

Mucormycosis or Black Fungus: Doctors explain causes, symptoms, treatment and precautionary measures

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Black fungus infection: Cases of black fungus infection, called mucormycosis, are rapidly increasing in the country, especially among patients who have been infected with COVID-19. The situation is worsening across the country, which is why the Union Ministry of Health and Family Welfare has made this infection notifiable, meaning that every confirmed or suspected case of black fungus would have to be reported by the states. The severity of the situation can be understood from the fact that the drug used to treat this infection is in shortage in the country, because in normal times, a limited stock needs to be maintained. But what exactly is this infection and what are its symptoms and treatments? To understand about this disease in detail, Financial Express Online spoke to several doctors.

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Black fungus: What it is and why does the infection occur?

Explaining in detail what mucormycosis is, Dr Laxman Jessani, Consultant, Infectious Diseases, Apollo Hospitals Navi Mumbai, said, “Mucormycosis, also known as “black fungus” is an infection caused by the Mucorales mould or fungus, which is often seen in immune-compromised patients (in this case, COVID patients). COVID patients are particularly susceptible because not only does the virus affect the immune system but the drugs used for treatment also suppress their immune responses. The black colour is actually the dead tissue resulting from the fungal infection that invades the blood vessels and destroys them causing tissue death.”

Dr Jessani added, “The mould is naturally found in soil, air and even in the nasal passages and mucus of humans. However, it is kept in check by the body’s defence mechanisms that are affected due to COVID. The fungus then starts to grow and spread through the nasal passages where it can affect the eyes, palate and even the brain as it erodes facial structures. It can also affect the respiratory tract. It can be fatal if not treated in time with anti-fungal medicines and surgery to remove the affected portions. The disease is not contagious, and doesn’t spread from one person to another. Mucormycosis also known as black fungus is actually a misnomer. It is not a true black fungus as it does not produce melanin pigment unlike other black fungus like dematiaceous fungi. In common man’s language it is called black fungus as it produces tissue necrosis which is black in colour.”

Explaining a little more, Fortis Hospital Bannerghatta Road, Bengaluru’s Consultant ENT Specialist Dr Susheen Dutt said, “It is a fungal infection, which is opportunistic and rarely seen in the general population. If you have any form of immunocompromise, then you are at risk. When you are immunocompromised, your immune system’s defenses are low, affecting its ability to fight off infections and diseases. It includes diabetes mellitus, or some forms of cancer, or people who are on steroid therapy for any other problem.”

Jiva Ayurveda Director Dr Partap Chauhan listed the causes that are leading to rising cases of black fungus in the country, saying, “Excessive use of steroids, uncontrolled blood sugar levels, unhygienic tubes through which oxygen is supplied to the patients and poor nasal and oral care could be the reasons that lead to fungal infection. The use of unclean masks is also considered one of the causes of this fungal infection.”

Dr Ashvin Agarwal, Executive Director, Dr Agarwal Group of Eye Hospital added, “Black Fungus affects the skin, lungs, eyes, mouth, and brain. When they infect, they grow in sinuses. In certain cases they can spread from sinuses around the eye or in some cases in the eye.”

Mucormycosis: How to identify black fungus

Dr Agarwal listed some symptoms that can be used to identify the infection. “Symptoms of mucormycosis include pain and redness around the eyes and nose, a fever, headache, coughing, vomit with blood in it, black and bloody nasal discharge, pain on one side of the face and in the sinuses, blackish discoloration over the nose, tooth pain, and painful and

blurred vision, double vision, protrusion of the eyeball majority of mucormycosis infections have been seen in Covid patients with diabetes or those with underlying and undetected high blood sugar,” the doctor said.

Dr Dutt also said something along the same lines. “The symptoms of Mucormycosis include one-sided nose block, bloodstain, brown-colored secretion from the nose accompanied with swelling of the cheeks, slow progressive swelling of the eyeball, headache, decrease in vision, and then eventually, it can lead to stroke or hemiplegia. Educating patients about the symptoms is crucial as it will help in the early detection of the condition.”

