis	Mucormycosis	Fusariosis	Scedosporiosis
Histopathology	Non-pigmented, septate hyphae (3 - 8 µm), regular acute-angle branching (45°)	Non-pigmented, rarely septate hyphae (6 - 25 µm), irregular right-angle branching (>45 - 90°)	Non-pigmented, septate hyphae (3 - 8 µm), regular acute-angle branching	Non-pigmented, septate hyphae (2 - 5 µm), irregular acute-angle branching
Blood culture	Negative	Negative	Positive in some cases of disseminated disease Prolonged incubation necessary!	Positive in some cases of disseminated disease Prolonged incubation necessary!
Molecular tests	<i>Aspergillus</i> -specific PCR Panfungal PCR	Mucorales-specific PCR Panfungal PCR	Panfungal PCR	Panfungal PCR
Serology	GM index (BAL, serum) ≥1.0/≥0.5 if repeatedly	-	(1-3)-β-D-glucan ↑	(1-3)-β-D-glucan ↑
Dissemination (frequently affected organs)	Brain, eye, GI tract, heart, kidney, liver, lung, paranasal sinuses, skin, spleen	Bone, brain, deep soft tissue, eye, GI tract, kidney, liver, lung, paranasal sinuses, skin, spleen	Blood, deep soft tissue, eye, liver, lung, paranasal sinuses, skin Blood and skin lesions!	Blood, bone, brain, deep soft tissue, eye, kidney, liver, lung, paranasal sinuses, skin

Rare invasive yeast and mould infections

FungiScope® – Global Emerging Fungal Infection Registry was established in 2003 with the aim to improve knowledge on epidemiology, clinical manifestations and treatment strategies for invasive infections with so-called „emerging fungi“. Today, collaborators from 82 countries have entered more than 1100 cases. We also provide diagnostic support, collect and identify clinical isolates and provide a search engine for the database (www.fungiquest.net).

Results are presented at international conferences and published in a joint effort in peer-reviewed journals. [1-12]

[1-12] Rüping MJGT et al. J Antimicrob Chemother. 2010. Mucormycosis
Pagano L et al. Haematologica 2013. Mucormycosis
Nucci M Clin Microbiol Infect. 2014. Fusariosis
Marty FM et al. Lancet Infect Dis. 2016. Isavuconazole
Pana Z et al. BMC Infect Dis. 2016. Mucormycosis
Hassler A et al. Pediatr. Infect Dis J. 2016. Fusariosis
Durán Graeff L et al. Mycoses. 2017. *Saprochaete* and *Geotrichum*
Seidel D et al. Mycoses. 2017. FungiScope
Heimann S et al. J Hosp Infect. 2019 Mucormycosis
Seidel D et al. Crit Rev Microbiol. 2019. *Scedosporium* and *Lomentospora*
Salmanton-García J et al. JAC. 2019. Mucormycosis - Posaconazole new formulations
Stemler J et al. Mycoses. 2019. Rasamsonia

FungiScope® provides

- Web-based registry via www.clinicalsurveys.net
- International scientific network for joint analyses
- Prior to sharing of samples or data, approval of the contributors
- Authorship for contributing centers, if cases are included in an analysis
- Compensation: € 100/valid case

Coordinators in Cologne, Germany

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How to collaborate

Do you want to contribute an invasive fungal infection caused by rare yeasts or moulds case confirmed by culture, histology, microscopy or DNA evidence?

Contact us

Fungiscope@uk-koeln.de



You will receive login data to access the online questionnaire

Document your case

Online Case Report Form
Retrospective, anonymized



Demographics
Underlying conditions
Diagnosis of fungal infection
Treatment and response
Outcome

Send us the fungal isolate

Species identification, susceptibility test



Case Validation
with possible inquiries

Analyses and Joint publications

New project started in 2019



Collects invasive aspergillosis cases with serial galactomannan testing. If you want to contribute a case, please contact us.

FungiScope® is supported by Amplyx Pharmaceuticals, Basilea Pharmaceutica, Cidara, F2G Ltd., Gilead Sciences, Inc., Matinas BioPharma, MSD GmbH, Pfizer and Scynexis Inc.



Global Emerging Fungal Infection Registry
Established in 2003

Research on rare
invasive fungal infections
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