



MANGALORE UNIVERSITY  
NATIONAL SERVICE SCHEME  
**CANARA COLLEGE**  
MANGALURU

# AWARENESS CAMPAIGN ON **BLACK FUNGUS**

**MAY 20, 2021 TO JUNE 05, 2021**

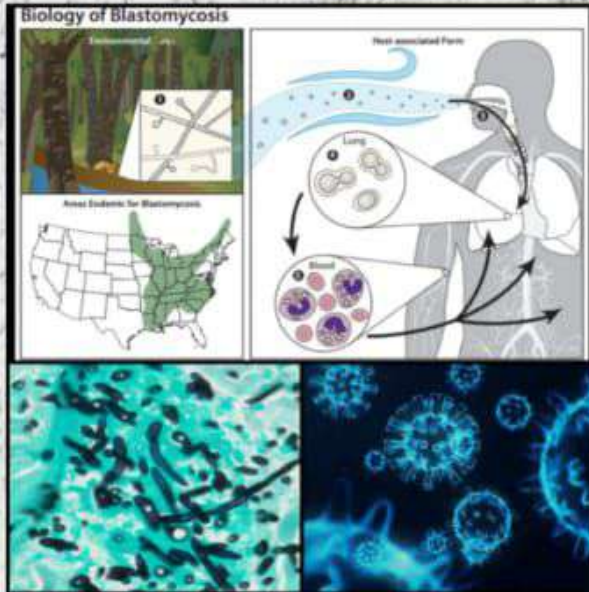






# CANARA COLLEGE MANGALURU

## NATIONAL SERVICE SCHEME BLACK FUNGUS AWARENESS PROGRAM



### WHAT IS BLACK FUNGUS INFECTION?

People prone to the infection are the ones undergoing oxygen therapy in ICU, where a humidifier is used, which makes people more prone to infection due to exposure to moisture. The use of ordinary tap water in the flow meters of the oxygen cylinders is also blamed for fungal infection. Cases can also be triggered by "mould-tainted oxygen piper and humidifiers". Not just this, weak immune system, too much steroid consumption, voriconazole therapy and diabetes also put patients at greater risk of infection.

### PRECAUTIONS

#### SHOULD

- CONTROL HIGH BLOOD SUGAR LEVELS
- MONITOR BLOOD SUGAR LEVEL REGULARLY POST-RECOVERY
- USE CLEAN, STERILE WATER IN THE HUMIDIFIER FOR OXYGEN THERAPY
- USE STEROIDS AND ANTIFUNGAL MEDICINES ONLY WHEN PRESCRIBED BY THE DOCTOR

#### SHOULD'NT

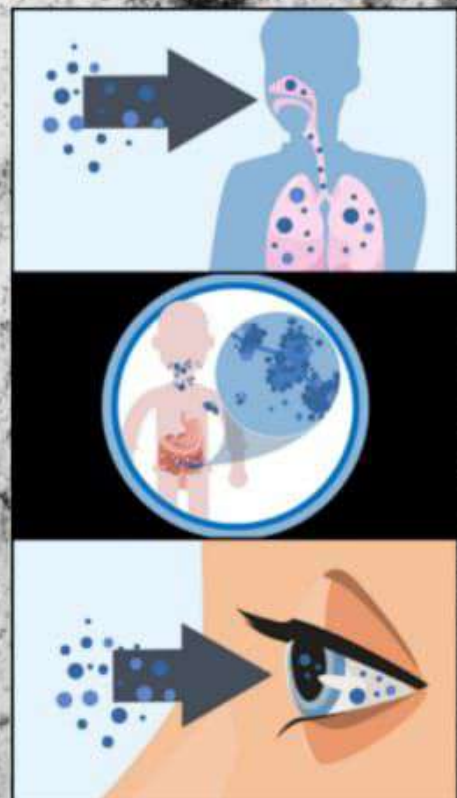
- DO NOT OVERLOOK THE SYMPTOMS OF BLACK FUNGUS
- DO NOT TAKE BLOCKED NOSE LIGHTLY MAINLY AFTER GETTING RECOVERED FROM COVID-19
- DO NOT THINK TWICE ABOUT GETTING DONE ANY INVESTIGATION IF SUGGESTED BY THE DOCTOR

DECOLOURATION OF NOSE AND TONGUE,  
BLURRY VISION, BREATHING PROBLEMS,  
CHEST PAIN, BLOOD COUGHING, REDNESS IN THE EYES,  
FEVER, COUGH, VOMITING

### SYMPTOMS

### TREATMENT

Amphotericin-B injection is the prime treatment for the treatment of this fungal infection. The injection is an antifungal medicine. If infected, the patient has to be kept under the strict supervision of eye surgeons, ENT specialists and neurosurgeons as the infection affects different parts of the body simultaneously. As a part of the life-saving procedures, all the infected tissues should be surgically removed. Hence, some people even end up losing their eyesight and in some cases even the upper jaw. Patients might even require an intravenous anti-fungal procedure spanning four to six weeks.







# Canara College, Mangaluru National Service Scheme



## AWARENESS CAMPAIGN ON BLACK FUNGUS



### Q. What causes the black fungus infection?

When the immunity of a person is low, they are vulnerable to this infection.

This condition is not new; it has been seen earlier as well, but there are more cases now. It was seen in patients with diabetic ketoacidosis (excess blood acid) and those who are in the ICU, are immuno-compromised, have cancer, or patients who have had kidney transplant or are on immuno-suppressants.

Covid-19 decreases the immunity of a person so much that a person becomes vulnerable to the mucormycosis (black fungus) infection.

### Q. Which organs get impacted?

It starts from the nose, sinuses and then affects the eye region and even brain tissue. Invasion of the fungus affects blood vessels, which clogs the blood flow in the region.

### Q. How can black fungus be treated?

The treatment includes antifungals given intravenously. Since the fungus causes dead tissues and gangrene, the affected area is to be removed because antifungals cannot reach dead tissues that may have the fungus.

### Q. How can one prevent it?

The Covid diabetic are more vulnerable to black fungus. Extra care should be taken to ensure that the pH of blood does not become more acidic and sugar levels are near-normal. Even if a person is Covid positive or is on heavy antibiotics, his/ her immunity is weak—they should keep track of their blood pH to avoid this infection.

Rithika

2nd B.com C

2416

**STAY HOME STAY SAFE**





# CANARA COLLEGE MANGALURU

NATIONAL SERVICE SCHEME



## BLACK FUNGUS AWARENESS CAMPAIGN

PRIMARILY, FUNGAL SPORE FLOATING IN THE ENVIRONMENT GIVE PEOPLE THIS INFECTION. ONE MAY ALSO CATCH IT WHEN THE FUNGUS "ENTERS THE SKIN THROUGH A CUT, BURN, OR OTHER TYPES OF SKIN TRAUMA."

IT IS CAUSED BY EXPOSURE TO MUCOR MOULD WHICH IS COMMONLY FOUND IN SOIL, PLANTS, MANURE, AND DECAYING FRUITS AND VEGETABLES. "IT IS UBIQUITOUS AND FOUND IN SOIL AND AIR AND EVEN IN THE NOSE AND MUCUS OF HEALTHY PEOPLE," SAYS DR AKSHAY NAIR, A MUMBAI-BASED EYE SURGEON.

SOURCE-BBC,INDIA TODAY

PRABATH EL  
2ND B.COM 'D'  
2542

"KEEP CALM  
AND CARRY  
ON." "THE  
ONLY THING  
WE HAVE TO  
FEAR IS FEAR  
ITSELF."  
"DON'T  
WORRY, BE  
HAPPY."





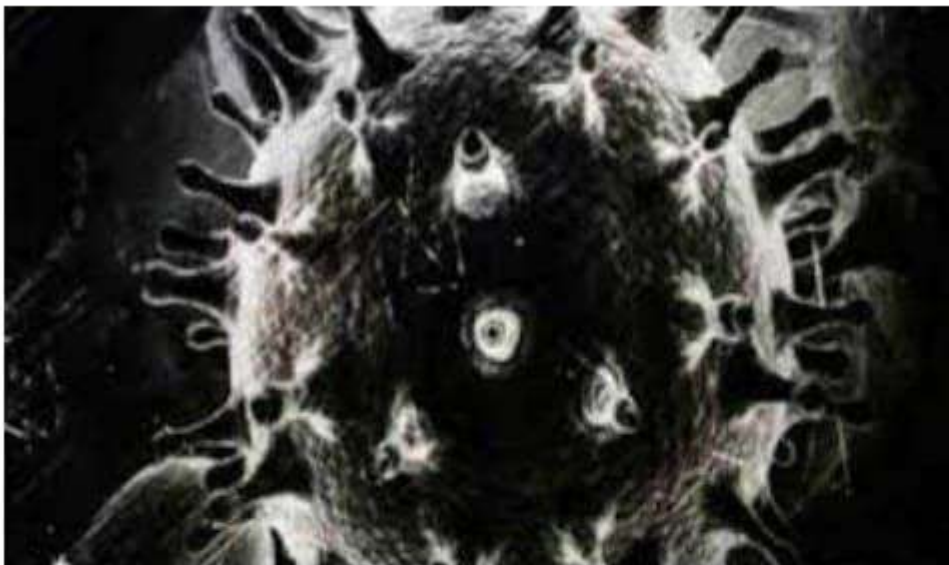


# NATIONAL SERVICE SCHEME CANARA COLLEGE MANGLORE, KARNATAKA



## HOW SERIOUS IS BLACK FUNGUS?

*Cases of mucormycosis, or "black fungus," a potentially serious condition that causes blurred or double vision, chest pain and breathing difficulties, have surged in India, mostly among COVID-19 patients*



## WHAT DOES BLACK FUNGUS DO?

*If the fungus goes in through a cut or a burn, it can cause local infections. But if it goes in through the sinus, it can affect the eyes and eventually, the brain, leading to a fatal situation.*

## WHO IS AT RISK OF BLACK FUNGUS?

*Patients within six weeks of COVID treatment are at the highest risk of black fungus*

## BLACK FUNGUS INFECTION SYMPTOMS

- \* Black fungus symptoms mainly shows some common symptoms, including excessively runny nose.
- \* You may feel swelling and pain in your eyes when you come in contact with the infection.
- \* In some Black Fungal infection Covid, eyelid loss and blurred vision have also been seen.
- \* Dark spots can also be seen around the nose of the infected patient.
- \* Some patients have also spoken about their eyesight being completely gone.

## BLACK FUNGUS DISEASE PREVENTION

In black fungus infection prevention, you get sugar level checked on time and try to keep it limited. Patients recovering from corona should be tested in time to keep their sugar right. To prevent this infection, the doctor should give injections of steroids to the patients on time.

SHRAVYA V  
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Mangalore University  
National service scheme  
**CANARA COLLEGE**  
Mangaluru, Karnataka



# **AWARENESS CAMPAIGN ON** **BLACK FUNGUS**

Mucormycosis, commonly known as the 'black fungus', is a fungal infection, which is on a rise in patients who have recovered from COVID-19.

Though a rare infection, delayed detection and treatment can lead it to be a fatal one. Formerly known as zygomycosis, it is a disease caused by fungi belonging to the fungal family 'Mucorales'. These fungi generally infect people with an impaired immune system.



Mucormycosis has been there and we have been seeing these cases for years. But there is a sudden boom in the number of infections in India and basically there are two reasons for it, the first one being diabetes. Earlier, before COVID-19, the major risk factor for mucormycosis was highly uncontrolled diabetes. Mucormycosis is now majorly seen in patients who have tested positive for COVID-19 and some of the cases are being seen even when the patient is being hospitalised for COVID-19 treatment. However, majority of the cases are being reported in patients after recovering from COVID-19. Photo: AP

## **symptoms**



Patient while admitted or post-COVID complain of loosening of the teeth, pain in the teeth, pain in the cheek or pain in the eye. In post-COVID cases, it affects the nose, sinuses and sometimes it even invades the nervous system. So if someone who has recovered from coronavirus has a bleeding nose or severe, unbearable cheek pain, dental pain, loosening of the teeth or severe eye pain or headache, then one has to think about whether they are dealing with mucormycosis and they should quickly get it checked from an ENT surgeon. Photo: AP

## **Precautions to be taken**

It is not mandatory that a person who has recovered from COVID-19 is bound to get infected by the black fungus. The fungal infection can be safely avoided by taking certain precautions, which include wearing a mask even after testing negative. Another precautionary measure is that the recovered person has to strictly monitor their sugar levels and keep it in check.

## **treatment**

The medical treatment for mucormycosis ranges from 6 to 12 weeks and is sometimes associated with adverse effects. Mucormycosis treatment is a debride treatment, which means that it has to be treated medically as well as surgically. The fungus has to be removed surgically so that the penetration of antifungal drugs is much better into these areas. Surgery is very important because the black fungus has to be completely scraped off and healthy tissue should be seen. The Union Health Ministry has appealed to all the states and Union Territories to declare mucormycosis as a notifiable disease under the Epidemic Disease Act 1897. The Ministry has also advised all government and private health facilities, as well as medical colleges to follow guidelines issued by it and the ICMR on screening, diagnosis and management of mucormycosis. Telangana and Rajasthan have already declared it as an epidemic.

## **Which states have been affected?**

Cases of black fungus have been reported in various parts of the country including Maharashtra, Karnataka, Uttarakhand, Telangana, Madhya Pradesh, Andhra Pradesh, Haryana and Bihar.





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**National service scheme** ❤️

## BLACK FUNGUS AWARENESS CAMPAIGN 🟡

what is black fungus and their symptoms?

The prime symptom of the black fungus includes discolouration of the oral tissues, tongue, gums, stuffy nose, severe pain, swelling of face, heaviness below the eyes, discomfort, fever and headache. Here is how you can reduce your chances of getting the black fungus infection. Top 3 oral tips to prevent black fungus

### 03 /6 | Black fungus symptoms



How it can be treated ?

Amphotericin-B is an anti-fungal drug that is used in the treatment of a rare infection called mucormycosis, or "black fungus". According to the statement by the Ministry of Chemicals and Fertilizers, five more pharma companies have got new drug approval for the production of Amphotericin-B within three days. 4 days ago



**STAY HOME** ❤️ **STAY SAFE** 🙌

**PAWAN SHETTY**  
**2ND B.SC**





# CANARA COLLEGE

## NATIONAL SERVICE SCHEME



### BLACK FUNGUS AWARENESS CAMPAIGN



#### Black Fungus symptoms:

Identify Signs & Symptoms

Of Mucormycosis In COVID

Cases

Mucormycosis, also known as black fungus, is caused by a group of molds called mucormycetes. It is very important to identify the signs and symptoms of black fungus infection because it can turn dangerous if left untreated. Also know what are the dos and don'ts in

While Covid19 cases are increasing rapidly, government and health experts are gearing up for the third wave of coronavirus along with treating people. The B-1617 variant of coronavirus, first identified in India, has already been classified as a variant of concern at the global level by the World Health Organization. Along with this, reports of a mysterious infection, black fungus affecting covid patients are doing rounds. Mucormycosis, also known as black fungus, can turn dangerous if left untreated, doctors have warned. The re-emergence of the rare deadly fungal infection among covid-19 patients has caused major concerns. It has been found across hospitals in Delhi Pune and Ahmedabad.

#### ಕಪ್ಪುಶಿಲೀಂಧ್ರ ಸೋಂಕು ಲಕ್ಷಣ:

ಕಪ್ಪುಶಿಲೀಂಧ್ರ ಮೂಗಿನ ಮೂಲಕ ಹೇವ ಸೇರುತ್ತದೆ. ಮೂಗಿನಲ್ಲಿ ಕಪ್ಪುಧವು ರಕ್ತ ಬರುತ್ತದೆ. ಅನಂತರ ತಲೆಯ ಭಾಗಕ್ಕೆ ಹೋದರೆ ದವಡೆ ನೋವು, ಹಲ್ಲುಗಳು ಸಡಿಲವಾಗುವುದು, ದವಡೆ ನಿಶ್ಚಿಂತವಾಗುತ್ತದೆ. ಕಣ್ಣಿಗೆ ಹೋದರೆ ಕಣ್ಣಿನ ಪಕ್ಕದಲ್ಲಿ ಕಪ್ಪುಕಲೆ, ಕಣ್ಣಿಗೆ ಹಾನಿಯಾಗುತ್ತದೆ. ಕೊನೆಯದಾಗಿ ಮೆದುಳಿಗೆ ತಲುಪಿದಾಗ ವ್ಯಕ್ತಿ ಸಾವಿಗೀಡಾಗುತ್ತಾನೆ. ಈ ಯಾವುದೇ ಲಕ್ಷಣ ಕೊರೊನಾ ವೀಡಿತರು, ಗುಣಮುಖದಲ್ಲಿ ಕಂಡುಬಂದರೆ ಶೀಘ್ರವೇ ವೈದ್ಯರನ್ನು ಸಂಪರ್ಕಿಸಬೇಕು.

#### Symptoms of black fungus:

- Facial deformity
- Headache
- Facial pain
- Nasal congestion
- Loss of vision or pain in eyes
- Altered mental state, confusion
- Swelling in cheeks and eyes
- Toothache, loosening of teeth
- Black crusts in the nose

Wear a clean mask, if u wear surgical mask then change it after 6 hours of use.