Dr Chauhan said, “It is important to identify the fungal infection in the early stage. The infection generally starts from the nose and then spreads to cheekbones, palate, eyes and can go into the brain. Immediate consultation with the doctor is necessary to avoid complications”

Precautions that must be taken

“Patients, especially those with diabetes, those on immunosuppressants and steroids, or any condition that affects the immune system need to take precautions like controlling high blood sugar levels, monitoring blood sugar level regularly and using steroids and antifungal medicines only when prescribed by the doctor,” Dr Jessani said.

Dr Agarwal also gave some more precautionary measures that people must follow, saying, “Considering the strong and growing Covid-eye connection, people should begin using goggles and facial protection, while following other standard Covid appropriate behaviour and guidelines such as wearing masks, maintaining physical distancing, and frequent washing hands with soap. Along with this, immunity is also of vital importance. It also plays a key role in speeding up recovery even if there is an infection. Hence, make no compromise on good food, stay hydrated, exercise regularly, have enough sleep, and cultivate a stress-free mind. Those with diabetic conditions need to keep an eye on their blood glucose level.”

“Some of the other protective measures the public can take against mucormycosis are avoiding dusty construction sites, and handling soil, moss, manure only with gloves. One must wear shoes, long trousers, and long sleeved shirts while engaged in activities such as gardening. Maintaining personal hygiene thorough scrub baths is also useful,” he added.

Dr Chauhan gave some Ayurvedic precautions that can be followed. “If you are suffering from COVID, it is important to maintain good oral and nasal hygiene. Steaming is advised. Putting 2 drops of Anu Oil in each nostril once a day is also good. Oil pulling is recommended for oral hygiene. You can practice it by taking one tablespoonful of sesame oil in your mouth and swish it around for a few minutes and then spit it out. Put 2 drops of rose water in each eye. You can also put one drop of pure cow ghee in each eye. The use of Ayurvedic eye drops and Ayurvedic toothpaste is good. Make a paste of rock salt and mustard oil and gently rub it on your gums and teeth. A paste of turmeric in sesame oil

can also be used for oral care and hygiene,” Dr Chauhan said. But he also cautioned patients, saying, “Do not self-medicate. Always consult a doctor. Many people are doing self-medication and in this process, the disease reaches an advanced stage when it becomes fatal.”

“Educating patients about the symptoms is crucial as it will help in the early detection of the condition. Physicians should have extreme caution while using steroids. Avoid steroids for patients having mild diseases managed at home or even at the hospital. We need to do an expectant or watchful treatment by the avoidance of steroids,” said Dr Dutt. He also explained why doctors are worried about the infection. “When these fungi form clots within the blood vessels, they tend to behave like a stroke. There are chances you will not be able to revive the patient. The main reason we are worried about mucor is the rapidity with which it spreads. This nature of rapid spread is because of vascular invasiveness,” he said.

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Treatment for black fungus

“Early diagnosis and aggressive treatment is required. Black fungus is treated with specific antifungal medicines that need to be administered intravenously. The most common medicine includes Amphotericin B that is used to treat serious fungal infections. Patients may need up to six weeks of treatment to recover. Their recovery depends on how early the disease was diagnosed and treated. Often, surgery is required to cut away dead or infected tissue,” Dr Jessani said.

Dr Dutt further explained about the antifungal medicines that are used in the infection. “Amphotericin B is the only proven anti-fungal medication that works in this kind of invasive fungus. There are three kinds of amphotericin B. Liposomal amphotericin B is the best in quality therefore it is expensive. The adverse effects in Liposomal amphotericin B are very low, making it the most preferred form. There is a shortage in the market for this medication.”

Dr Agarwal explained how vision impacted by black fungus could be treated. “In the case of vision loss, if patients can reach ophthalmologists in time – sight can be very well saved with proper treatment at the earliest to see the doctor. Even in the case of mucormycosis infection affecting eyes, it can be treated either in the form of medicines (antifungal Amphotericin B) or surgery. Again timely or a prompt diagnosis can always save the eye and thereby vision.”

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