

## ISHAM Working Group Annual Report 2022

### 1. Title of Working Group

FungiScope® – Global Fungal Infection Registry

### 2. Name(s) of Coordinator(s) with email addresses

#### Chair

Prof. Oliver A. Cornely MD, FACP, FIDSA, FAAM, FECMM, Cologne  
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#### Scientific Lead

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### 3. Website URL for external website (if relevant)

[www.fungiscope.net](http://www.fungiscope.net)

[www.fungiquest.net](http://www.fungiquest.net)

### 4. Objectives and expected outcomes for the forthcoming year

Despite improvement in the clinical management of most common invasive fungal infections such as aspergillosis and candidiasis, for infections caused by rare, emerging fungi the diagnosis and successful treatment remains challenging.

A wide variety of so-called emerging fungi accounts for a significant proportion of invasive fungal infections. Data on their epidemiology, pathogen biology and clinical course is limited, often impeding evidence-guided decision making in the clinical setting.

To overcome these difficulties and to eventually improve patient care, FungiScope® - A Registry for Fungal Infections has been created in 2003.

### 5. Achievements of the Working Group in 2022 (250 words) <sup>1-3</sup>

- In 2022, 635 new cases of invasive fungal infections were included in the registry, most reported from Japan, China, Germany, USA, South Korea, Thailand, Australia, Spain, India and Malaysia. These included COVID-19-associated aspergillosis cases and aspergillosis with galactomannan follow up during treatment.
- 32nd European Congress of Clinical Microbiology & Infectious Diseases (ECCMID 2022) (Oral, Poster)
- ISHAM 2022 in New Delhi, India, (Oral, Poster)
- Several publications on the epidemiology and treatment of emerging IFI, e.g. infections caused by invasive *Trichoderma*, *Magnusiomyces* infections in hematological patients, COVID-19-Associated Mucormycosis, Mortality of Candidemia, Chronic Pulmonary Aspergillosis (CPA), and COVID-19-Associated Pulmonary Aspergillosis, were provided.

- New EQUAL Scorecards on Trichosporon and CPA have been published.

## 6. Publications arising from the Working Group

Results from a national survey on COVID-19-associated mucormycosis in Germany: 13 patients from six tertiary hospitals. Seidel D, Simon M, Sprute R, Lubnow M, Evert K, Speer C, Seeßle J, Khatamzas E, Merle U, Behrens C, Blau IW, Enghard P, Haas CS, Steinmann J, Kurzai O, Cornely OA. **Mycoses**. 2022 Jan;65(1):103-109. doi: 10.1111/myc.13379. Epub 2021 Nov 16

Attributable mortality of candidemia at a German tertiary hospital from 1997 to 2001 before the introduction of echinocandins. Blankenheim Y, Salmanton-García J, Seifert H, Cornely OA, Koehler P. **Mycoses**. 2022 Feb;65(2):211-221. doi: 10.1111/myc.13406. Epub 2021 Dec 8

CPAnet: the challenges of gaining evidence-based knowledge in chronic pulmonary aspergillosis. Sprute R, Salzer HJF, Seidel D. **Eur Respir J**. 2022 Apr 21;59(4):2102879. doi: 10.1183/13993003.02879-2021. Print 2022 Apr

Risk factors and outcome of pulmonary aspergillosis in critically ill coronavirus disease 2019 patients: a multinational observational study by the European Confederation of Medical Mycology. Prattes J, Wauters J, Giacobbe DR, Salmanton-García J, Maertens J, Bourgeois M, Reynders M, Rutsaert L, Van Regenmortel N, Lormans P, Feys S, Reisinger AC, Cornely OA, Lahmer T, Valerio M, Delhaes L, Jabeen K, Steinmann J, Chamula M, Bassetti M, Hatzl S, Rautemaa-Richardson R, Koehler P, Lagrou K, Hoenigl M, The ECMM-CAPA Study Group. **Clin Microbiol Infect**. 2022 Apr;28(4):580-587. doi: 10.1016/j.cmi.2021.08.014. Epub 2021 Aug 26

EQUAL Trichosporon Score 2022: an ECMM score to measure QUALity of the clinical management of invasive Trichosporon infections. Sprute R, Bethe U, Chen SCA, Cornely OA. **J Antimicrob Chemother**. 2022 May 29;77(6):1779-1784. doi: 10.1093/jac/dkac085

Aspergillus tracheobronchitis in COVID-19 ARDS patients – a cohort study. Koehler P, von Stillfried S, Borrega JG, Fuchs F, Salmanton-García J, Pult F, Böll B, Eichenauer DA, Shimabukuro-Vornhagen A, Kurzai O, Boor P, Kochanek M, Cornely OA. **Eur Respir J**. 2022 May 5;59(5):2103142. doi: 10.1183/13993003.03142-2021. Print 2022 May. PMID: 35144992

