



'Black fungus' in Covid-19 patients

sanskritias.com/news-articles/black-fungus-in-covid-19-patients

(MAINS GS 3 : Science and Technology:Recent developments and their applications and effects in everyday life)

Context:

- A rare but serious fungal infection, known as mucormycosis and colloquially as “black fungus”, is being detected relatively frequently among Covid-19 patients in some states.
- The disease often manifests in the skin and also affects the lungs and the brain.
- As the number of mucormycosis cases detected in Delhi, Maharashtra and Gujarat increases, experts in the national Covid-19 task force recently issued an evidence-based advisory on the disease.

What is the disease?

- It is a rare but serious infection which is caused by a group of moulds known as mucormycetes present naturally in the environment.
- It mainly affects people who are on medication for health problems that reduces their ability to fight environmental pathogens.
- Sinuses or lungs of such individuals get affected after they inhale fungal spores from the air.
- Doctors in some states have noted a rise in cases of mucormycosis among people hospitalized or recovering from Covid 19, with some requiring urgent surgery.
- Usually, mucormycetes does not pose a major threat to those with a healthy immune system.

What happens when one contracts it?

- Warning signs include pain and redness around the eyes or nose, with fever, headache, coughing, shortness of breath, bloody vomits, and altered mental status.
- According to the advisory, infection with mucormycetes should be suspected when there is:
 - Sinusitis — nasal blockade or congestion, nasal discharge (blackish/bloody);
 - Local pain on the cheek bone, one-sided facial pain, numbness or swelling;

- Blackish discoloration over bridge of nose/palate;
- Loosening of teeth, jaw involvement;
- Blurred or double vision with pain;
- Thrombosis, necrosis, skin lesion;
- Chest pain, pleural effusion, worsening of respiratory symptoms.
- However experts advise that one should not count all cases of blocked nose as cases of bacterial sinusitis, particularly in the context of immunosuppression and/or Covid-19 patients on immunomodulators.

What's the treatment?

- While it is treated with antifungals, mucormycosis may eventually require surgery.
- Doctors have said that it is of utmost importance to control diabetes, reduce steroid use, and discontinue immunomodulating drugs.
- To maintain adequate systemic hydration, the treatment includes infusion of normal saline (IV) before infusion of amphotericin B and antifungal therapy, for at least 4-6 weeks.
- Experts in the task force have stressed the need to control hyperglycemia , and monitor blood glucose level after discharge following Covid-19 treatment, and also in diabetics.
- One should use steroids judiciously — correct timing, correct dose and duration are important.
- Management of Covid patients with mucormycosis is a team effort involving microbiologists, internal medicine specialists, intensivist neurologist, ENT specialists, ophthalmologists, dentists, surgeons (maxillofacial/plastic) and others.

Life after surgery for mucormycosis:

- Mucormycosis can lead to loss of the upper jaw and sometimes even the eye.
- Patients would need to come to terms with loss of function due to a missing jaw — difficulty with chewing, swallowing, facial aesthetics and loss of self-esteem.
- However, be it the eye or upper jaw, these can be replaced with appropriate artificial substitutes or prostheses.
- Prosthetic reconstruction can be effected after surgery, but interim solutions should be planned even before surgery of the jaws for better long-term outcomes.
- Prosthetic reconstruction can ensure that the cure is not more dreadful than the disease itself.

How can one prevent it?

- One should remember that it is a rare disease, however, some groups of people are more vulnerable than others.
- What predisposes patients is uncontrolled diabetes mellitus, immunosuppression by steroids, prolonged ICU stay, and comorbidities — post transplant/malignancy, voriconazole therapy.

- Experts advise that use masks if you are visiting dusty construction sites.
- Wear shoes, long trousers, long-sleeved shirts and gloves while handling soil (gardening), moss or manure. Maintain personal hygiene including a thorough scrub bath.

How frequently are cases being detected?

- While cases are on the rise, there has been no major outbreak.
- Niti Aayog member (health) Dr V K Paul said at a media briefing that there has been no major outbreak and they were monitoring cases being reported.
- Traditionally very few cases are seen every few months, usually in very poorly controlled diabetic and immunocompromised patients but in the past 2 to 3 weeks cases are on the rise.
- Patients most vulnerable to mucormycosis are those who have been treated with steroids and other drugs for Covid 19 to reduce inflammation.
- Efforts are underway to collect data for large studies being done by the Fungal Infections Study Forum and Clinical infectious Diseases Society.

Conclusion:

- Mucormycosis, commonly called black fungus, is a rare but serious fungal infection caused by a kind of fungus called mucormycetes, which is abundant in the environment.
- Thus ,vulnerable groups who have health problems or take medicines that lower the body's ability to fight germs and sickness need to use masks while visiting dusty construction sites and maintain personal hygiene including a thorough scrub bath.