And if u wear cloth mask then rinse it hot water after use. So wear a clean mask and be safe.

Name: swathi

Glass: 2<sup>nd</sup> bsc(pmc)

Roll no:2121







# CANARA COLLEGE MANGALORE

## NATIONAL SERVICE SCHEME



### BLACK FUNGUS AWARENESS CAMPAIGN ✨

#### WHY ARE BLACK FUNGUS INFECTIONS ARE INCREASING ?

The rise in black fungus infections, mostly in patients who had severe cases of Covid-19, has been linked to an overuse of steroids in the treatment of the coronavirus, which can acutely compromise the immune system if taken over a prolonged period. 3 days ago



#### HOW DOES BLACK FUNGUS AFFECT ?



Black fungus commonly affects the sinuses or lungs after a person inhales fungal spores in the air, and can also affect the skin following a surface injury like a cut or burn. Symptoms depend on where in the body the fungus is growing, but can include facial swelling, fever, skin ulcers and black lesions in the mouth.

#### CAN BLACK FUNGUS BE TREATED AT HOME?

The Health Minister added that the medicines to treat the infection cannot be purchased from medical stores as this cannot be treated at home. 3 days ago

**SANGAMESH**  
**2ND B.COM C**





## CANARA COLLEGE MANGALORE



### NATIONAL SERVICE SCHEME

### Awareness campaign on black fungus

#### What is black fungus?

It's caused by a group of molds, called mucormycetes. Individuals are infected after inhaling fungal spores found naturally in India's environment and soil.

#### Cause for black fungus:

It is caused by exposure to mucor mould which is commonly found in soil, plants, manure, and decaying fruits and vegetables. "It is ubiquitous and found in soil and air and even in the nose and mucus of healthy people," says Dr Akshay Nair, a Mumbai-based eye surgeon.

#### Effects of black fungus:

Black fungus commonly affects the sinuses or lungs after a person inhales fungal spores in the air, and can also affect the skin following a surface injury like a cut or burn. Symptoms depend on where in the body the fungus is growing, but can include facial swelling, fever, skin ulcers and black lesions in the mouth.

#### Treatment:

As Black Fungus infections are on rise, there has been sudden rise in demand for anti-fungal drug Ampho B, which is commonly used for the treatment of the infection.



G.Ankitha Prabhu

1BCA

1604





# CANARA COLLEGE MANGALORE

## NATIONAL SERVICE SCHEME



### BLACK FUNGUS AWARENESS CAMPAIGN ✨

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**SANGAMESH**  
**2ND B.COM C**





# CANARA COLLEGE

## Mangalore

### BLACK FUNGUS AWARENESS CAMPAIGN



#### What is black fungus ??

COVID-19-associated Mucor mycosis, commonly referred to as black fungus, is the association of Mucormycosis with COVID-19. It has been reported around the nose, eyes and brain – a clinical manifestation sometimes referred to as 'rhino-orbital-cerebral Mucor mycosis'

#### What is the symptom of black fungus??

Swelling in eyes  
Fever  
Headache  
pain in eyes

#### How is black Fungus Treated??

Antifungal drug amphotericin B is used for treatment, which is commonly used for the treatment of the infection



**Black Fungus**

THASHWIN.S.  
1<sup>st</sup> BCA  
1620









# AWARENESS CAMPAIGN ON BLACK FUNGUS!!

Watch out for these symptoms  
before it turns fatal



## Black Fungus Is Making People Blind

### BLACK FUNGUS SHADOW (MUCORMYCOSIS)

The prevalence of mucormycosis is around 10-15% globally in India. Due to the spotlight on Coronavirus, the black fungus remains lurking in its shadow.

We extend doctor speciality specific and patient centric awareness communications to help early diagnosis and management of Mucormycosis.

### Impact Zones

#### SYMPTOMS SEEN

Fatigue, tiredness, breathlessness, loss of energy, reduced appetite

Doctors seeing cases of black fungus in the sinuses

#### POSSIBLE REASONS FOR FUNGUS...

Steroid use for a long period

Immunocompromised state and diabetes

Infection affects only those who have a high blood sugar level

Asha. K (1st B.Com A)  
1208



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# Canara college Mangalore

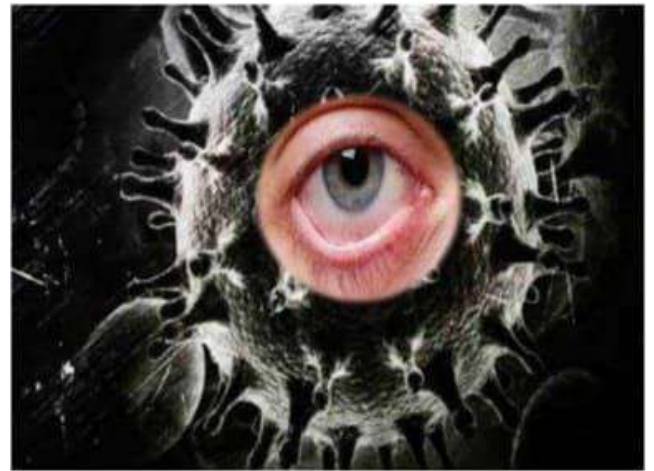


## Black fungus

Infections is caused by mucormycetes a group of moulds fungus abundant in environmeny  
It mainly affects sinuses lungs of people

### Symptoms

- \*Bloody vomits
- \*Pain redness around eyes
- \*Fever
- \* Headache coughing
- \* Shortness of breath



### Treatment for black fungus

As black fungus is infection are on rise  
There has a sudden rise in demand  
for anti fungal drug Ampho B  
which is commonly used for treatment

Ankitha  
1 st bcom A





Mangalore University  
National Service Scheme  
**CANARA COLLEGE**

Mangalore , Karnataka



## Black Fungus Awareness Campaign

### Reasons for Black Fungus

The SARS-CoV-2 virus has given birth to several other new diseases. One of the rapidly spreading infection post-COVID recoveries is black fungus. Also called Mucormycosis, black fungus is, as the name suggests is a fungal disease that is commonly being observed in patients who were given steroids for a long time, who have been hospitalised for a long time, were on oxygen support or ventilator, poor hospital hygiene or who have been taking medication for other illness such as diabetes.

If not treated on time, the black fungus infection can turn fatal.

The COVID medications can leave the body weak and low immunity. They can also escalate the blood sugar levels in both diabetics and non-diabetic COVID-19 patients, which is said to be the main reason for the fungus to multiply.

But by following some simple dental hygiene rules, one can reduce their chances of catching most of the viral and fungal infections including black fungus, according to a dentist.

### Effects of Black Fungus

#### How does black fungus affect?

*Black fungus commonly affects the sinuses or lungs after a person inhales fungal spores in the air, and can also affect the skin following a surface injury like a cut or burn. Symptoms depend on where in the body the fungus is growing, but can include facial swelling, fever, skin ulcers and black lesions in the mouth. 2 days ago*

**RUCHITHA J ...2ND BCOM A**  
**NSS VOLUNTEER**

### Treatment for Black Fungus

Amphotericin-B injection is the prime treatment for the treatment of this fungal infection. The injection is an antifungal medicine. If infected, the patient has to be kept under the strict supervision of eye surgeons, ENT specialists and neurosurgeons as the infection affects different parts of the body simultaneously. As a part of the life-saving procedures, all the infected tissues should be surgically removed. Hence, some people even end up losing their eyesight and in some cases even the upper jaw.

Patients might even require an intravenous anti-fungal procedure spanning four to six weeks.

### Precautions to be taken

The symptoms include pain under the eyes, one-sided facial swelling, nasal or sinus congestion, black lesions on the nasal bridge, stuffy or bleeding nose, toothache or loosening of teeth and partial loss of vision.

Experts advise the following steps to protect individuals from the infection. The key is to wear a mask at all times, wear shoes, long trousers and preferably gloves if you step out into a park or for gardening and maintain personal hygiene including a thorough scrub bath.

As infections rise, India must focus on precaution and the judicious use of steroids including immediate treatment when the fungus is detected.

Source :- Times of India





# Canara collage mangalore



## NATIONAL SERVICE SCHEME

### Black fungus awareness campaign 🌟

#### **WHO ARE GETTING BLACK FUNGUS ?**

According to experts, people with diabetes are more prone to getting the black fungus infection. Amid the surge in COVID-19 infections, Delhi is also "frequently reporting" cases of black fungus, also known as mucormycosis, sources told news agency ANI earlier today. 5 days ago



#### **CAN YOU GET A BLACK FUNGUS WITHOUT COVID ?**

YES. Mucormycosis is a fungal infection mostly found in patients with compromised immune systems. 2 days ago

#### **WHAT IS MEDICINE FOR BLACK FUNGUS ?**

Amphotericin-B is an anti-fungal drug that is used in the treatment of a rare infection called mucormycosis, or "black fungus". According to the statement by the Ministry of Chemicals and Fertilizers, five more pharma companies have got new drug approval for the production of Amphotericin-B within three days. 4 days ago



**MAITHRI K.V**  
**2ND B.COM A**





# CANARA COLLEGE MANGALORE



## BLACK FUNGUS AWARENESS CAMPAIGN

### BLACK FUNGUS WARNING BELLS

#### WHEN VULNERABLE

- Uncontrolled diabetes
- Immuno-suppression by steroids
- Prolonged ICU stay
- Co-morbidities-post transplant/malignancy
- Voriconazole therapy

#### HOW TO PREVENT

- Use mask if you are visiting dusty construction sites
- Wear shoes, long trousers, long sleeve shirts and gloves while handling soil (gardening)
- Maintain personal hygiene including scrub bath

#### DO'S

- Control hyperglycemia
- Monitor blood glucose level post Covid
- Use steroids judiciously – correct time, dose and duration
- Use clean sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously



#### DONT'S

- Don't miss warning signs and symptoms
- Don't consider all blocked nose cases as of bacterial sinusitis, especially in context of immunosuppression / Covid 19 patient immunomodulators
- Do not hesitate to seek aggressive medical investigations
- Do not lose time to initiate mucormycosis treatment

#### WHEN TO SUSPECT

**SINUSITIS:** Nasal congestion, nasal discharge (blackish/bloody), local pain on cheekbone

- One-sided facial pain, numbness or swelling
- Blackish discolouration over bridge of nose/palate
- Toothache, loosening of teeth, jaw involvement
- Blurred or double vision with pain; fever, skin lesions, thrombosis and necrosis
- Chest pain, pleural effusion, haemoptysis

#### HOW TO MANAGE THE DISEASE

- Control diabetes
- Reduce steroids
- Maintain adequate systemic hydration
- Infuse normal saline (IV) before amphotericin B infusion
- Anti-fungal therapy for at least 4 to 6 weeks

**SOURCE:-TIMES OF INDIA**

DEEPA  
1ST BCA  
1602





# Canara College Mangalore



## Awareness campaign on black fungus

COVID-19 associated mucormycosis, commonly referred to as black fungus, is the association of mucormycosis with COVID-19.

Can you get black fungus without COVID-19?

Yes, Mucormycosis is a fungal infection mostly found in patients with compromised immune system.

Rashmi.S  
1st BCom A  
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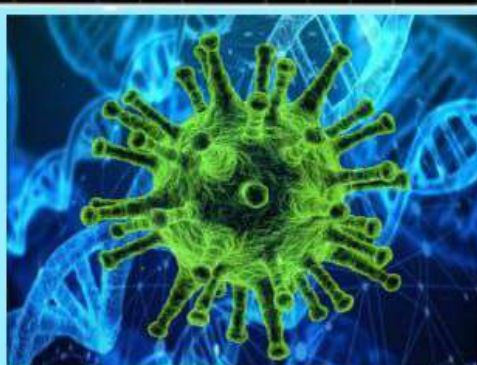




## CANARA COLLEGE MANGALORE



# Black fungus awareness campaign



Watch out for these symptoms  
before it turns fatal



### STEPS TO PREVENT MUCORMYCOSIS



## What happens in black fungus?

Mucormycosis is a fungal infection that causes blackening or discolouration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing blood. Mucormycosis is caused by exposure to mucor mould, which is commonly found in soil, air and even in the nose and mucus of humans.

AKASH M.K  
1ST B.SC  
1029





# **CANARA COLLEGE MANGALURU**

## **BLACK FUNGUS AWARENESS CAMPAIGN**



### **WHAT IS BLACK FUNGUS**

A life-threatening infection known as **mucormycosis** (colloquially as black fungus) which, if untreated, results in blindness followed by death

#### **What makes you vulnerable:**

Exposure to mucor mould which is commonly found in soil, plants, manure etc



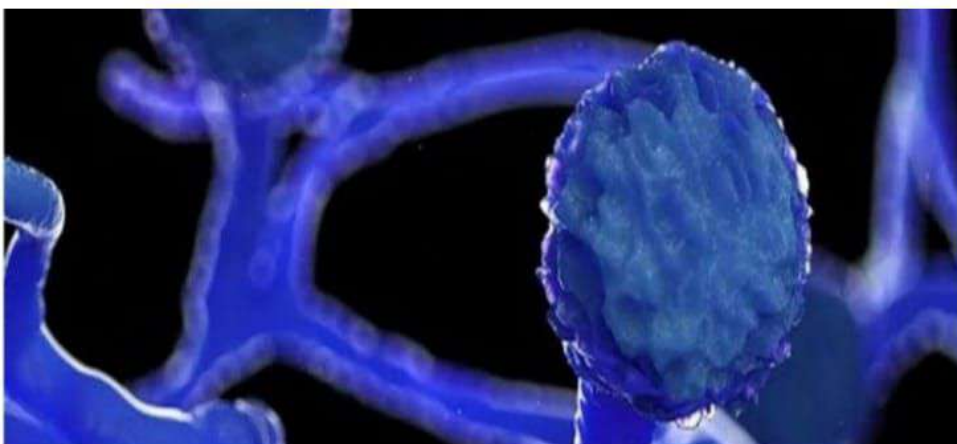
It is a rare kind of fungal infection  
**affecting 1 in 10,00,000 people**  
But with an overall mortality rate of 50%

### **What is the symptoms of black fungus?**

- 1) Swelling in eyes
- 2) fever and headache
- 3) facial pain
- 4) blur of vision

### **How is black fungus treated?**

Black fungus can be treated if diagnosed early and it is a rare infection found in covid 19 patients.



**DIVYASHREE**  
**2ND BCOM B**  
**2337**





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**BLACK FUNGUS AWARENESS CAMPAIGN**



**Symptoms of black Fungus are :-**

- ❖ Headache , pain around eyes
- ❖ One sided facial swelling
- ❖ Nasal or sinus congestion
- ❖ Toothache , loosening of maxillary teeth
- ❖ fever

**Steps to prevent Black Fungus :-**

- ❖ Keep blood sugar under check COVID or NO COVID.
- ❖ Use steroids judiciously while treating COVID.
- ❖ Use clean water in humidifier used for O2 support.
- ❖ Maintain overall cleanliness around patients.
- ❖ Any oral ulcer should be treated immediately.

**Who are getting Black Fungus?**

According to experts people with diabetes are more prone to getting the Black Fungus infection . Patients within 6 weeks of COVID treatment are at the highest risk of black fungus.

**WEAR A MASK  
A CLEAN MASK**

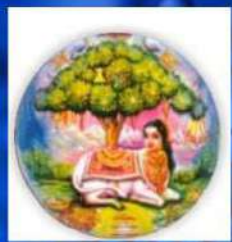


**SHARANYA**  
**I BCA**  
**1643**

**STAY HOME STAY SAFE**

*My take on the Black Fungus*





# Mangalore University National Service Scheme



## Canara College Mangaluru

# Black Fungus Awareness Campaign



### Do's

- Control hyperglycaemia
- Monitor blood glucose level post COVID-19 discharge & in diabetics
- Use steroid judiciously
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/ anti fungal judiciously



### Don'ts

- Do not miss warning signs & symptoms
- 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
- Don't hesitate in seeking aggressive investigations as appropriate for detecting fungal etiology
- Don't lose crucial time to initiate treatment for mucormycosis

Watch out for these symptoms  
— before it turns fatal —



Pain/redness  
around eyes/nose



Fever



Headache



Coughing



Shortness of breath



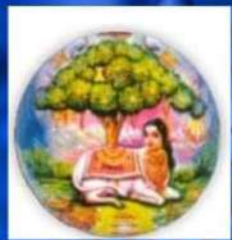
Bloody vomits



Altered mental status

**Adarsha H S**  
**2201 2nd Bcom A**





# Mangalore University

## National Service Scheme

### Canara College Mangaluru



#### WHAT IS BLACK FUNGUS

A life-threatening infection known as **mucormycosis** (colloquially as black fungus) which, if untreated, results in blindness followed by death

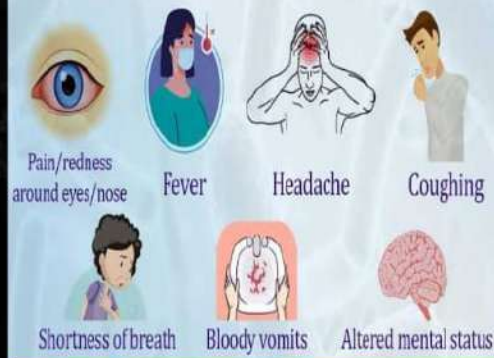
##### What makes you vulnerable:

Exposure to mucor mould which is commonly found in soil, plants, manure etc



It is a rare kind of fungal infection affecting **1 in 10,00,000 people**  
But with an overall mortality rate of 50%

#### Watch out for these symptoms before it turns fatal



#### STEPS TO PREVENT MUCORMYCOSIS



- Keep blood sugar under check Covid or no Covid
- Use steroids judiciously while treating Covid
- Use clean water in humidifier used for O2 support
- Maintain overall cleanliness around patients
- Any oral ulcer should be treated immediately

**Vishnudev M V**  
**2254 II B.Com A**





## BLACK FUNGUS AWARENESS CAMPAIGN

### WHAT IS BLACK FUNGUS

A life-threatening infection known as **mucormycosis** (colloquially as black fungus) which, if untreated, results in blindness followed by death

#### What makes you vulnerable:

Exposure to mucor mould which is commonly found in soil, plants, manure etc



It is a rare kind of fungal infection  
**affecting 1 in 10,00,000 people**  
But with an overall mortality rate of 50%

### HOW DOES BLACK FUNGUS AFFECT?

Black fungus commonly affects the **sinuses or lungs** after a person fungal spores in the air and can also affect the skin following a surface like a cut or burn.

