

## Mucormycosis [UPSC Current Affairs]

There have been many cases of mucormycosis in COVID-19 patients in India, in the second wave of the pandemic. What is mucormycosis? What are its symptoms and treatment measures? Know more about mucormycosis in this article, for the [UPSC exam](#).

### Mucormycosis

Mucormycosis is a rare but serious infection that is caused by a group of moulds called mucormycetes. Colloquially termed 'Black Fungus', it was previously known as zygomycosis.

- Mucormycosis largely affects people who have health problems or use medicines that depress the body's ability to combat germs and illness. It reduces the ability to fight environmental pathogens.
- It most commonly afflicts the sinuses or the lungs after inhaling fungal spores from the air. It can also happen on the skin after a burn, cut or other type of skin wound through which the fungus enters the skin. It can also affect the brain.
- People having co-morbidities, variconazole therapy, uncontrolled diabetes mellitus, immunosuppression by steroids or prolonged ICU stay can get predisposed to the fungal infection.
- Warning signs include headache, fever, coughing, blood vomits, breathlessness and altered mental status.

### Symptoms of Mucormycosis

The common symptoms of black fungus are fever, pain or redness around the eyes/nose, coughing, headache, shortness of breath, blood vomit, altered mental status, sinusitis, blackish discolouration over bridge of nose/palate, local pain on the cheek bone, one-sided facial pain, numbness or swelling, blurred or double vision with pain, loosening of teeth, jaw involvement, chest pain, pleural effusion, thrombosis, necrosis, skin lesion, and worsening of respiratory symptoms.

#### *Is Mucormycosis contagious?*

No, mucormycosis cannot spread between people or between people and animals.

### Types of Mucormycosis

There are chiefly five types of mucormycosis. They are mentioned below.

Rhinocerebral (sinus and brain) mucormycosis	Infection in the sinuses that can spread to the brain. Most common in people with uncontrolled diabetes and those who have had a kidney transplant.
Pulmonary (lung) mucormycosis	Most common type of mucormycosis in people with cancer, those who have had an organ transplant or a stem cell transplant.
Gastrointestinal mucormycosis	Common among young children than adults, especially premature and low birth weight infants less than 1 month of age, who have had antibiotics, surgery, or medications that lower the body's ability to fight germs and sickness.
Cutaneous (skin) mucormycosis	Most common form of mucormycosis among people who do not have weakened immune systems. Here, the fungus enters the body through the skin.
Disseminated mucormycosis	Most commonly affects the brain, but also can affect other organs such as the spleen, heart, and skin.

### *Where does mucormycosis come from?*

Mucormycetes are present in the environment, especially in soil and in relation with decomposing organic matter, such as leaves, animal dung and compost piles. They are more common in the soil and in the summer season.

### **Mucormycosis Treatment**

Mucormycosis is treated with prescription antifungal medicines, generally amphotericin B, posaconazole, or isavuconazole.

- To maintain sufficient systemic hydration, normal saline (IV) has to be infused before infusion of amphotericin B and antifungal therapy, for at least 4-6 weeks.
- Doctors advise to control diabetes, reduce steroid use, and discontinue immunomodulating drugs.
- Eventually, surgery may be required to remove the infected part. This can cause difficulties for patients who would need to come to terms with loss of function due to a missing jaw or an eye.
- For recovered coronavirus patients, it is important to monitor blood glucose level and control hyperglycemia. The use of steroids should also be prudent.

### Prevention

Even though mucormycosis is a rare disease, certain groups are more vulnerable to it. What predisposes patients is uncontrolled diabetes mellitus, immunosuppression by steroids, prolonged ICU stay, and comorbidities — post transplant/malignancy, voriconazole therapy. Doctors advise people to use masks if in the vicinity of dusty construction sites, wear long-sleeved shirts, shoes, long trousers and gloves while while handling manure, soil or moss. It is of utmost importance to maintain high standards of personal hygiene.

### Government advisory do's and don'ts

The infographic is divided into two columns by a vertical dashed line. The left column is titled 'Do's' and features a green checkmark icon. The right column is titled 'Don'ts' and features a red 'X' icon. The background of the infographic shows a pair of white surgical gloves.

Do's	Don'ts
- Control hyperglycaemia	- Do not miss warning signs & symptoms
- Monitor blood glucose level post COVID-19 discharge & in diabetics	- Don't consider all cases of blocked nose as cases of bacterial sinusitis, especially in the cases of immunosuppression and/or COVID-19 patients on immunomodulators
- Use steroid judiciously	- Don't hesitate in seeking aggressive investigations as appropriate for detecting fungal etiology
- Use clean, sterile water for humidifiers during oxygen therapy	- Don't lose crucial time to initiate treatment for mucormycosis
- Use antibiotics/ anti fungal judiciously	

## Why is Mucormycosis affecting COVID-19 patients?

Patients who have high levels of diabetes are at a higher risk of contracting covid-19. When this occurs, they are treated with steroids which compromises their immunity. According to doctors, steroids can

prove to be a trigger for mucormycosis. While steroids help in reducing inflammation in lungs they can decrease immunity and increase blood sugar levels in both diabetics and non-diabetic covid-19 patients alike.

The black fungus disease is an additional burden on the country that is already grappling with more cases and fatalities due to the second wave of the covid-19 pandemic.

