

# Does Black Fungus Really a Paramount Challenge for India as Secondary Infection of Covid-19 Pandemic?

Sanjay Kumar Dabhi<sup>1</sup> and Indrawati Rao<sup>2</sup>

<sup>1</sup>Professor Govt. College of Nursing, New Civil Hospital, Surat, Gujarat, India,

<sup>2</sup>Principal Government College of Nursing, Surat India.

## Introduction

Mucormycosis is the unifying term used to describe infections caused by fungi belonging to the order Mucorales. Zygomycosis, an alternative term used to describe these life-threatening infections [1] Generally it is not a new disease. It commonly occurs in patients with low immunity [2].

Black fungus is generally caused by mucor mould which is responsible for the rare infection mucormycosis. This mould commonly originated in rotten vegetable, fruits, in soil, plants, manure. It is present worldwide and even in the nose and mucus of healthy people. Mucormycosis also remains a threat in patients with diabetes mellitus in the Western world. Furthermore, this disease is increasingly recognized in recently developed countries, such as India, mainly in patients with uncontrolled diabetes or trauma [3].

Why should we worry about it? The reason behind it is that it is fatal in the individuals who have severely immunocompromised infections, such as cancer patients or people with HIV/AIDS or diabetes. It adversely affects the sinuses, the brain and the lungs of such types of individuals. It affects the sinuses, the brain and the lungs and can be fatal [4].

The people who have mucor infection typically have symptoms of stuffy nose, epistaxis, swelling and eye ache, Ptosis and blurred and finally, loss of eyesight. There may be black dark mark of skin around the nose [5].

An antifungal medicine, usually amphotericin B, posaconazole, or isavuconazole are commonly used to treat mucormycosis infection. These medicines are given through a vein (amphotericin B, posaconazole, isavuconazole) or by mouth (posaconazole, isavuconazole). anti-fungal intravenous injection Amphotericin-B which costs approximate 3,500 rupees per dose and has to be administered every day for up to eight weeks. It is the only choice of effective drug against the disease [6].

In few cases, as per the opinion of doctors in India, patients may lose their vision in both eyes. and in rare cases, they have to surgically remove the jaw bone in order to stop the disease from spreading further [7] It is believe that mucormycosis, which has an overall mortality rate of 50%, may be due to the use of steroids, a life-saving treatment for severe and critically ill Covid-19 patients. It may reduce inflammation in the lungs for Covid-19 and also appear to help stop some of the damage that can happen when the body's immunity goes into overdrive to fight off coronavirus. But it also reduces immunity and increase blood sugar levels in both diabetics and non-diabetic Covid-19 patients. It is firmly believed that reduction in immunity could be triggering the cases of mucormycosis.

Public health challenges are those that have solutions beyond the perimeters of narrow medical interventions [8]

**\*Address for Correspondence:** Sanjay Kumar Dabhi, Professor, Govt. College of Nursing, New Civil Hospital, Surat, Gujarat, India, E-mail: princess1012012001@yahoo.com

**Copyright:** © 2021 Sanjay Kumar Dabhi, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Received** 19 June, 2021; **Accepted** 23 June, 2021; **Published** 30 June, 2021

The diagnosis and treatment of mucormycosis are challenging. The incidence of the disease seems to be increasing. Clinical approach to diagnosis lacks sensitivity and specificity. Another finding on computerized tomography (CT) scan, which seems to indicate the presence of mucormycosis, is the reverse halo sign. Microscopy (direct and on histopathology) and culture are the cornerstones of diagnosis. Molecular assays can be used either for detection or identification of mucormycetes, and they can be recommended as valuable add-on tools [9] that complement conventional diagnostic procedures. Successful management of mucormycosis is based on a multimodal approach, including reversal or discontinuation of underlying predisposing factors, early administration of active antifungal agents at optimal doses, complete removal of all infected tissues, and use of various adjunctive therapies. Our armamentarium of antifungals is slightly enriched by the addition of two newer azoles (posaconazole and isavuconazole) to liposomal amphotericin B, which remains the drug of choice for the initial antifungal treatment, according to the recently published guidelines by ECIL-6, as well as those published by ECMM/ESCMID. Despite the efforts for better understanding of the pathogenesis, early diagnosis and aggressive treatment of mucormycosis, the mortality rate of the disease remains high [10].

## References

1. Petrikos, George, Anna Skiada, Olivier Lortholary, Emmanuel Roilides, Thomas J. Walsh, and Dimitrios P. Kontoyiannis. "Epidemiology and clinical manifestations of mucormycosis." *Clinical Infectious Diseases* 54, no. suppl\_1 (2012): S23-S34.
2. <https://www.bbc.com/news/world-asia-india-57027829>
3. <https://www.cdc.gov/fungal/diseases/mucormycosis/index.html>
4. Petrikos, George, Anna Skiada, Olivier Lortholary, Emmanuel Roilides, Thomas J. Walsh, and Dimitrios P. Kontoyiannis. "Epidemiology and clinical manifestations of mucormycosis." *Clinical Infectious Diseases* 54, no. suppl\_1 (2012): S23-S34.
5. Ziaee, Ardeshir, Mohammadali Zia, Mansour Bayat, and Jamal Hashemi. "Identification of Mucorales isolates from soil using morphological and molecular methods." *Current medical mycology* 2, no. 1 (2016): 13.
6. Ziaee, Ardeshir, Mohammadali Zia, Mansour Bayat, and Jamal Hashemi. "Identification of Mucorales isolates from soil using morphological and molecular methods." *Current medical mycology* 2, no. 1 (2016): 13.
7. <https://www.newindianexpress.com/opinions/2021/jun/02/the-mistakes-in-our-mucormycosis-approach-2310511.html>
8. <https://covid.aiims.edu/mucormycosis-in-covid-19/>
9. [https://www.icmr.gov.in/pdf/covid/techdoc/Mucormycosis\\_ADVISORY\\_FROM\\_ICMR\\_In\\_COVID19\\_time.pdf](https://www.icmr.gov.in/pdf/covid/techdoc/Mucormycosis_ADVISORY_FROM_ICMR_In_COVID19_time.pdf)
10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5392881/>

**How to cite this article:** Sanjay Kumar Dabhi and Indrawati Rao. Does Black Fungus Really a Paramount Challenge for India as Secondary Infection of Covid-19 Pandemic? *Mol Biol* 10 (2021):286.