### HOW IS BLACK FUNGUS TREATED?

Black fungus is treated if diagnosed early and it is a rare found in covid 19 patients. **Amphotericin-B injection** is the prime treatment for this fungal infection. The injection is an antifungal medicine.

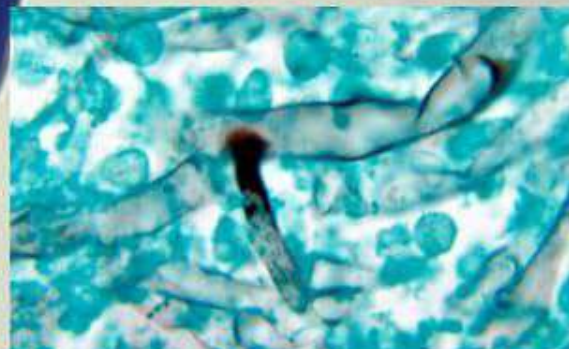
### WHAT IS THE REASON FOR BLACK FUNGUS?

Mucormycosis or black fungus is a complication caused by a fungal infection. People catch mucormycosis by coming in contact with the fungal spores in the environment. It can also develop on the skin after the enters to the skin through cut or burn.



### HOW CAN WE PREVENT BLACK FUNGUS?

To prevent black fungus, mortified oxygen should be used the COVID-19 treatment and people should keep a check on their blood sugar level. The treatment of black fungus can be continued for 1-1.5 months.







# CANARA COLLEGE MANGALORE



## BLACK FUNGUS AWARENESS CAMPAIGN

### WHAT IS THE BLACK FUNGUS?

AS INDIA STRUGGLES WITH A DEADLY SECOND WAVE OF COVID-19, CASES OF A RARE FUNGAL INFECTION CALLED "MUCORMYCOSIS" HAVE BEEN REPORTED IN SEVERAL STATES. ALSO KNOWN AS BLACK FUNGUS, THE LIFE-THREATENING DISEASE HAS INFECTED MANY COVID-19 PATIENTS INCLUDING THOSE WHO HAVE RECOVERED

### WHAT IS THE SYMPTOM OF BLACK FUNGUS?

THE SYMPTOMS INCLUDE UNILATERAL NASAL OBSTRUCTION, FACIAL PAIN, SWELLING, NUMBNESS, BLURRING OF VISION, DOUBLE VISION OR WATERY EYES

### HOW IS BLACK FUNGUS TREATED?

BLACK FUNGUS CAN BE TREATED IF DIAGNOSED EARLY AND IT IS A RARE INFECTION FOUND IN COVID-19 PATIENTS

*STAY HOME & STAY SAFE*





# MANGALORE UNIVERSITY NATIONAL SERVICES SCHEME CANARA COLLEGE MANGALORE KARNATAKA



## BLACK FUNGUS WARNING BELLS

### WHEN VULNERABLE

- Uncontrolled diabetes
- Immuno-suppression by steroids
- Prolonged ICU stay
- Co-morbidities-post transplant/malignancy
- Voriconazole therapy

### HOW TO PREVENT

- Use mask if you are visiting dusty construction sites
- Wear shoes, long trousers, long sleeve shirts and gloves while handling soil (gardening)
- Maintain personal hygiene including scrub bath

### DO'S

- Control hyperglycemia
- Monitor blood glucose level post Covid
- Use steroids judiciously — correct time, dose and duration
- Use clean sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously



### DONT'S

- Don't miss warning signs and symptoms
- Don't consider all blocked nose cases as of bacterial sinusitis, especially in context of immunosuppression / Covid 19 patient immunomodulators
- Do not hesitate to seek aggressive medical investigations
- Do not lose time to initiate mucormycosis treatment

### WHEN TO SUSPECT

**SINUSITIS:** Nasal congestion, nasal discharge (blackish/bloody), local pain on cheekbone

- One-sided facial pain, numbness or swelling
- Blackish discolouration over bridge of nose/palate
- Toothache, loosening of teeth, jaw involvement
- Blurred or double vision with pain; fever, skin lesions, thrombosis and necrosis
- Chest pain, pleural effusion, haemoptysis

### HOW TO MANAGE THE DISEASE

- Control diabetes
- Reduce steroids
- Maintain adequate systemic hydration
- Infuse normal saline (IV) before amphotericin B infusion
- Anti-fungal therapy for at least 4 to 6 weeks

JAYALAXMI  
1ST BCOM.A  
1229

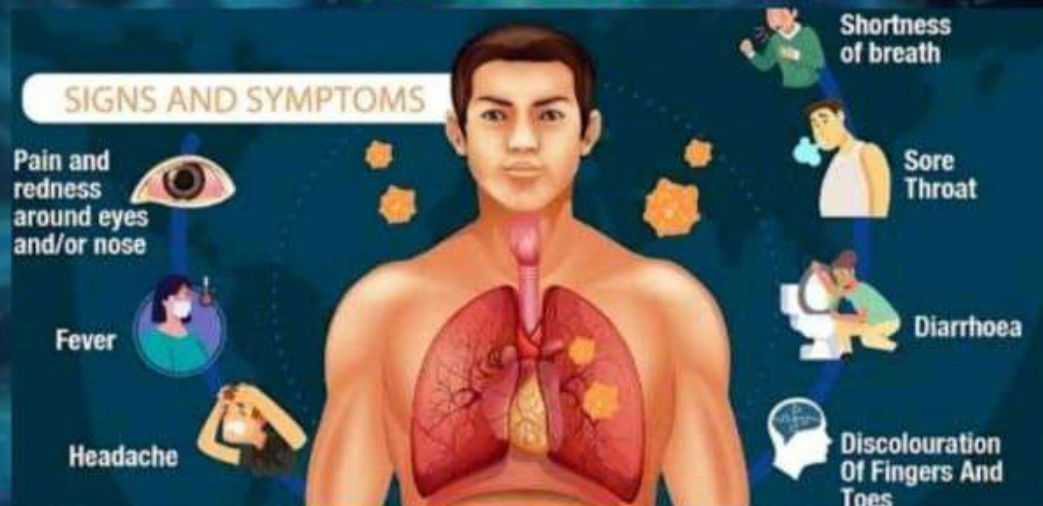




# CANARA COLLEGE NATIONAL SERVICE SCHEMES



## BLACK FUNGUS AWARENESS CAMPAIGN



→ **Mucormycosis is a very rare infection. It is caused by exposure to mucor mould which is commonly found in soil, plants, manure, and decaying fruits and vegetables.**



**What can help patients**

- Universal masking
- Look for early symptoms and immediately seek medical help

**Who needs to be careful**

- Patients with uncontrolled diabetes
- Covid patients
- Those on long-term steroids
- Chemotherapy and post-transplant patients

**How is it treated?**

The first steps in treating mucormycosis is intravenous antifungal medications and surgical removal of infected tissue

→ **Reason: Tends to occur most often in those with weakened immunity from illness or chronic health conditions. Fatal if goes untreated for a long term . It can infect the lungs or the brain .**

Wear a clean mask, if u wear surgical mask then change it after 6 hours of use.

And if u wear cloth mask then rinse it hot water after use. So wear a clean mask and be safe.

**DEEKSHA PAI H. V**  
**II BCA**  
**2604**





# Canara college Mangalore, Karnataka



## National service scheme

### BLACK FUNGUS: A QUICK GUIDE

#### PREVENTION



1

**Use masks if you are visiting dusty construction sites**



2

**Wear shoes, long trousers, long sleeve shirts, gloves while handling soil (garbening), moss or manure**



3

**Maintain personal hygiene including thorough scrub bath**

#### DOs

- Control hyperglycemia
- Monitor blood glucose level post COVID-19 discharge, also in diabetics
- Use steroid judiciously – correct timing, correct dose and duration
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously

#### DON'Ts

- Do not miss warning signs, symptoms
- Do not consider all cases with blocked nose as bacterial sinusitis
- Do not hesitate to seek aggressive investigations
- Do not lose crucial time to initiate treatment for mucormycosis

APP.CO

**SAMRIDDHI  
1449  
1 BCOM C**

APP.CO





MANGALORE UNIVERSITY  
NATIONAL SERVICE SCHEME  
**CANARA COLLEGE**



Screening, Diagnosis & Management of  
Mucormycosis During COVID-19

## What is Mucormycosis?

A fungal infection mainly affecting people with medical health problems that reduces their ability to fight environmental pathogens.

Mold spores get into your nose and can cause allergy symptoms.

They can also get into your lungs and trigger asthma.



## BLACK FUNGUS MUCORMYCOSIS



**B Shravan Shetty**  
**1st Bcom B**  
**1366**







# CANARA COLLEGE

## MANGLORE



**COVID 19**



### **AWARENESS OF BLACK FUNGUS**



#### **WHAT IS BLACK FUNGAL INFECTION IN COVID?**

We've seen reports from India of infections with mucormycosis, often termed "black fungus", in patients with Covid-19, or who are recovering from the coronavirus.

#### **WHAT HAPPENS IN BLACK FUNGUS?**

Mucormycosis is a fungal infection that causes blackening or discolouration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing blood. Mucormycosis is caused by exposure to mucor mould, which is commonly found in soil, air and even in the nose and mucus of humans

#### **HOW IS BLACK FUNGUS TRANSMITTED?**

Mucormycosis or black fungus is a complication caused by a fungal infection. People catch mucormycosis by coming in contact with the fungal spores in the environment. It can also develop on the skin after the fungus enters the skin through a cut, scrape, burn, or other types of skin trauma



**STAY HOME AND STAY SAFE**



K Deepesh Roo  
1st B.com D  
1535





MANGALORE UNIVERSITY  
NATIONAL SERVICE SCHEME  
**CANARA COLLEGE**  
MANGALURU, KARNATAKA

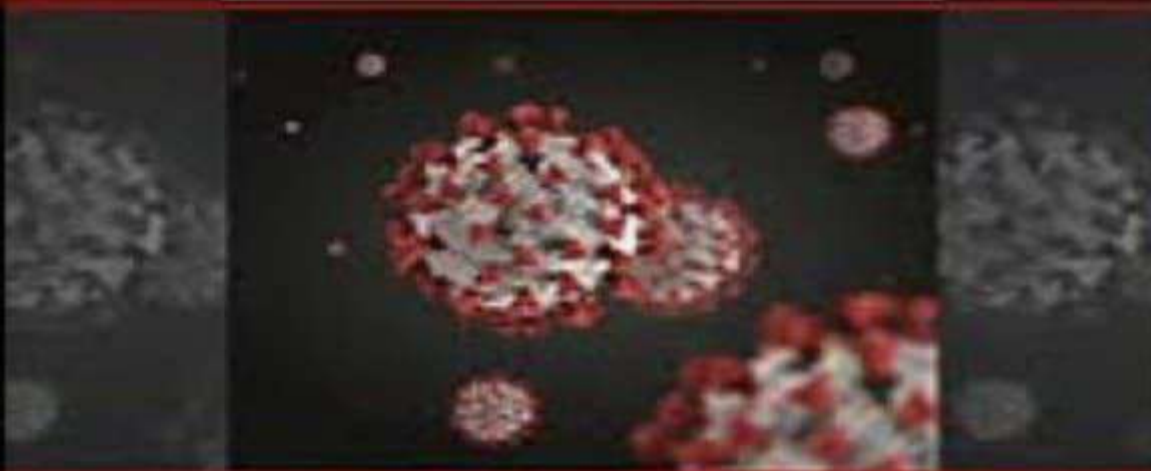


# BLACK FUNGUS

## MUCORMYCOSIS

**COVID CAUSING FUNGAL INFECTION?**

**MUCORMYCOSIS OR BLACK FUNGUS**



**CAN BE LIFE THREATENING FOR IMMUNOCOMPROMISED PATIENTS**

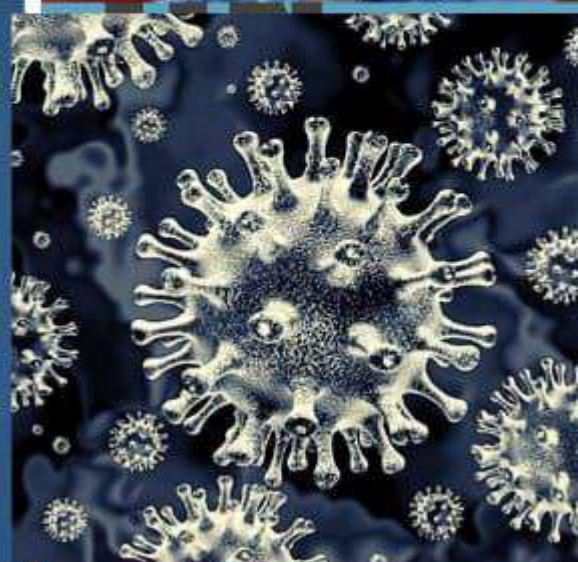


## BLACK FUNGUS SHADOW

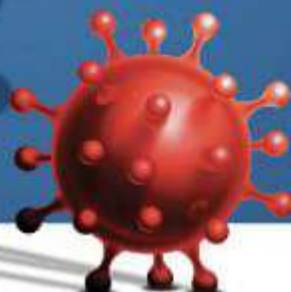
(MUCORMYCOSIS)

The prevalence of mucormycosis is around **70 times higher** in India than that in global data.

Due to the spotlight on Coronavirus, the black fungus remains lurking in its shadow.



Varun Kumar  
1st Bcom B  
1321







# NATIONAL SERVICE SCHEME CANARA COLLEGE MANGLORE, KARNATAKA



➤ It is caused by a group of fungus called **micromycetes**

➤ Immunocompromised patients having diabetes, **HIV/AIDS**, cancer and those on prolonged use of steroids in high doses fall in high-risk category

➤ Found in one individual in 8 lakh but frequent after Covid

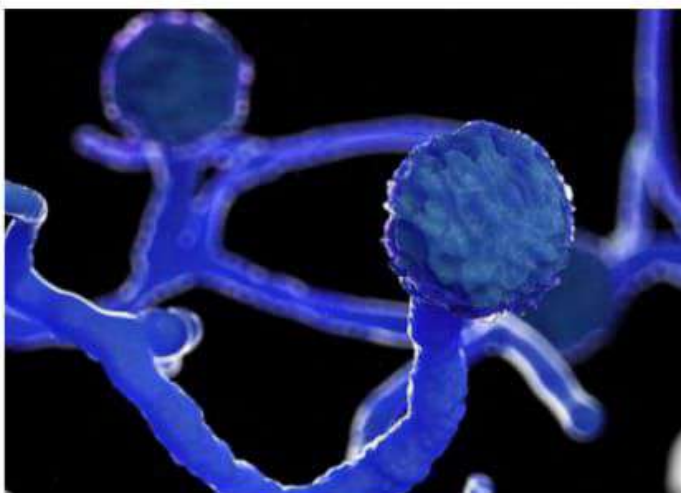
outbreak

➤ Treated with antifungal drugs

➤ Common symptoms include sinusitis, nasal congestion, facial pain or numbness, blackish discoloration over the bridge of the nose, toothache, blurred or double vision, and chest pain



Mortality  
rate is  
**50-60%**



BLACK FUNGUS





MANGALORE UNIVERSITY  
NATIONAL SERVICE SCHEME  
**CANARA COLLEGE**  
MANGALURU, KARNATAKA



## BLACK FUNGUS WARNING BELLS

### WHEN VULNERABLE

- Uncontrolled diabetes
- Immuno-suppression by steroids
- Prolonged ICU stay
- Co-morbidities-post transplant/malignancy
- Voriconazole therapy

### HOW TO PREVENT

- Use mask if you are visiting dusty construction sites
- Wear shoes, long trousers, long sleeve shirts and gloves while handling soil (gardening)
- Maintain personal hygiene including scrub bath

### DO'S

- Control hyperglycemia
- Monitor blood glucose level post Covid
- Use steroids judiciously – correct time, dose and duration
- Use clean sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously



### DONT'S

- Don't miss warning signs and symptoms
- Don't consider all blocked nose cases as of bacterial sinusitis, especially in context of immunosuppression / Covid 19 patient immunomodulators
- Do not hesitate to seek aggressive medical investigations
- Do not lose time to initiate mucormycosis treatment

### WHEN TO SUSPECT

- SINUSITIS:** Nasal congestion, nasal discharge (blackish/ bloody), local pain on cheekbone
- One-sided facial pain, numbness or swelling
- Blackish discolouration over bridge of nose/palate
- Toothache, loosening of teeth, jaw involvement
- Blurred or double vision with pain; fever, skin lesions, thrombosis and necrosis
- Chest pain, pleural effusion, haemoptysis

### HOW TO MANAGE THE DISEASE

- Control diabetes
- Reduce steroids
- Maintain adequate systemic hydration
- Infuse normal saline (IV) before amphotericin B infusion
- Anti-fungal therapy for at least 4 to 6 weeks

## SYMPTOMS

➤ Headache

➤ Numbness in face/  
radiating pain in cheeks

➤ Nasal block/ nasal  
discharge tinged with blood/  
black pigments

➤ Redness, pain and swelling  
of eye

➤ Drooping of eyelids/  
double vision

➤ Toothache, loose tooth



## BLACK FUNGUS MUCORMYCOSIS

## BLACK FUNGUS SHADOW (MUCORMYCOSIS)

The prevalence of mucormycosis is around **100 times higher** in India than that in global data. Due to the spotlight on Coronavirus, the black fungus remains lurking in its shadow.