The emergence of COVID-19 associated mucormycosis: a review of cases from 18 countries. Hoenigl M, Seidel D, Carvalho A, Rudramurthy SM, Arastehfar A, Gangneux JP, Nasir N, Bonifaz A, Araiza J, Klimko N, Serris A, Lagrou K, Meis JF, Cornely OA, Perfect JR, White PL, Chakrabarti A, on behalf of ECMM and ISHAM collaborators. **Lancet Microbe**. 2022 Jul;3(7):e543-e552. doi: 10.1016/S2666-5247(21)00237-8. Epub 2022 Jan 25

Invasive Trichoderma spp. infections: clinical presentation and outcome of cases from the literature and the FungiScope® registry. Sal E, Stemler J, Salmanton-García J, Falces-Romero I, Kredics L, Meyer E, Würstl B, Lass-Flörl C, Racil Z, Klimko N, Cesaro S, Jyoti Kindo A, Wisplinghoff H, Koehler P, Cornely OA, Seidel D. **J Antimicrob Chemother**. 2022 Sep 30;77(10):2850-2858. doi: 10.1093/jac/dkac235

Clinical Features and Prognostic Factors of Magnusiomyces (Saprochaete) Infections in Hematology. A Multicenter Study of SEIFEM/FungiScope. Del Principe MI, Seidel D, Criscuolo M, Dargenio M, Ráčil Z, Piedimonte M, Marchesi F, Nadali G, Koehler P, Fracchiolla N, Cattaneo C, Klimko N, Spolzino A, Karapinar DY, Demiraslan H, Duarte RF, Demeter J, Stanzani M, Melillo LMA, Basilico CM, Cesaro S, Paterno G, Califano C, Delia M, Buzzatti E, Busca A, Cornely OA\* and Pagano L\*, behalf of the FUNGISCOPE (Global Emerging Fungal Infection Registry) and the SEIFEM (Sorveglianza Epidemiologica Infezioni nelle Emopatie) \* Equal senior contribution. **Mycoses**. 2022 Sep 5. doi: 10.1111/myc.13524. Online ahead of print

EQUAL CPA Score 2022: a tool to measure guideline adherence for chronic pulmonary aspergillosis. Sprute R, Van Braeckel E, Flick H, Hoenigl M, Kosmidis C, Agarwal R, Davidsen JR, Laursen CB, Cornely OA, Seidel D. **J Antimicrob Chemother**. 2022 Nov 14;dkac378. doi:10.1093/jac/dkac378. Online ahead of print. PMID: 36374549

Invasive candidiasis: investigational drugs in the clinical development pipeline and mechanisms of action. Hoenigl M, Sprute R, Arastehfar A, Perfect JR, Lass-Flörl C, Bellmann R, Prattes J, Thompson GR 3rd, Wiederhold NP, Al Obaidi MM, Willinger B, Arendrup MC, Koehler P, Oliverio M, Egger M, Schwartz IS, Cornely OA, Pappas PG, Krause R. **Expert Opin Investig Drugs**. 2022 Aug;31(8):795-812. doi: 10.1080/13543784.2022.2086120

Prognostic Impact of Bronchoalveolar Lavage Fluid Galactomannan and Aspergillus Culture Results on Survival in COVID-19 Intensive Care Unit Patients: a Post Hoc Analysis from the European Confederation of Medical Mycology (ECMM) COVID-19-Associated Pulmonary Aspergillosis Study. Giacobbe DR, Prattes J, Wauters J, Dettori S, Signori A, Salmanton-García J, Maertens J, Bourgeois M, Reynders M, Rutsaert L, Van Regenmortel N, Lormans P, Feys S, Klimko N, Shadrivova O, Cornely OA, Rautemaa-Richardson R, Koehler P, Lagrou K, Bassetti M, Hoenigl M; ECMM-CAPA Study Group. **J Clin Microbiol**. 2022 Apr 20;60(4):e0229821. doi: 10.1128/jcm.02298-21

The current state of laboratory mycology and access to antifungal treatment in Europe: a European Confederation of Medical Mycology survey. Salmanton-Garica J, Hoenigl M, Gangneux J-P, Segal E, Alastruey-Izquierdo A, Akdagli SA, Lagrou K, Özenci V, Vena A, Cornely OA. **Lancet Microbe**. 2023 Jan;4(1):e47-e56. doi: 10.1016/S2666-5247(22)00261-0

## 7. Funding provided by ISHAM in the past 3 years (Budget and year)

none

## 8. Composition of the working group

Number of working group members: 14

Number of ISHAM members among WG members: Cornely, Köhler, Mellinghoff, Vehreschild, Lass-Flörl

<sup>1</sup> The achievement arising from the Working Group with acknowledge its status within ISHAM by explicitly including the phrase “ISHAM Working Group” in

all public and professional publications, workshop programs, lectures, its website or similar activities.

<sup>2</sup> Achievements of the Working Group include but not limited to the following:

- meeting/workshop/training course/symposium of the working group,
- peer-reviewed publication,
- presentation (symposium, oral or poster paper) from working group during ISHAM congress,
- contribute material to the main ISHAM website and its regular newsletter.
- Increase ISHAM members, strengthen link between ISHAM and working group, and enhance visibility of ISHAM.

<sup>3</sup> Supporting information for achievements are welcome.