



Letter to the Editor

Mucormycosis or black fungus is a new fright in India during covid-19 pandemic: Associated risk factors and actionable items



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Dear Editor,

Mucormycosis or black fungus infection is a rare but deadly disease with a 46–96% mortality rate depending on the underlying health condition of patients [1]. This life-threatening new enemy has challenged the Indian healthcare system during the massive second wave of covid-19 pandemic [2]. Mucormycosis caused by the mucorales group of fungi affecting various parts of the body. This opportunistic fungal infection progress rapidly. Recently, the covid patients in India are getting infected by this uncommon fungus at higher rates than ever. At present, the prevalence of this black fungus infection is skyrocketing among covid-19 and post-covid-19 patients in India. As of June 8, 2021, India recorded 28,252 mucormycosis cases. Among them, 86.0% had a history of covid-19 and 62.3% had a history of diabetes [3]. Therefore, the health experts are projecting the actual prevalence is much higher than the reported cases. The reported prevalence of black fungus infection in India is nearly 70 times higher than the global data [4]. Generally, black fungus affects the body surface and internal organs such as the sinus, brain, lungs, eyes, bones, nerves, body tissues and becomes fatal if left untreated [5]. Usual signs of this disease are sinus pain, nasal blockage on one side of the face, swelling or numbness, one-sided headache, loosening of tooth and toothache, pain in the eyes, and more. The infected patients primarily suffer from eyelid loss, blindness, and blurred vision [6]. Therefore, the early detection of this fungal infection is a big challenge for the physicians because the patients do not go to physicians, or doctors often fail to recognize this disease in the early stage. As a result, it frequently requires the removal of an eye or both to stop the spread of infection.

India has never faced such a high prevalence of black fungus infection. So, the recent spike of this fungal infection in India was unanticipated. Black fungus is an opportunistic pathogen that affects immunocompromised patients due to comorbidities, excessive administration of steroids, organ transplantation, exposure to ventilation, oxygen therapy, poor hospital hygiene, etc. [7] A recent summary of the Indian black fungus infection upsurge indicates that 94% of patients had diabetes. In India, the black fungus victims are mainly covid-19 and post-covid-19 patients. The airways of covid patients are favorable for

black fungus due to the exposure to humidity and moisture during ventilation in ICU. Besides, the indiscriminate use of steroids and antibiotics for treating covid-19 patients might create chance for this opportunistic fungus. Therefore, health experts primarily suspected overmedication, hospital hygiene, and comorbid diseases as possible contributing factors for this sharp spike of black fungus infection during the catastrophic second wave of the covid-19 pandemic in India [8]. Besides, people in India have a tendency to alternative therapy for covid-19 like cow dung and urine to cure covid. Many people in India consume cow dung and urine under branded “cow dung therapy” for covid cure [9]. There is no scientific evidence supporting this behavior of using byproducts of cows to boost immunity against diseases. Moreover, the behavior can spread other diseases from animals to the human body, for example, mucormycosis, because animal dung is a potential host for black fungus. Therefore, we assume the wide use of cow dung and urine might contribute to this epidemic [10].

The health experts suspect the overuse of medication is a potential contributing factor for black fungus infection. So, the public healthcare authority should ensure the rational use of steroids and antibiotics to manage the ongoing pandemic. Also, the government should immediately stop the over-the-counter use of antibiotics and steroids. Awareness and early diagnosis are the keys to halting the spread of the infection. Diabetic patients should be advised and encouraged to control their glucose levels. There should be enough testing facilities for black fungus. The healthcare authorities should maintain regular communication with all covid and post-covid patients for early assessment and detection of this deadly black fungus infection. The government authority must ban any gathering for smearing cow dung and urine and encourage them to follow health safety rules. Treatment of black fungus infection and antifungal medications should be made affordable and available for general population. Therefore, the authorities can immediately set up ad hoc units in hospitals and encourage the companies to produce adequate antifungal drugs. Also, the authorities should enforce quality control and compliance in the way of delivering oxygen to covid-19 patients.

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Ethics statement

Not applicable for this study.

Declaration of competing interest

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