**Kajal**  
**1st Bcom C**  
**1414**



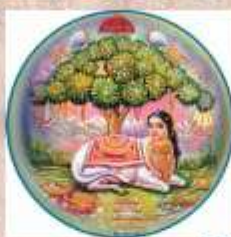
# NATIONAL SERVICE SCHEME

## CANARA COLLEGE MANGLORE

*manvith Bhaskar thokkottu*

*1419*

*1st bcom c*



**How does one catch black fungus?**

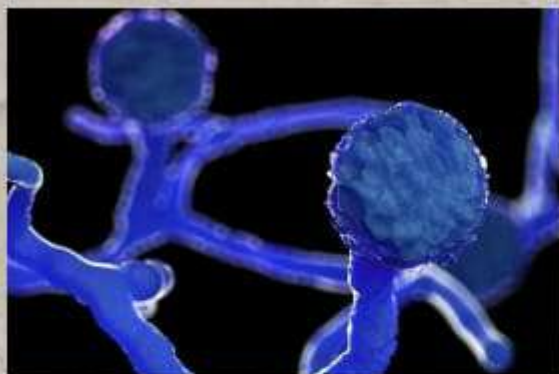
Primarily, fungal spore floating in the environment give people this infection. One may also catch it when the fungus "enters the skin through a cut, burn, or other types of skin trauma."

On coming in touch, the fungus can stick to a body part, and after a point travel inward through the nose, sinus or lungs.

**What are the symptoms of mucormycosis?**

Some early signs of the condition include "sinus pain or nasal blockage on one side of the face, one-sided headache, swelling or numbness, toothache and loosening of teeth," says the Indian Council of Medical Research (ICMR).

According to reports from various top hospitals across India, patients are reporting "blurred vision, discoloration or blackening of tissue on nose and cheeks and black lesions inside the mouth or discharge from nose."



**Who kind of people are more at risk?**

According to medical science, diabetes patients are majorly vulnerable to fungal infections such as mucormycosis. So are immuno-suppressed people who have been recently cured of Covid.

Particular care is required for Covid patients who are also diabetic. ICMR says that controlling diabetes is among the best preventive measures for this disease.

The disease is being majorly seen in people who have recovered from Covid, or are recovering, the Union Health ministry said.

Without treatment, it can lead to lethal bloodstream infection.

**How are black fungus cases treated?**

After infecting a person, the fungus doesn't remain static but spreads through the nose, attacks the eyes, and eventually reaches the brain, at which point it becomes potentially deadly. This necessitates multi-discipline expertise to treat it.

In a majority of cases, especially if undetected for long, a number of different parts end up getting affected by mucormycosis. So it calls for a combined team of microbiologists, internal medicine specialists, intensivist neurologists, ENT specialists, ophthalmologists, dentists, surgeons, etc.

As part of life-saving procedures, all infected tissues have to be surgically removed. Some patients end up losing the eye/s and, in some cases, the upper jaw.

Patients might need an intravenous anti-fungal procedure spanning four to six weeks.

**How risky is this condition?**

The fatality rate in mucormycosis cases is very high.

As per data available thus far, mortality is as high as 80% if a patient goes untreated, or remains untreated long. If treated, it is still 40-50%. In cases where the infection is caught at the the sinus stage itself, patients mostly completely recover.

Besides, according to doctors, drugs used for treating this condition come with strong side-effects. That can, in some cases, lead to "kidney issues, neurological dysfunction and stroke".





# **Canara degree college**

## **MANGLORE**

### **National service scheme**

#### **Black fungus awareness compaign**



#### **Symptoms of Mucormycosis**

The symptoms of mucormycosis will depend on where in your body the fungus is growing. They may include:

- Fever
- Cough
- Chest pain
- Shortness of breath
- Swelling on one side of your face
- Headache
- Sinus congestion
- Black lesions on the bridge of your nose or the inside of your mouth
- Belly pain
- Nausea and vomiting
- Gastrointestinal bleeding
- Blood in your stool
- Diarrhea

Mucormycosis mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.

#### **Who kind of people are more at risk?**

According to medical science, diabetes patients are majorly vulnerable to fungal infections such as mucormycosis. So are immuno-suppressed people who have been recently cured of Covid.

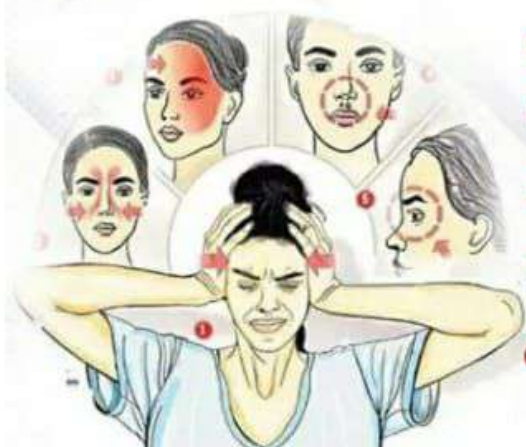
#### **DON'T PANIC ABOUT MUCORMYCOSIS**



- Develops on wet surfaces
- Often infecting patients with diabetics
- Precautions can prevent outbreak
- Immunosuppression also important factor, not just COVID

**Ashitha s**  
**2 Bcom C**  
**2447**

#### **STEPS TO PREVENT MUCORMYCOSIS**



- Keep blood sugar under check Covid or no Covid
- Use steroids judiciously while treating Covid
- Use clean water in humidifier used for O2 support
- Maintain overall cleanliness around patients
- Any oral ulcer should be treated immediately







NATIONAL SERVICE SCHEME

**CANARA COLLEGE**

Mangalore



## **Black Fungus Awareness Campaign**

### **What is black fungus in human?**

**Mucormycosis**, or “black fungus”, usually infects people whose immune system has been compromised, causing blackening or discolouration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing blood.

### **What are the symptoms of Black Fungus ?**

1. Pain and redness around eyes and nose
2. Fever
3. Headache
4. Shortness of breath
5. Toothache

### **How is Black Fungus Treated?**

1. Control hyperglycemia
2. Antifungal treatment
3. Surgical debridement
4. Radiological monitoring

Karthik kishore acharya  
1st B. Com  
1536






# CANARA COLLEGE MANGALORE

## National Service Scheme



### BLACK FUNGUS AWARENESS CAMPAIGN

COVID-19 PANDEMIC

### WHAT IS BLACK FUNGUS




A life-threatening infection known as mucormycosis (colloquially as black fungus) which, if untreated, **results in blindness followed by death**



**WHAT MAKES YOU VULNERABLE**

Exposure to mucor mould which is commonly found in soil, plants, manure etc



vidya  
2558  
2 Bcom D

Source Times of India





## CANARA COLLEGE MANGALORE NATIONAL SERVICE SCHEME



### Black fungus awareness campaign

Black fungus is a type of fungus, called Mucor belonging to Mucorales species. It is found in environment especially in decaying materials and soil.



## Reasons

### **Disease caused by wearing dirty masks**

Many medical experts believe that black fungus infection can occur if clean masks are not worn and the rooms are poorly Ventilated.

### **Improper use of steroids**

the main reason for black fungus infection is 'improper use of steroids'.

## Precautions

Wearing masks is compulsory. Fungal spores found in air can easily enter the body through the nose.

- \*Maintenance of good hygiene and cleanliness is a must. Regular oral hygiene care with mouthwash, povidone-iodine gargles must be done.
- \*While administering oxygen, water for humidification must be sterile and there should be no leakage from the humidifier.
- \*Steroid usage must be limited to no more than necessary with strict blood glucose control.

**HARSHITHA**  
**2ND B.COM B**  
**2301**





## BLACK FUNGUS AWARENESS CAMPAIGN

**Impact Zones**

**SYMPTOMS SEEN...**

Fatigue, tiredness, breathlessness, loss of energy, reduced appetite

Doctors seeing cases of black fungus in the sinuses

**POSSIBLE REASONS FOR FUNGUS...**

Steroid use for a long period

Immunocompromised state and diabetes

Infection affects only those who have a high blood sugar level

BLACK FUNGUS IS REPORTED AROUND THE NOSE, EYES AND BRAIN-A CLINICAL MANIFESTATION SOMETIMES REFERRED TO AS RHINO-ORBITAL-MUCORMYCOSIS

P

**Watch out for these symptoms before it turns fatal**

- Pain/redness around eyes/nose
- Fever
- Headache
- Coughing
- Shortness of breath
- Bloody vomits
- Altered mental status

### PREVENTION

TAKING CARE OF MOUTH BY BRUSHING TWICE A DAY AND TAKING ORAL CLEANUP CAN HELP EXCEEDINGLY.

DEEPA SHETTY

2605 - 2<sup>ND</sup> BCA





# CANARA COLLEGE MANGALORE



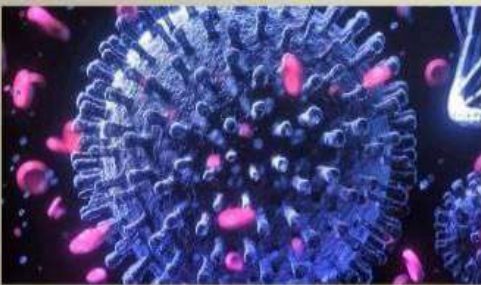
## BLACK FUNGUS AWARENESS CAMPAIGN

### WHAT IS BLACK FUNGUS?

IT'S CAUSED BY A GROUP OF MOLDS CALLED MUCORMYCETES.  
BLACK FUNGUS CAUSED BY A MOULD FOUND IN SOIL & IN  
DECAYING ORGANIC MATTER LIKE ROOTING LEAVES.

### WHAT IS THE SYMPTOM OF BLACK FUNGUS?

THE SYMPTOMS INCLUDE UNILATERAL NASAL OBSTRUCTION,  
FACIAL PAIN, SWELLING, NUMBNESS, BLURRING OF VISION,  
DOUBLE VISION.



PRAJNA  
1<sup>st</sup> Bcom D  
1549





## CANARA COLLEGE, MANGALORE

### BLACK FUNGUS AWARENESS CAMPAIGN



#### WHAT IS MUCORMYCOSIS?

*A serious but rare fungal infection caused by a group of molds called Mucormycosis, which mainly effects brain and lungs*

#### REASONS

VORICONAZOLE THERAPY  
UNCONTROLLED DIABETES  
STERIODS  
PROLONGED ICU STAY

#### PRECAUTION

CHANGE OXYGEN MASK  
USE STEROIDS JUDICIOUSLY  
CONTROL DIABETES

#### TREATMENT

INTRAVENOUS ANTI FUNGAL MEDICATION  
AMPHOTERICIN B  
SURGICAL REMOVAL OF INFECTED TISSUE

**By : Samsthita.S, 1st B.SC , PCM, (1073)**





# CANARA COLLEGE, MANGALORE



## ECURATING HEADACHES

After the patient inhales the moulds present in the air, it travels down to nerves and sinus cavities causing, an extreme headache.



## WHAT IS BLACK FUNGUS?

Black fungus or Mucormycosis is a deadly fungal infection found in some COVID-19 patients with uncontrolled diabetes and prolonged ICU stay. It is known to affect the brain and lungs.

### WHAT ARE THE MAJOR RISK FACTORS?

- Uncontrolled diabetes mellitus
- Immunosuppression by steroids
- Prolonged ICU stay
- Malignancy
- Voriconazole therapy (anti-fungal medication)

## VISION IMPAIRMENT

Vision distortion or changes to the eyes can be one of the signs of this infection. Not just this, the patient can also experience swelling in an eye, poor or hazy vision or bloodshot eyes.

## INDIA

SUFFERS



8,848  
BLACK FUNGUS CASES  
219 DEATHS

STAY HOME STAY SAFE

USING SAME MASK FOR 2-3 WEEKS COULD LEAD TO BLACK  
FUNGUS DEVELOPMENT

- AIIMS DOCTOR

## DISCOLOURATION AROUND THE BRIDGE OF THE NOSE

Patients can experience black patches around the nose and eyes. Apart from this, the fungal infection can also cause the loss of teeth

## AFFECT MENTAL STATE

This infection can travel up to the brain causing, symptoms like memory loss, altered mental state, delirium or neurological impairment

## SWELLING ON FACE

Swelling and pain in the eyes, cheeks and other parts of the face can be warning signs of mucormycosis infection. Not just this, it can also affect the skin giving rise to multiple necrosis, lesions like symptoms

PRATHEESH MALLI, 1064  
1st Year B.Sc (PCM)





# canara college mangalore National service scheme Black fungus awareness campaign

## What is the black fungus?

As India struggles with a deadly second wave of Covid-19, cases of a rare fungal infection called "mucormycosis" have been reported in several states. Also known as black fungus, the life-threatening disease has infected many Covid-19 patients including those who have recovered.



## Black Fungus Symptoms: Identify signs & symptoms of mucormycosis in COVID cases

Mucormycosis, also known as black fungus, is caused by a group of molds called mucormycetes. It is very important to identify the signs and symptoms of black fungus infection because it can turn dangerous if left untreated. Also know what are the dos and don'ts in COVID patients.

Navitha Shetty  
2464  
2Bcom C

source Times of India

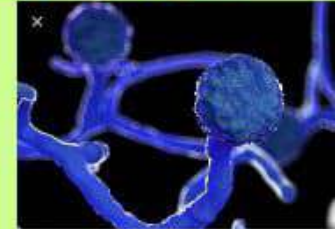




# CANARA COLLEGE MANGALORE



## NATIONAL SERVICE SCHEME BLACK FUNGUS AWARENESS CAMPAIGN



What is black fungus?  
COVID -19 associated mucormycosis, commonly referred to as black fungus, is the association of mucormycosis with COVID -19. It has been reported around the nose, eyes and brain.

What are the symptoms of black fungus?

1. Fever
2. Pain in eyes
3. Headache
4. Swelling in eyes

How is black fungus treated?  
Antifungal drug amphotericin B is used for treatment, which is commonly used for the treatment of the infection.



**ADVISORY ON BLACK FUNGUS (MUCORMYCOSIS)**

**BLACK FUNGUS (MUCORMYCOSIS) IS A TYPE OF FUNGAL INFECTION, WHICH SPREADS RAPIDLY IN THE NOSE, SINUS, EYE AND BRAIN.**

**DO NOT NEGLECT IF YOU FIND THESE SYMPTOMS DURING/AFTER COVID**

**PEOPLE WHO ARE AT RISK**

- WITH UNCONTROLLED DIABETES
- WITH CO-MORBIDITIES (POST TRANSPLANT/ MALIGNANCY)
- ON LONG STANDING OXYGEN THERAPY DURING COVID TREATMENT
- TREATED FOR COVID 19 WITH STEROIDS/IMMUNOSUPPRESSANTS

**IT COULD BE DANGEROUS**  
If you have symptoms, seek medical advice immediately.

**FOR ANY SORT OF QUERY INCLUDING MEDICAL ADVICE CONTACT 24x7 DIVISIONAL CONTROL ROOM**  
Divisional Control Room-Jaresha: 04-2448263/2430831/2420802/2407913/2407912  
Divisional Control Room-Jaresha: 0191-2549676/2520882/2574444/2574115/2574988

### BLACK FUNGUS WARNING BELLS

#### WHEN VULNERABLE

- Uncontrolled diabetes
- Immuno-suppression by steroids
- Prolonged ICU stay
- Co-morbidities post transplant/malignancy
- Voriconazole therapy

#### HOW TO PREVENT

- Use mask if you are visiting dusty construction sites
- Wear shoes, long trousers, long sleeve shirts and gloves while handling soil (gardening)
- Maintain personal hygiene including scrub bath

#### DO'S

- Control hyperglycemia
- Monitor blood glucose level post Covid
- Use steroids judiciously - correct time, dose and duration
- Use clean sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously



#### DON'TS

- Don't miss warning signs and symptoms
- Don't consider all blocked nose cases as of bacterial sinusitis, especially in context of immunosuppression / Covid 19 patient immunomodulators
- Do not hesitate to seek aggressive medical investigations
- Do not lose time to initiate mucormycosis treatment

#### WHEN TO SUSPECT

**SINUSITIS:** Nasal congestion, nasal discharge (blackish/bloody), local pain on cheekbone

- One-sided facial pain, numbness or swelling
- Blackish discoloration over bridge of nose/palate
- Toothache, loosening of teeth, jaw involvement
- Blurred or double vision with pain; fever, skin lesions, thrombosis and necrosis

#### HOW TO MANAGE THE DISEASE

- Control diabetes
- Reduce steroids
- Maintain adequate systemic hydration
- Infuse normal saline (IV) before amphotericin B infusion
- Anti-fungal therapy for at least 4 to 6 weeks

**STAY HOME AND STAY SAFE**





# CANARA COLLEGE, MANGALORE



## NATIONAL SERVICE SCHEME



### BLACK FUNGUS AWARENESS CAMPAIGN

As per the Ministry of Health, the infection is getting detected amongst people recovering or recovered from COVID-19. People prone to the infection are the ones undergoing oxygen therapy in ICU, where a humidifier is used, which makes people more prone to infection due to exposure to moisture.

