

Outbreaks of mucorales and the species involved.

Walther G, Wagner L, Kurzai O (2019) Outbreaks of mucorales and the species involved. *Mycopathologia* 185(5), 765-781. (Review)

[Details](#)



Abstract

The order Mucorales is an ancient group of fungi classified in the subphylum Mucoromycotina. Mucorales are mainly fast-growing saprotrophs that belong to the first colonizers of diverse organic materials and represent a permanent part of the human environment. Several species are able to cause human infections (mucormycoses) predominantly in patients with impaired immune system, diabetes, or deep trauma. In this review, we compiled 32 reports on community- and hospital-acquired outbreaks caused by Mucorales. The most common source of mucoralean outbreaks was contaminated medical devices that are responsible for 40.7% of the outbreaks followed by contaminated air (31.3%), traumatic inoculation of soil or foreign bodies (9.4%), and the contact (6.2%) or the ingestion (6.2%) of contaminated plant material. The most prevalent species were *Rhizopus arrhizus* and *R. microsporus* causing 57% of the outbreaks. The genus *Rhizomucor* was dominating in outbreaks related to contaminated air while outbreaks of *Lichtheimia* species and *Mucor circinelloides* were transmitted by direct contact. Outbreaks with the involvement of several species are reported. Subtyping of strains revealed clonality in two outbreaks and no close relation

in two other outbreaks. Based on the existing data, outbreaks of Mucorales can be caused by heterogeneous sources consisting of different strains or different species. Person-to-person transmission cannot be excluded because Mucorales can sporulate on wounds. For a better understanding and prevention of outbreaks, we need to increase our knowledge on the physiology, ecology, and population structure of outbreak causing species and more subtyping data.

Involved units

[Fungal Septomics](#) [Oliver Kurzai](#) [Read more](#)

[National Reference Center for Invasive Fungal Infections](#) [Oliver Kurzai](#) [Read more](#)

[Host Fungal Interfaces](#) [Slavena Vylkova](#) [Read more](#)

Leibniz-HKI-Authors



Oliver Kurzai

[Details](#)



Lysett Wagner

[Details](#)



Grit Walther

[Details](#)

Identifier

doi: 10.1007/s11046-019-00403-1

PMID: 31734800