The use of ordinary tap water in the flow meters of the oxygen cylinders is also blamed for fungal infection. Cases can also be triggered by "mould-tainted oxygen piper and humidifiers".

Not just this, weak immune system, too much steroid consumption, voriconazole therapy and diabetes also put patients at greater risk of infection.

Some doctors believe that black fungus took root when patients were given at-home COVID treatment without bringing the blood sugar levels under control. Lorem Ipsum

#### Symptoms of black fungus

Common symptoms of black fungus include discolouration of the nose and tongue, blurry vision, breathing problems, chest pain, coughing along with blood, redness in the eyes, fever, cough, headache, black lesion inside the mouth and vomiting.

**Source**  
**Hindu**

**Anvitha alva**  
**2626**  
**2<sup>nd</sup> BCA**





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MANGALURU, KARNATAKA



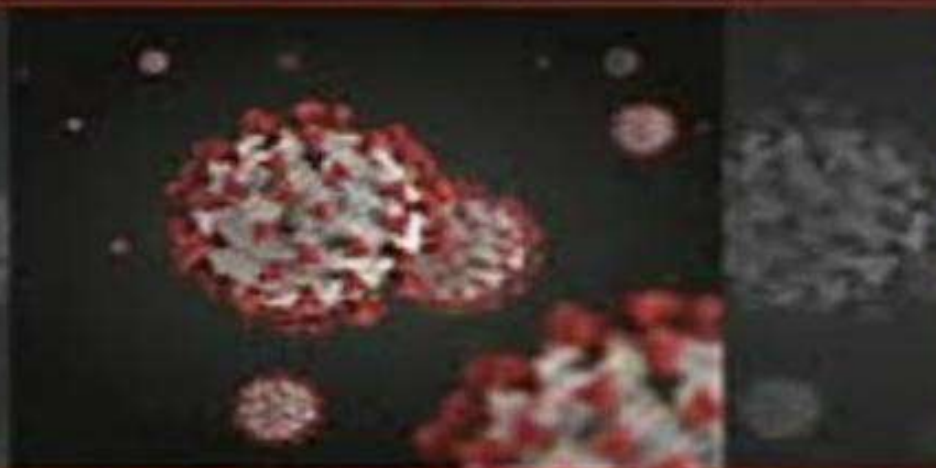
# BLACK FUNGUS

## MUCORMYCOSIS

**COVID CAUSING FUNGAL  
INFECTION?**

**MUCORMYCOSIS OR BLACK FUNGUS**

**NDTV**



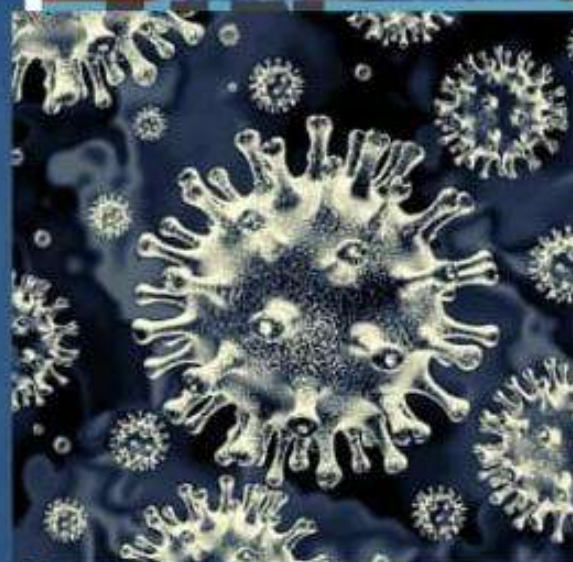
**CAN BE LIFE THREATENING FOR  
IMMUNOCOMPROMISED PATIENTS**



## BLACK FUNGUS SHADOW (MUCORMYCOSIS)

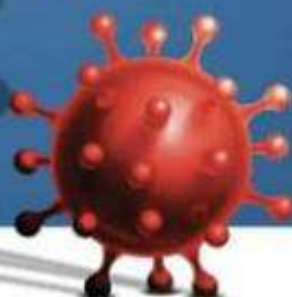
The prevalence of mucormycosis is around **70 times higher** in India than that in global data.

Due to the spotlight on Coronavirus, the black fungus remains lurking in its shadow.

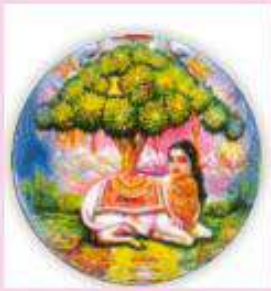


Kushi A  
1418

1st Bcom C







# **CANARA COLLEGE, MANGALURU**

## **NATIONAL SERVICE SCHEME**



# **BLACK FUNGUS AWARENESS CAMPAIGN**

## **WHAT IS MUCORMYCOSIS, COMMONLY KNOWN AS BLACK FUNGUS?**

A fungal infection mainly affecting people with medical health problems that reduce their ability to fight environmental pathogens.

### **How does a patient get predisposed to Mucormycosis?**

Those with comorbidities or having voriconazole therapy, uncontrolled diabetes mellitus, immunosuppression by steroids or prolonged ICU stay can get predisposed to the fungal infection.

### **Symptoms of Mucormycosis**

Pain or redness around the eyes or nose, fever, headache, coughing, shortness of breath, bloody vomit and altered mental status are the symptoms of the infection.

### **Black fungus: Dos and don'ts**

People have been advised to control hyperglycaemia, keep a tab on blood glucose level after COVID-19 discharge and in diabetics, to use clean, sterile water for humidifiers during oxygen therapy, judicious use of steroid, antibiotics/antifungal.

**Neeti C Karkera**  
**2nd B.com 'B'**  
**2356**





# CANARA COLLEGE

## NATIONAL SERVICE SCHEME

### BLACK FUNGUS AWARENESS CAMPAIGN



#### WHAT IS BLACK FUNGUS?



##### Black fungus

COVID-19 condition

COVID-19-associated mucormycosis, commonly referred to as black fungus, is the association of mucormycosis with COVID-19. It has been reported around the nose, eyes and brain – a clinical manifestation sometimes referred to as 'rhino-orbital-cerebral mucormycosis'. [Wikipedia](#)

#### WHY BLACK FUNGUS IS SO DANGEROUS?



The doctor explains that black fungus can cause blindness, organ dysfunction, loss of body tissue, and even death if not treated on time. She says, "Active screening and early intervention are a must. It can affect areas from where it can be inhaled through the nose/sinus/ lung. If it enters from a wound or skin, it can cause a local infection. But if it enters from the sinus, it can involve the eyes and brain. Poor control in Diabetes is the biggest cause for the rising number especially post-COVID. Also, patients with immune-compromised systems or those who have undergone transplants or people who are on immunosuppressants or on a ventilator for a long period of time are at higher risk."

LEVIN

2307

2ND BCOM B





# CANARA COLLEGE



## National service scheme BLACK FUNGUS AWARENESS CAMPAIGN



### BLACK FUNGUS: A QUICK GUIDE

#### PREVENTION



- 1 Use masks if you are visiting dusty construction sites



- 2 Wear shoes, long trousers, long sleeve shirts, gloves while handling soil (garbening), moss or manure



- 3 Maintain personal hygiene including thorough scrub bath

#### DOs

- Control hyperglycemia
- Monitor blood glucose level post COVID-19 discharge, also in diabetics
- Use steroid judiciously – correct timing, correct dose and duration
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously

#### DON'Ts

- Do not miss warning signs, symptoms
- Do not consider all cases with blocked nose as bacterial sinusitis
- Do not hesitate to seek aggressive investigations
- Do not lose crucial time to initiate treatment for mucormycosis



#### Screening, Diagnosis & Management of Mucormycosis During COVID-19

### What is Mucormycosis?

A fungal infection mainly affecting people with medical health problems that reduces their ability to fight environmental pathogens.

Image tweeted by @dthashvardhan



### How does patient get predisposed to Mucormycosis?



Co-morbidities - post transplant/malignancy



Voriconazole therapy



Uncontrolled diabetes mellitus



Immunosuppression by steroids



Prolonged ICU stay

Image tweeted by @dthashvardhan

### Watch out for these symptoms — before it turns fatal —







## Black fungus awareness campaign

**How does black fungus enter the body?**

As noted by an [article in Firstpost](#), the underlying cause of the disease in India is the unhygienic way of delivering oxygen to patients in many places, combined with the indiscriminate use of steroids in the treatment of COVID.

**How serious is black fungus?**

The [symptoms](#) of black fungus/mucormycosis are pain/stuffiness in the nose, inflammation on cheeks, fungus patch inside the mouth and swelling in the eyelids.

**Can black fungus spread from one person to another?**

The disease is not contagious and doesn't spread from one person to another.

**What you should do if you experience symptoms?**

In case of symptoms, medical advice should be sought immediately. Doctors perform MRI and CT scan of



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MANGALORE UNIVERSITY  
NATIONAL SERVICE SCHEME  
**CANARA COLLEGE**

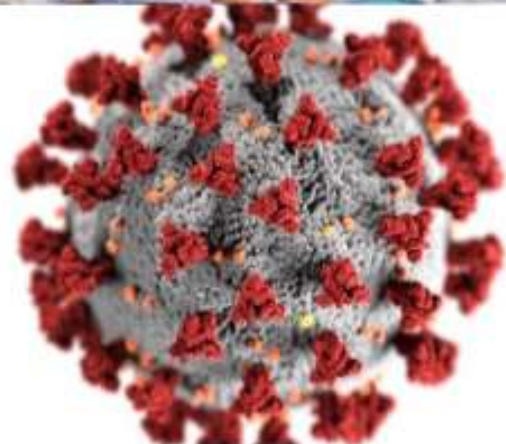


Mold spores get into  
your nose and can cause  
allergy symptoms.

They can also get into  
your lungs and trigger  
asthma.



# BLACK FUNGUS MUCORMYCOSIS



Manish shetty  
1311  
1 bcom b





# CANARA COLLEGE

## Mangalore



### Black Fungus Awareness Campaign

As per the Ministry of Health, the infection is getting defected amongst people recovering or recovered from Covid 19. The infection can affect the sinuses, brain and lungs. If not treated on time, it can be life threatening.

Common symptoms of black fungus includes blurry vision, breathing problems, chest pain etc.

Amphotericin-B injection is the prime treatment for the treatment of this fungal infection.

Source: Times of India

Name: Prithviraj U Melanta

Class: 1st B Com 'D'

Roll no: 1554





CANARA COLLEGE  
MANGALORE



NATIONAL SERVICE SCHEME

## AWARENESS CAMPAIGN ON BLACK FUNGUS



Source: vijayvani

AJITH.M.M  
2ND BSE  
2012





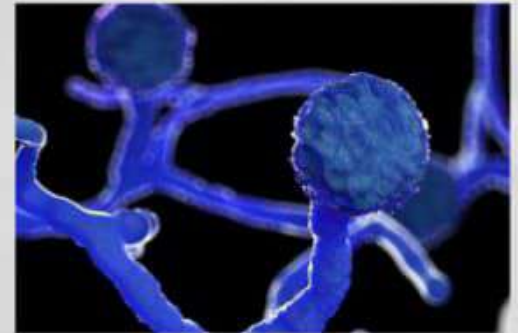
**NATIONAL SERVICE SCHEME**  
**CANARA COLLEGE**  
**MANGALURU, KARNATAKA**



## **Black Fungus Awareness Campaign**

### **What is Black Fungus or Mucormycosis?**

Mucormycosis, or black fungus is a rare fungal infection, affecting patients who have recently recovered from COVID-19.



Mucormycosis or black fungus is an aggressive and invasive fungal infection caused by a group of molds called mucormycetes.

### **What are the symptoms of Black Fungus?**

Fever, headache, reddish and swollen skin over nose and sinuses, dark scabbing in the nose by eye(s), visual problems, eye(s) swelling, facial pain, coughing sometimes with bloody or dark fluid production, shortness of breath, diffuse abdominal pain, bloody and sometimes dark vomitus, abdominal distension, flank pain.

### **What's the treatment for Black Fungus?**

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.

**RAKESH N**  
**1st B.Com**  
**1556**





# CANARA COLLEGE

## MANGLORE



### COVID-19



## AWARENESS OF BLACK FUNGUS



### WHAT IS THE BLACK FUNGUS DISEASES

STATES ACROSS INDIA HAVE BEGUN DECLARING A "BLACK FUNGUS" EPIDEMIC AS CASES OF THE FATAL RARE INFECTION SHOOT UP IN PATIENTS RECOVERING FROM COVID-19. THE FUNGAL DISEASE, CALLED MUCORMYCOSIS, HAS A 50% MORTALITY RATE. 4 DAYS AGO

### WHAT HAPPENS IN BLACK FUNGUS?

The rare infection is believed to be triggered by the use of steroids in severe Covid patients. India's states should declare an epidemic following a rise in deadly "black fungus" cases, the country's health authorities has said.

### WHAT IS THE PREVENTION OF BLACK FUNGUS

Wearing masks is compulsory. Fungal spores found in air can easily enter the body through the nose. This makes masking up doubly important, in preventing infection. People who work at or visit construction sites should specifically pay attention to this.

## STAY HOME AND STAY SAFE



Supriya jadhav  
1st B.com D  
1506





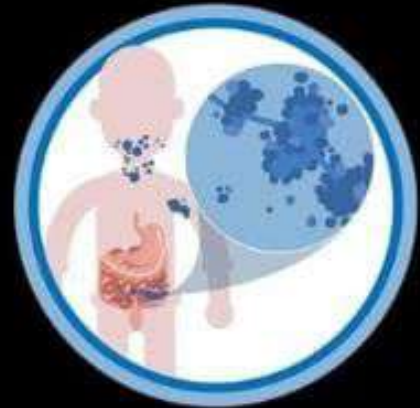
## CANARA COLLEGE MANGALORE NATIONAL SERVICE SCHEME

### BLACK FUNGUS AWARENESS PROGRAMME



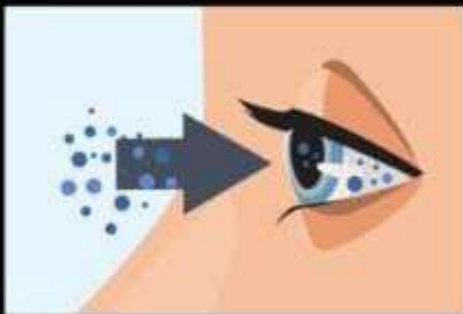
#### What happens in black fungus?

Mucormycosis is a fungal infection that causes blackening or discolouration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing blood. Mucormycosis is caused by exposure to mucor mould, which is commonly found in soil, air and even in the nose and mucus of humans.



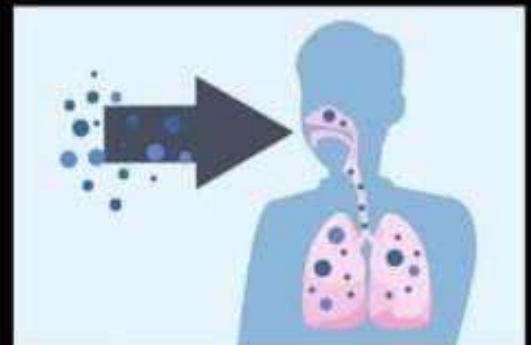
#### Why is black fungus happening?

It is caused by exposure to mucor mould which is commonly found in soil, plants, manure, and decaying fruits and vegetables. "It is ubiquitous and found in soil and air and even in the nose and mucus of healthy people," says Dr Akshay Nair, a Mumbai-based eye surgeon.



#### How we can prevent black fungus?

To prevent black fungus, he said that mortified oxygen should be used during the COVID-19 treatment and people should keep a check on their blood sugar level. "The treatment of black fungus can continue for 1-1.5 months.



**Devaki bist**  
**2nd BCOM A**  
**2263**





# CANARA COLLEGE, MANGALORE

## National Service Scheme

### Black Fungus Awareness Campaign



#### MUCORMYCOSIS/

#### BLACK FUNGUS



A fungal infection affecting immuno-compromised individuals recovering from Covid-19.

#### CONDITIONS AFFECTING:

- Abuse of steroids
- Uncontrolled Diabetes
- Cancer, AIDS
- Other Immuno-compromised conditions

#### SYMPTOMS

- Runny nose/ Mucus discharge
- Black crusts around nose
- Nosebleed
- Blocked nose
- Headaches
- Swelling of eyes or cheeks
- Blurred vision/Vision loss

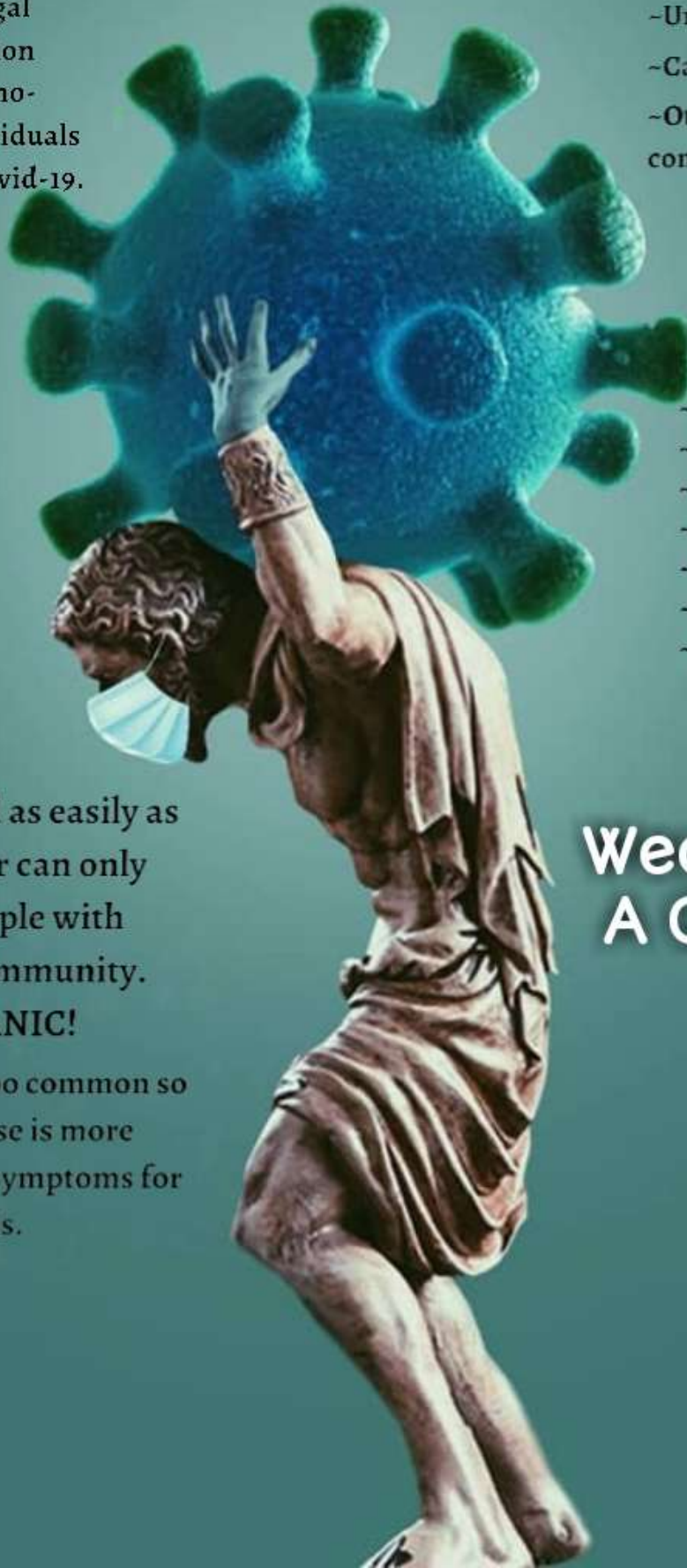
It does not spread as easily as Covid and by far can only happen in people with compromised immunity.

**DO NOT PANIC!**

The symptoms are too common so knowing the cause is more important than the symptoms for Diagnosis.

**Wear A Mask  
A Clean Mask**

**MOHITH KUMAR  
2090  
2nd Bsc [PCM]**







# CANARA COLLEGE

## MANGALORE

# NATIONAL SERVICE SCHEME

## BLACK FUNGUS AWARENESS CAMPAIGN

### Who can get mucormycosis?

The infection which is caused by a group of molds/fungus is abundant in the environment. People having sinus problems or those who are on medication for lung problems, have diabetes, cancer, organ transplant, are hospitalised or recovering Covid-19 infection, are susceptible to get the infection. The covid-19 infection has created an ideal environment for fungus Mucorales spores to grow and spread.

### What is the treatment for black fungus?

An IIE report noted that normal saline (IV) infusion is administered for 4-6 weeks before the administration of antifungal Amphotericin B dose. This dose is given according to 3-4 mg per kg of body weight per day. In some cases, surgery may be required.

### WHAT ARE THE SYMPTOMS?

- FEVER
- SHORTNESS OF BREATH
- COUGHING
- BLURRED OR DOUBLE VISION
- LOOSENING OF TEETH
- ONE SIDED FACIAL PAIN
- CHEST PAIN

### Preventions

- Wear clean mask.
- Wear long clothes and have less exposure to skin.
- For diabetic and other immune-compromised people, controlling sugar levels and blood glucose is a must.
- People who are prescribed steroids should be constantly monitored and the dosage should be reduced in consultation with your doctor.





# CANARA COLLEGE

National Service scheme  
Black Fungus Awareness  
Campaign



## What is Black Fungus?

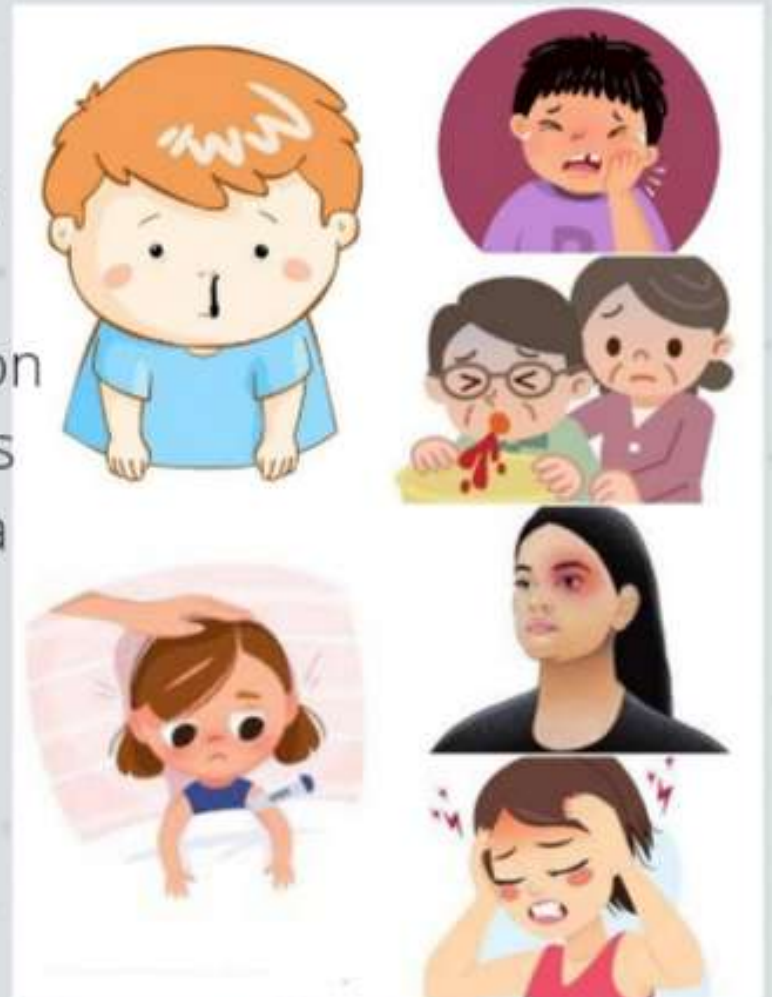
COVID-19 associated  
Mucormycosis commonly referred  
to as Black Fungus

## Symptoms

- 1) headache
- 2) redness in the eye/nose
- 3) blood vomiting
- 4) shortness of breath
- 5) altered mental state
- 6) sinusitis
- 7) blurry or double vision with pain
- 8) toothache and loosening of teeth

Patients with uncontrolled diabetes, patients on anti cancer treatment, patients on high dose steroids, patients on oxygen support are at a higher risk

**Geethanjali.M**  
**2nd B.Sc(B.Z.C)**  
**2004**







# CANARA COLLEGE

MANGALORE

NATIONAL SERVICE SCHEME



## BLACK FUNGUS AWARENESS CAMPAIGN

### WHAT IS MUCORMYCOSIS?

Serious but rare fungal infection caused by a group of molds called mucormycetes

Affects those with underlying health issues or people who take medicines that lower body's ability to fight germs and sickness

Affects the sinuses or the lungs after inhaling fungal spores from the air. It can also occur on the skin after a cut or a burn

#### What to watch out for

Headache, facial pain, nasal congestion, loss of vision or pain in the eyes, swelling in cheeks and eyes, and black crusts in the nose



Fatal if goes untreated for a long time

If it infects the lungs or the brain, it can cause:

- Paralysis
- Pneumonia
- Seizure
- Death

#### How is it treated?

The first steps in treating mucormycosis is intravenous antifungal medications and surgical removal of infected tissue

### How does patient get predisposed to Mucormycosis?



Co-morbidities - post transplant/malignancy



Voriconazole therapy



Uncontrolled diabetes mellitus



Immunosuppression by steroids



Prolonged ICU stay

### WHO ARE AT MM RISK

- Diabetics most vulnerable as fungus feeds on sugar
- Heavy steroid use in Covid-19 treatment
- Patients kept on humidified oxygen

### PREVENTION



- 1 Use masks if you are visiting dusty construction sites



- 2 Wear shoes, long trousers, long sleeve shirts, gloves while handling soil (garbening), moss or manure



- 3 Maintain personal hygiene including thorough scrub bath

### DOs

- Control hyperglycemia
- Monitor blood glucose level post COVID-19 discharge, also in diabetics
- Use steroid judiciously - correct timing, correct dose and duration
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously

### DON'Ts

- Do not miss warning signs, symptoms
- Do not consider all cases with blocked nose as bacterial sinusitis
- Do not hesitate to seek aggressive investigations
- Do not lose crucial time to initiate treatment for mucormycosis

### CAUTION



Diabetics should be extra-cautious and bring sugar under control

Doctors should avoid rampant use of steroids unless deemed life saving in Covid





# CANARA COLLEGE MANGALORE

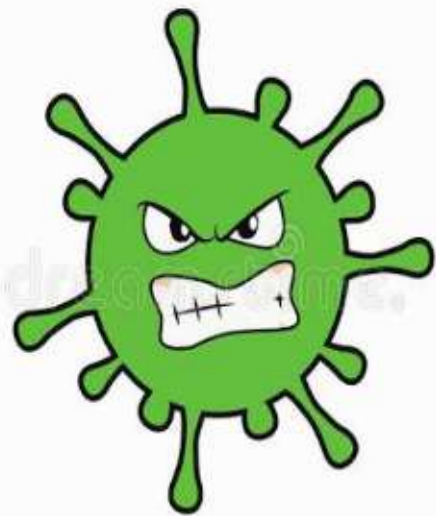


## National Service Scheme


### Black Fungus Awareness campaign

#### What is black Fungus ?

**COVID-19-associated mucormycosis commonly referred to as black fungus, is the association of mucormycosis (an aggressive fungal infection) with COVID-19. It has been reported around the nose, eyes and brain – a clinical manifestation sometimes referred to as 'rhino-orbital-cerebral (ROC) mucormycosis'. The condition does not spread person to person and is not contagious**



#### TIME TO BE MORE VIGILANT

<b>Common early symptoms</b> <ul style="list-style-type: none"><li>&gt; Facial pain or numbness or swelling</li><li>&gt; Nasal blockade or congestion, with bloody or brown/black nasal discharge</li><li>&gt; Headache, loss of vision</li><li>&gt; Toothache, jaw involvement</li><li>&gt; Blurred or double vision with pain</li></ul>		<b>What can help patients</b> <ul style="list-style-type: none"><li>&gt; Universal masking</li><li>&gt; Look for early symptoms and immediately seek medical help</li></ul>	<b>What hospitals should do</b> <ul style="list-style-type: none"><li>&gt; Strict aseptic precautions while administering oxygen to patients</li><li>&gt; Conduct periodic aeromycological study to assess the presence and to quantify the fungal spore count in all ICUs</li></ul>
	<b>Who needs to be careful</b> <ul style="list-style-type: none"><li>&gt; Patients with uncontrolled diabetes</li><li>&gt; Covid patients</li></ul>	<ul style="list-style-type: none"><li>&gt; Those on long-term steroids</li><li>&gt; Chemotherapy and post-transplant patients</li></ul>	

# STAY HOME STAY SAFE

**Name: Akshay kumar**  
**Class: 2nd bsc(pcm)**  
**Roll no: 2076**





# CANARA COLLEGE MANGALURU



NATIONAL SERVICE SCHEME

## BLACK FUNGUS AWARENESS CAMPAIGN



**BLACK FUNGUS**  
**MUCORMYCOSIS**

**BLACK FUNGUS**

WITH AN INCREASE IN MUCORMYCOSIS CASES, ALSO CALLED BLACK FUNGUS, GMC HAS IDENTIFIED WARD NO 102 TO TREAT PATIENTS WITH BLACK FUNGUS.

IN THIS WARD, SPECIAL CARE WILL BE GIVEN TO MONITORING BLOOD SUGAR IN PATIENTS & GLUCOMETERS. THE WARD WILL ALSO BE EQUIPPED WITH MULTI-SPECIALITY DOCTORS FOLLOWING PROTOCOLS AS LAID OUT BY THE TEAM AT AIIMS.



## मास्क में नमी से फैल रहा ब्लैक फंगस

शाह टाट्टमन ब्यूरो  
सद्वारनपुरा देश में कोविड-19 के घरोघर में म्यूकोमायकोसिस (ब्लैक फंगस) के मामलों वृद्धि को घातक में नमी होना माना जा रहा है। चरिष्ठ नेत्र रोग विशेषज्ञ डा. एसएम लाल ने शुक्रवार को अलबोत में कहा कि ब्लैक फंगस मास्क इस रोग होने को पीछे लम्बी अवधि तक इलेक्ट्रॉन किया गया, मास्क हो सकता है।

मास्क पर नमी होने वाली गन्दगी के कण से आँखों में फंगस इंफेक्शन होने की संभावना रहती है। मास्क में नमी होने पर भी इस प्रकार को इन्फेक्शन हो सकता है। डा. लाल ने बताया कि आईसीयू में चर्मी कोविड-19 के मरीज को लम्बे समय तक इलाज के समय लगाए जा रहे ऑक्सीजन के कारण भी यह फंगस इंफेक्शन हो सकता है। उन्होंने बताया कोविड वैशेल को स्टैरॉयड की हाई डोज भी जाती है, तब मरीज को शुगर लेवल बढ़ने से इस तरह के



**मास्क पर नमी होने वाली गन्दगी के कण से आँखों में इंफेक्शन होने की संभावना रहती है; नेत्र रोग विशेषज्ञ**

संक्रमण बढ़ने की अपार संभावना होती है। डा. लाल ने बताया कि फंगस की संक्रमण की शुरुआत नाक से होती है। नाक से ब्राउन या लाल कलर का म्यूकस जब बाहर

निकलता है, तो यह शुरुआती लक्षण ब्लैक फंगस का माना जाता है, फिर यह धीरे-धीरे आँखों में पहुँच जाता है। नेत्रों में लाली, पन, दिक्कत होना, कन्जक्टिवाइटिस के लक्षण इस रोग में देखते हैं। नेत्रों में धक्कर पोड़ा होती है और फिर बिजबन पूरी तरह समाप्त हो जाते हैं। उन्होंने कहा कि मेडिकल कालेज में ब्लैक फंगस के इलाज को समुचित इलाज किया गया है। इलाज सफल पर होने से रोगी को सन्तोस जा सकता है। बिना अस्पताल में ही काबिल नेत्र रोग विशेषज्ञ डा. करान रमाजी ने बताया कि फंगस वातावरण में पाया जाता है। बाजारों के भीख में ब्लैक फंगस फैलने की अवधि अधिक होती है। कोविड-19 से ठीककर हुए रोग प्रतिदिन मास्क को डिस्टॉल में धोकर धूप में सुखा कर ही पहने। इस फंगस का असर नेत्रों के रेटिना पर पड़ता है फिर ब्रेन, नर्वस सिस्टम व इतर तक हो जाने से मृत्यु तक हो जाती है।



**COVID-19 : January, 2020**  
**Black fungus : April, 2021**  
**White fungus : May, 2021**  
**What do you think about India's Future?**

**H.Rahul.R.Shenoy**  
**2nd bsc pcm**  
**2057**





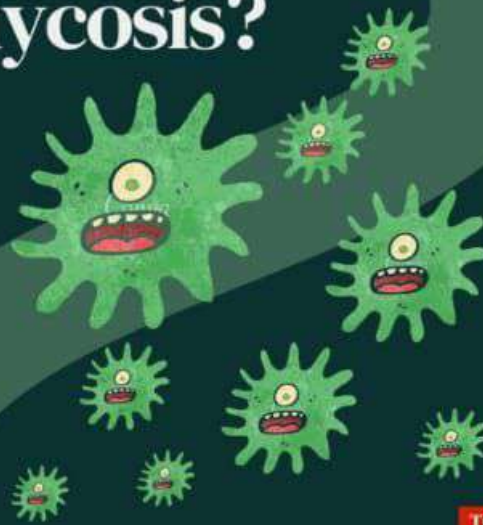
CANARA COLLEGE, MANGALORE  
NATIONAL SERVICE SCHEME



**AWARENESS CAMPAIGN ON BLACK FUNGUS**

## What is Mucormycosis?

Mucormycosis, commonly known as 'Black Fungus' has been observed in a number of Covid-19 patients recently. A fungal infection mainly affecting people with medical health problems that reduce their ability to fight environmental pathogens.



TOI



### Do's

- Control hyperglycaemia
- Monitor blood glucose level post COVID-19 discharge & in diabetics
- Use steroid judiciously
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/ anti fungal judiciously



### Don'ts

- Do not miss warning signs & symptoms
- 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
- Don't hesitate in seeking aggressive investigations as appropriate for detecting fungal etiology
- Don't lose crucial time to initiate treatment for mucormycosis

**ANUSHREE**

**SOURCE:TIMES OF INDIA**

**2<sup>ND</sup> BSC 2113**





# CANARA COLLEGE

## National Service Scheme

### Black Fungus Awareness Campaign



### Are these infections life threatening?

These infections are very lethal, and if not treated most will not make it. The mortality ranges between 25 to 90%. Once the infection spreads into the brain mortality is very high. Hence a lot of importance is given to early diagnosis and prompt institution of treatment.

### Preventive measures

- >Masks should be disinfected daily
- >Stay indoors as much as possible .
- >Maintain oral and nasal hygiene .
- >Regular exercises.
- >Control of blood sugars.

**TEJASWINI. N**  
**II BSC( BZC)**  
**2031**





## CANARA COLLEGE, MANGALORE

## NATIONAL SERVICE SCHEME




# AWARENESS CAMPAIGN ON BLACK FUNGUS

### WHAT CAUSES MUCORMYCOSIS?

Mucormycosis or black fungus is a complication caused by fungal infection. The disease is being detected among patients who are recovering or have recovered from Covid. Moreover, anyone who is diabetic and whose immune system is not functioning well needs to be on guard against this.

According to an advisory issued by the Indian Council of Medical Research, the following conditions in Covid patients increase the risk of mucormycosis infection

- Uncontrolled diabetes
- Weakening of immune system due to use of steroids
- Prolonged ICU/hospital stay
- Co-morbidities/post-organ transplant/cancer
- Voriconazole therapy (used to treat serious fungal infections)




### WHAT ARE THE COMMON SYMPTOMS?

- Mucormycosis begins to manifest as a skin infection in the air pockets located behind our forehead, nose, cheekbones and in between eyes and teeth. It then spreads to eyes, lungs and can even spread to the brain. It leads to blackening or discoloration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing of blood


### HOW IS IT TREATED?

- While the infection may just begin with skin infection, it can spread to other parts of the body. Treatment involves surgically removing all dead and infected tissue. In some patients, this may result in loss of upper jaw or sometime even the eye. Cure may also involve a 4-6 week course of intravenous anti-fungal therapy. Since it affects various parts of the body, treatment requires a team of microbiologists, internal medicine specialists, intensivist neurologists, ENT specialists, ophthalmologists, dentists, surgeons and others




### WHEN TO SUSPECT

- 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
- Toothache, loosening of teeth, jaw involvement
- Blurred or double vision with pain; fever, skin lesion, thrombosis & necrosis (eschar)
- Chest pain, pleural effusion, haemoptysis, worsening of respiratory symptoms




### DO'S

- Control hyperglycemia
- Monitor blood glucose level post Covid discharge and also in diabetics
- Use steroid judiciously - correct timing, correct dose and duration
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/anti-fungals judiciously



### DON'TS

- Do not miss warning signs and symptoms
- Do not consider all cases with blocked nose as cases of bacterial sinusitis, particularly in the context of immuno suppression and/or Covid-19 patients on immuno modulators
- Do not hesitate to seek aggressive investigations as appropriate (KOH staining & microscopy, culture, MALDI-TOF) for detecting fungal etiology
- Do not lose crucial time to initiate treatment for mucormycosis



YUKTHA C KARKERA

2<sup>ND</sup> BSC 2111

SOURCE:TIMES OF INDIA





# Canara College Mangaluru National Service Scheme



Anish Kumar D M  
1st Bcom A

## WHAT IS BLACK FUNGUS

A life-threatening infection known as **mucormycosis** (colloquially as black fungus) which, if untreated, results in blindness followed by death

### What makes you vulnerable:

Exposure to mucor mould which is commonly found in soil, plants, manure etc



It is a rare kind of fungal infection affecting **1 in 10,00,000 people** But with an overall mortality rate of 50%



NEWS 18

## THE BLACK FUNGUS

### What is Mucormycosis?

A potentially lethal fungal disease creeping into recovering Covid-19 patients

SMILES.BY.SNEHA

@smiles.by.sneha

## THE BLACK FUNGUS

### Rising threat in covid-19 MUCORMYCOSIS



@smiles.by.sneha

## THE BLACK FUNGUS

PEOPLE  
WITH UNCONTROLLED  
DIABETES MELLITUS  
(SUGAR)

PEOPLE ON  
STERIODS

PEOPLE IN STRESS

PEOPLE WHO HAVE DAILY  
EXPOSURE TO DUST,  
EG: CONSTRUCTION SITES

SMILES.BY.SNEHA

WHO CAN BE AFFECTED?

## THE BLACK FUNGUS

### Symptoms

- Greyish-black crusting/pigmentation in the nose or oral cavity that may enlarge and block the nasal cavity
- Spores of fungus depositing near the eyes that leads to ocular swelling
- Some patients may get lesions over the cheeks

SMILES.BY.SNEHA

@smiles.by.sneha

## THE BLACK FUNGUS

SMILES.BY.SNEHA

### HOW TO PREVENT?

CONTROL SUGAR UNDER NORMAL VALUES  
IN DIABETES

SUPERVISE SUGAR LEVELS WHEN TAKING  
STERIODS

IDENTIFY AT RISK INDIVIDUALS

AVOID GOING TO PLACES WITH LOADS OF  
DUST AND DAMP ENVIRONMENTS

Note: mucormycosis cannot spread to other people or from people to animals  
(It's not contagious)

@smiles.by.sneha



# NATIONAL SERVICE SCHEME CANARA COLLEGE MANGLORE

NAKHUL RAJ  
IBCOM'C'

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- “You can protect yourself from getting this infection by keeping your sugars tightly controlled during Covid infection, checking sugars more frequently, using mask consistently, and maintaining personal hygiene. Steroids for Covid treatment should be used judiciously and strictly under doctor’s supervision,”

People either develop this infection while recovering from Covid-19 infection or during Covid treatment. The commonality is that they are all diabetics,” said Dr Jayant Kelwade, endocrinologist of Alexis hospital, where his job is to keep the sugar level of admitted Covid-19 patients under control



GETTY IMAGES

People with Diabetes have slightly dampened immune systems, meaning they already have an elevated risk of contracting fungus. Covid-19, which worse-affects people with diabetes, increases that risk even more. And then there are steroids, a medicine that can dampen the immune system,”

**Maintaining immunity is the most important point for post-Covid patients as fungus takes opportunity if immunity is lowered**

SOURCE: TIMES OF INDIA





# mangalore university national service scheme canara college mangalore Karnataka



## black fungus awareness campaign

**BLACK FUNGUS: A QUICK GUIDE**

**PREVENTION**

- 1 Use masks if you are visiting dusty construction sites
- 2 Wear shoes, long trousers, long sleeve shirts, gloves while handling soil (garbening), moss or manure
- 3 Maintain personal hygiene including thorough scrub bath

**DOs**

- Control hyperglycemia
- Monitor blood glucose level post COVID-19 discharge, also in diabetics
- Use steroid judiciously - correct timing, correct dose and duration
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously

**DON'Ts**

- Do not miss warning signs, symptoms
- Do not consider all cases with blocked nose as bacterial sinusitis
- Do not hesitate to seek aggressive investigations
- Do not lose crucial time to initiate treatment for mucormycosis



**BLACK FUNGUS**  
**ALL YOU NEED TO KNOW**

**WHO ARE AT RISK?**

- SEVERE COVID-19 CASES
- HIGHLY DIABETIC
- PATIENTS ON ANTI-CANCER TREATMENT
- HIGH OP ST

**HOW TO DETECT?**

- ABNORMAL DISCHARGE FROM NOSE
- EYE PAIN, BLURRED VISION
- FACIAL NUMBNESS
- CHI PRO

**WHAT TO DO?**

- CONSULT A SPECIALIST
- FOCUS ON CONTROLLING SUGAR LEVEL
- NO SELF-MEDICATION
- REGULAR CHECK-UP

**STATES WHERE BLACK FUNGUS IS DECLARED EPIDEMIC**

Haryana, Rajasthan, Gujarat, Maharashtra, Uttar Pradesh, Madhya Pradesh, Telangana

**Keep blood sugar under check Covid or no Covid**

**Use steroids judiciously while treating Covid**

**Use clean water in humidifier used for O2 support**

**Maintain overall cleanliness around patients**

**Any oral ulcer should be treated immediately**

**Watch out for these symptoms before it turns fatal**

**deepthi**  
**1st bcom a**  
**1268**





## WHAT IS MUCORMYCOSIS?

Serious but rare fungal infection caused by a group of molds called mucormycetes

Affects those with underlying health issues or people who take medicines that lower body's ability to fight germs and sickness

Affects the sinuses or the lungs after inhaling fungal spores from the air. It can also occur on the skin after a cut or a burn

### What to watch out for

Headache, facial pain, nasal congestion, loss of vision or pain in the eyes, swelling in cheeks and eyes, and black crusts in the nose



Fatal if goes untreated for a long time

If it infects the lungs or the brain, it can cause:

- Paralysis
- Pneumonia
- Seizure
- Death

### How is it treated?

The first steps in treating mucormycosis is intravenous antifungal medications and surgical removal of infected tissue

### Common antifungal medications

#### Amphotericin B

(given through an IV)

₹1,500 to ₹2,000 per injection

(Typically, patients need up to ten injections a day)

#### Liposomal

₹7,000 to ₹8,000 per injection

(Typically, patients need up to ten injections a day)

Minimum one month's hospitalisation









# CANARA COLLEGE

## MANGLORE



### BLACK FUNGUS AWARENESS CAMPAIGN



#### WHAT IS THE BLACK FUNGUS

COVID-19-ASSOCIATED MUCORMYCOSIS, COMMONLY REFERRED TO AS BLACK FUNGUS, IS THE ASSOCIATION OF MUCORMYCOSIS (AN AGGRESSIVE FUNGAL INFECTION) WITH COVID-19. IT HAS BEEN REPORTED AROUND THE NOSE, EYES AND BRAIN.

#### WHAT IS THE SYMPTOM OF BLACK FUNGUS

THE SYMPTOMS INCLUDE UNILATERAL NASAL OBSTRUCTION, FACIAL PAIN, SWELLING, NUMBNESS, BLURRING OF VISION, DOUBLE VISION OR WATERY EYES, S.K.E. APPARENTLY, ENT SURGEON AND PAST PRESIDENT OF THE INDIAN SOCIETY OF ONTOLOGY.

#### TREATMENT FOR BLACK FUNGUS

HIGH DEMAND LEADS TO SHORTAGE OF ANTI-FUNGAL DRUG AMPHO B TO TREAT BLACK FUNGUS. AS BLACK FUNGUS INFECTION ARE ON RISE, THERE HAS BEEN SUDDEN RISE IN DEMAND FOR ANTI-FUNGAL DRUG AMPHO B, WHICH IS COMMONLY USED FOR THE TREATMENT OF THE INFECTION.



STAY HOME AND STAY SAFE



K Deepali  
1st B.Com D  
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# CANARA COLLEGE MANGALORE NATIONAL SERVICE SCHEME



## Screening, Diagnosis & Management of Mucormycosis During COVID-19

### What is Mucormycosis?

A fungal infection mainly affecting people with medical health problems that reduces their ability to fight environmental pathogens.

Can you get black fungus without  
COVID-19?

Yes, Mucormycosis is a fungal infection mostly found in patients with compromised immune system.



**PRAKRATHI.R.SUVARNA**  
**IB.COM D**  
**1551**





# CANARA COLLEGE, MANGALURU



## How can a patient contract the infection?

People having co-morbidities, voriconazole therapy, uncontrolled diabetes mellitus, immunosuppression by steroids or prolonged ICU stay can get predisposed to the fungal infection.

## How does patient get predisposed to Mucormycosis?



## What is Mucormycosis?

Mucormycosis is a fungal infection mainly affecting people with medical health problems that reduces their ability to fight environmental pathogens. People catch mucormycosis by coming in contact with the fungal spores in the environment. It can also develop on the skin after the fungus enters the skin through a cut, scrape, burn, or other type of skin trauma.

## What are the symptoms of Mucormycosis?

Pain or redness around the eyes, fever, headache, coughing, shortness of breath, bloody vomit and altered mental status are possible symptoms of the infection, minister added.



## Do's and Don'ts

"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," minister advised in his tweet.



Source: Twitter  
tweet from,  
**Dr Harsh Vardhan**  
**NAME: LINGARAJ CM**  
**1B.Sc (PCM)**  
**1061**



their ability to fight environmental pathogens.





# CANARA COLLEGE

## Mangalore

### BLACK FUNGUS AWARENESS CAMPAIGN



# UNDERSTANDING MUCORMYCOSIS

IF UNCARED FOR - MAY TURN FATAL

- Mucormycosis is a fungal infection that mainly affects people who are on medication for other health problems that reduces their ability to fight environmental pathogens.
- Sinuses or lungs of such individuals get affected after fungal spores are inhaled from the air.

## SIGNS AND SYMPTOMS

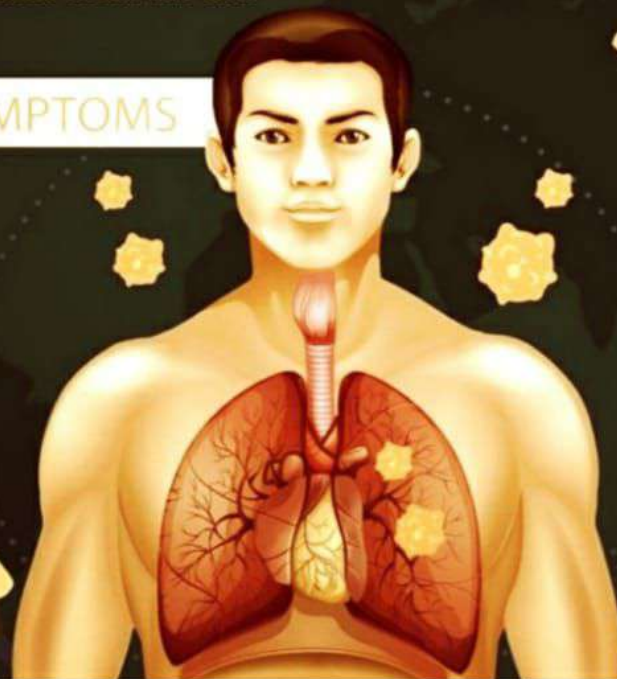
Pain and redness around eyes and/or nose



Fever



Headache



Shortness of breath



Sore Throat



Diarrhoea



Discolouration Of Fingers And Toes



Anish Rai  
1st Bcom B  
1363



# CANARA COLLEGE

## NATIONAL SERVICE SCHEME

### Mangaluru



## Black Fungus

### Why in news?

Some states have been receiving frequent cases of a fungal infection known as mucormycosis. It is commonly referred to as black fungus.

### What is black fungus?

Black fungus is a rare but serious fungal infection caused by a kind of fungus called mucormycete.

### Treatment

- Antifungal medicines may be able to treat the infection but it may ultimately require surgery.
- There should be focus on controlling diabetes, weight gain, reduce usage of immune-suppressants.

### Vulnerabilities

The main victims are those who are on medications for underlying health conditions. They do not have the ability to fight environmental pathogens.

### Symptoms

Symptoms include pain and redness around the eyes or nose, headache, with fever, coughing, bloody vomits, shortness of breath and altered mental status.

### Effects

- The disease starts in the skin and later starts affecting brain and lungs. Patients also suffer from blindness due to the disease.
- The lungs and sinuses of individuals get affected when they inhale fungal spores from environment.

### Preventive Measures

Recovering Covid patients are advised to cover their face while visiting construction sites. They should wear long sleeve clothes and gloves while gardening.

### BLACK FUNGUS: A QUICK GUIDE

#### PREVENTION



- 1 Use masks if you are visiting dusty construction sites



- 2 Wear shoes, long trousers, long sleeve shirts, gloves while handling soil (gardening), moss or manure



- 3 Maintain personal hygiene including thorough scrub bath

#### DOs

- Control hyperglycemia
- Monitor blood glucose level post COVID-19 discharge, also in diabetics
- Use steroid judiciously - correct timing, correct dose and duration
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously

#### DON'Ts

- Do not miss warning signs, symptoms
- Do not consider all cases with blocked nose as bacterial sinusitis
- Do not hesitate to seek aggressive investigations
- Do not lose crucial time to initiate treatment for mucormycosis



**Please wear a face mask**





# Canara College Mangalore



## National service scheme Awareness campaign on black fungus

### What is Mucormycosis?

A fungal infection mainly affecting people with medical health problems that reduces their ability to fight environmental pathogens.



#### Dos

- Control hyperglycaemia
- Monitor blood glucose level post Covid discharge & in diabetics
- Use steroid judiciously
- Use clear, sterile water for humidifiers during oxygen therapy
- Use antibiotics/anti fungal judiciously



#### Don'ts

- Don't miss warning signs & symptoms
- Don't consider all cases of blocked nose as cases of bacterial sinusitis, especially in the cases of immunosuppression and/or Covid patients on immunomodulators
- Don't hesitate in seeking aggressive investigations as appropriate for detecting fungal etiology
- Don't lose crucial time to initiate treatment for mucormycosis

### Warning signs of black fungus disease



Patients showing symptoms including a swollen eyelid is when either the lower or upper eyelid (or both) become enlarged, discharge from the eyes, paralysis of eyelid muscles, fever, nausea, vomiting, facial pain, nasal congestion and identified as black fungus infection that can affect sinus and can spread to the brain but wherein infection spreads through the bloodstream and can affect other body parts and organs such as heart, spleen and skin.



Swollen Eyes,  
Redness around  
Eyes & Nose



Facial pain, numbness  
and tingling sensation



Fever and  
Headache



Coughing



Chest Pain &  
Shortness of Breath



Bloody vomiting



Altered mental  
Status



Infected skin area  
turning black

### Types of Mucormycosis

- 1 Cutaneous mucormycosis (skin)
- 2 Rhinocerebral mucormycosis (sinus and brain)
- 3 Pulmonary mucormycosis (lung)
- 4 Gastrointestinal mucormycosis
- 5 Disseminated mucormycosis



**Roshan abhi y.s**  
**1st B.com A 1239**





# **CANARA COLLEGE MANGLORE**

## **AWARENESS CAMPAIGN ON BLACK FUNGUS**



### **WHAT IS BLACK FUNGUS**

**COVID-19-ASSOCIATED MUCORMYCOSIS, COMMONLY REFERRED TO AS BLACK FUNGUS, IS THE ASSOCIATION OF MUCORMYCOSIS WITH COVID-19**

### **THE PRIME SYMPTOMS OF BLACK FUNGUS**

**IT CAUSES BLURRED OR DOUBLE VISION, CHEST PAIN AND BREATHING DIFFICULTIES, DISCOLOURATION OF THE ORAL TISSUES, TONGUE, GUMS, STUFFY NOSE, SEVERE PAIN, SWELLING OF FACE, HEAVINESS BELOW THE EYES, DISCOMFORT, FEVER AND HEADACHE.**

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# National service scheme

## Canara college



A life-threatening infection known as mucormycosis (colloquially as black fungus) which, if untreated, **results in blindness followed by death**



### WHAT MAKES YOU VULNERABLE

Exposure to mucor mould which is commonly found in soil, plants, manure etc

Nidhishree  
IBCOM'C'  
1425





# CANARA COLLEGE, MANGALORE



How does patient  
get predisposed to  
**Mucormycosis?**



Co-morbidities -  
post transplant/  
malignancy



Voriconazole  
therapy



Uncontrolled  
diabetes mellitus



Immunosuppression  
by steroids



Prolonged ICU stay

Image tweeted by @idharshwardhan

Watch out for these symptoms  
before it turns fatal



Pain/redness  
around eyes/nose



Fever



Headache



Coughing



Image tweeted by @idharshwardhan



Image tweeted by @idharshwardhan



Image tweeted by @idharshwardhan

**What happens in black fungus?**  
**Mucormycosis is a fungal infection**  
**that**  
**causes blackening or discolouration over the nose,**  
**blurred or double vision, chest pain,**  
**breathing difficulties and coughing blood.**

**SHIVARAJA**  
**IST B.SC(BZC)**

**1036**




### Black fungus awareness campaign



#### What is mucormycosis?

Mucormycosis is a very rare infection. It is caused by exposure to mucor mould which is commonly found in soil, plants, manure, and decaying fruits and vegetables. "It is ubiquitous and found in soil and air and even in the nose and mucus of healthy people," says Dr Nair.

It affects the sinuses, the brain and the lungs and can be life-threatening in diabetic or severely immunocompromised individuals, such as cancer patients or people with HIV/AIDS.



Mucormycosis, informally referred to as black fungus, is a fungal infection caused by fungi. This disease can be potentially life-threatening in diabetic or severely immunocompromised individuals. It has been detected that many patients who are recovering or are recovered from Covid-19 are being infected with Mucormycosis or black fungus. People catch mucormycosis by coming in contact with the fungal spores in the environment. It can also develop on the skin after the fungus enters the skin through a cut, scrape, burn, or other type of skin trauma.

Mucormycosis frequently infects the sinuses, brain, or lungs. It begins to manifest as skin infection in the air pockets located behind our forehead, nose, cheekbones, and in between the eyes and teeth. It then spreads to eyes, lungs and can even spread to the brain. It leads to blackening or discoloration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing of blood.

#### Life-Threatening Fungal Infection

**Mucormycosis or black fungus is being detected in patients of Covid-19**

A diabetic or anyone who is immuno-compromised is more susceptible

It manifests as skin infection on face, spreads to eyes, lungs and brain



It leads to blackening of nose, affects vision and a patient can cough or sneeze blood

#### WHO ARE AT MM RISK

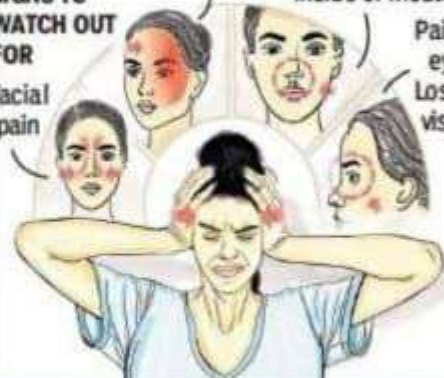
- Diabetics most vulnerable as fungus feeds on sugar
- Heavy steroid use in Covid-19 treatment
- Patients kept on humidified oxygen

#### SIGNS TO WATCH OUT FOR

Facial pain

Inside of mouth

Pain in eye, Loss of vision



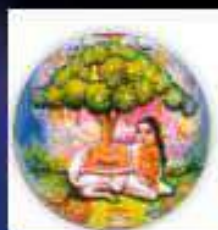
#### CAUTION



Diabetics should be extra-cautious and bring sugar under control

Doctors should avoid rampant use of steroids unless deemed life saving in Covid





# **CANARA COLLEGE MANGALORE**



## **NATIONAL SERVICE SCHEME**

### **Black Fungus Awareness Campaign**

#### **MUCORMYCOSIS**

#### **WHAT IS MUCORMYCOSIS?**

Mucormycosis, commonly known as black fungus has been observed in a number of covid-19 patients recently. A fungal infection mainly affecting people with medical health problems that reduce their ability to fight environmental pathogens.

#### **SYMPTOMS**

- Fever
- Headache
- Coughing
- Bloody vomits
- Shortness of breath
- Pain around eyes and nose

#### **HOW IS MUCORMYCOSIS TREATED?**

Antifungal drug amphotericin B is used for treatment which is commonly used for the treatment of the infection.

Megha  
I BSC (PCM)  
1063









## **ANARA COLLEGE MANGALORE**

### **NATIONAL SERVICE SCHEME**

#### **BLACK FUNGUS AWARENESS CHAMPAIGN**



*Experts divided over unhygienic masks being contributing factor for black fungus*

*"People are afraid of contracting the virus, so many of them keep on wearing the same mask, over and over again without washing, and that runs the risk of contracting the infection, as fungus will grow in a moist or unhygienic areas," Naruka of Apollo hospital said.*

*An Indian doctor checks a man who recovered from COVID-19 and now infected with black fungus at the Mucormycosis ward of a government hospital in Hyderabad, India,*

*Amid a rise in black fungus cases particularly in COVID patients in Delhi, some medical experts feel that "unhygienic masks" and poorly ventilated rooms could be a contributing factor, while others said "no clinical evidence" has been established linking the two.*

*Doctors at many leading hospitals here said many patients, both COVID and non-COVID ones, have presented themselves at the facilities who have been infected with mucormycosis or black fungus and had a history of exhibiting poor hygienic practices, including wearing unmasked masks for a long time.*

*According to Dr Suresh Singh Naruka, senior consultant, ENT, Indraprastha Apollo Hospitals, the primary factor is "irrational use of steroids" .*

SOURCE :THE INDIAN EXPRESS  
NAME :M. H. VINOD  
ROLL NO:1062





# Canara College Manglore

## National Service Scheme



### Black Fungus Awareness Campaign

COVID-19-associated mucormycosis, commonly referred to as black fungus

#### Mucormycosis:

- It is a serious but rare fungal infection caused by a group of molds called **mucormycetes**, which is abundant in the environment.
- It **mainly affects people** who have **health problems** or **take medicines** that lower the body's ability to fight germs and sickness.
- The **types of Mucormycosis** are: Rhinocerebral (Sinus and Brain), Pulmonary (Lung), Gastrointestinal, Cutaneous (Skin), and disseminated Mucormycosis.

#### Transmission:

- It **occurs through** inhalation, inoculation, or ingestion of spores from the environment.
- Mucormycosis **does not spread between people or between people and animals.**

#### Symptoms:

- These include pain and redness around eyes and/or nose, fever, headache, coughing, shortness of breath, bloody vomits, and altered mental status.
- Warning signs can include toothache, loosening of teeth, blurred or double vision with pain.

#### Prevention:

- Avoiding areas with a lot of dust like construction or excavation sites, avoiding direct contact with water-damaged buildings and flood water after hurricanes and natural disasters and avoiding activities that involve close contact to soil.

#### Treatment:

- Mucormycosis needs to be treated with **prescription antifungal medicine.**
- In some cases, it can **require surgery.**

Sujan Shetty  
1st BSc (PMC)  
1109





CANARA COLLEGE MANGALORE

National Service Scheme



## BLACK FUNGUS AWARENESS CAMPAIGN

What is 'black fungus' and why India is at great risk?



WHAT IS THE FUNGUS?

Mucormycosis, dubbed "black fungus", is caused by a mould found in soil and in decaying organic matter like rotting leaves, according to the US Centers for Disease Control and Prevention (CDC).

People get mucormycosis, of which there are several types, by breathing in the fungal spores. They can be spread in hospitals and homes by air humidifiers or oxygen tanks containing dirty water.

WHY ARE CORONAVIRUS PATIENTS AT RISK?

With coronavirus and other conditions, a dangerous phenomenon called a "cytokine storm" can occur where the immune system goes into overdrive, damaging organs.

So doctors have been prescribing steroids to reduce the immune response. But both this weakens the body's defences and increases sugar levels, which fungi thrive off.

WHAT OTHER FACTORS ARE THERE?

Diabetics - who also have excessive sugar in their bloodstream - are also at higher risk. India has high rates of diabetes.

Some hospitals and doctors have been over-prescribing steroids, and some people have been taking them at home without medical advice.

"People have started using (steroids) liberally, excessively and inappropriately," Professor K. Srinath Reddy, from the Public Health Foundation of India, told AFP.

HOW DANGEROUS IS IT?

The infection needs to be caught early as it is aggressive and dead tissue has to be scraped away. Surgeons sometimes have to remove patients' nose, eyes or even their jaw to stop it getting to the brain.

The average fatality rate is 54 percent, according to the CDC.

Once infected, people can die within days. However it is not contagious, according to the CDC. India normally deals with a few dozen cases a year.

Generally the body's defences repel the fungus and only those with severely weakened immune systems, for example organ transplant or cancer patients are affected.

HOW MANY INFECTIONS ARE THERE?

There are at least 7,200 cases in India, according to the Hindustan Times, which cited a government court submission.

Maharashtra state has now reported more than 2,000 cases. Gujarat, home state of Prime Minister Narendra Modi, has about 1,200, officials said.

At least nine Indian states have now declared the infection an epidemic. Several cities have opened special hospital wards.

Authorities have not said how many people have died nationally from black fungus. According to the Hindustan Times, at least 219 people - likely an underestimate - have died.

WHAT ABOUT TREATMENT DRUGS?

There are severe shortages of the main anti-fungal drug to treat the infection, amphotericin B.

The government and drug companies in the country once dubbed the "pharmacy of the world" are scrambling to ramp up production.

Amulya Nidhi, a health activist, said the government had earlier failed to prepare an adequate supply of coronavirus medicines such as remdesivir and plasma.

With black fungus, it has repeated the same mistake.

"The government should have acted when it found out about the very first (fungus) case... People are not supposed to be begging for life-saving medicines."

GULSHABA PARVEEN  
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Stay Home Stay Safe





# **CANARA COLLEGE** **MANGALORE** **NATIONAL SERVICE** **SCHEME** **BLACK FUNGUS** **AWARENESS CAMPAIGN**



Mucormycosis is a very rare infection. It is caused by exposure to mucor mould which is commonly found in soil, plants, manure, and decaying fruits and vegetables. "It is ubiquitous and found in soil and air and even in the nose and mucus of healthy people," says Dr Nair.

It affects the sinuses, the brain and the lungs and can be life-threatening in diabetic or severely immunocompromised individuals, such as cancer patients or people with HIV/AIDS.

Doctors believe mucormycosis, which has an overall mortality rate of 50%, may be being triggered by the use of steroids, a life-saving treatment for severe and critically ill Covid-19 patients.

## **How to prevent Mucormycosis**

- Use masks if you are visiting dusty construction sites
- Wear shoes, long trousers, long sleeve shirts and gloves while handling soil (gardening), moss or manure
- Maintain personal hygiene, including thorough scrub bath

The disease can be managed by controlling diabetes, discontinuing immunomodulating drugs, reducing steroids and extensive surgical debridement- to remove all necrotic materials, according to the advisory.

## **How does black fungus enter the body?**

As noted by an [article in Firstpost](#), the underlying cause of the disease in India is the unhygienic way of delivering oxygen to patients in many places, combined with the indiscriminate use of steroids in the treatment of COVID.

## **How serious is black fungus?**

The [symptoms](#) of black fungus/mucormycosis are pain/stuffiness in the nose, inflammation on cheeks, fungus patch inside the mouth and swelling in the eyelids.

## **Can black fungus spread from one person to another?**

The disease is not contagious and doesn't spread from one person to another.

## **What you should do if you experience symptoms?**

In case of symptoms, medical advice should be sought immediately. Doctors perform MRI and CT scan of the nasal cavity, sinuses and brain is performed, following which endoscopic evaluation of the nasal cavity can confirm a fungal lesion, according to [The Indian Express](#). All fungal and necrotic tissue is removed from the nasal cavity and medical management is carried out with antifungal drugs, namely injection Liposomal amphotericin-B.

**Saiprasad K Shetty**  
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CANARA COLLEGE MANGALURU



## NATIONAL SERVICE SCHEME

Black fungus awareness campaign

### WHAT IS MUCORMYCOSIS ?

Mucormycosis is any fungal infection caused by fungi in the order mucorales. As a deadly second wave of covid-19 continues to ravage india. cases of mucormycosis. A rare life threatening infection are being reported among covid-19 patients.

#### WHO ARE AT RISK

- \*diabetics most vulnerable as fungus feeds on sugar
- \*heavy steroid use in covid-19 treatment
- \*patients kept on humidified oxygen

#### SYMPTOMS OF BLACK FUNGUS

- \*SWELLING IN EYES
- \*FEVER
- \*BODY PAINS



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# CANARA COLLEGE MANGALORE



## Black fungus awareness campaign

### What is **BLACK FUNGUS**?

Mucormycosis, commonly called black fungus, is a rare but serious fungal infection called mucormycete, which is usually found in soil and manure etc. It mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.

#### **Symptoms**

These include pain and redness around eyes and/or nose, fever, headache, coughing, shortness of breath, bloody vomits, and altered mental status. Warning signs can include toothache, loosening of teeth, blurred or doubled vision with pain.

#### **Who is vulnerable**

Vulnerable groups include people who have health problems or take medicines that lower the body's ability to fight germs and sickness. These include those with diabetes, cancer, or those who have had an organ transplant.

#### **Prevention**

Use masks if you are working outside. Wear shoes, long trousers, long-sleeved shirts and gloves while gardening. Maintain personal hygiene including a thorough scrub bath.

**#wearamask**  
**#staysafestayhome**

*Chaithanya*  
1st BSc PMC  
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Source: The Indian Express





# CANARA COLLEGE MANGLORE



## National Service scheme BLACK FUNGUS AWARENESS CAMPAIGN

**What happens in black fungus?  
Mucormycosis is a fungal infection  
that  
causes blackening or discolouration over the nose,  
blurred or double vision, chest pain,  
breathing difficulties and coughing blood.**



Mucormycosis, informally referred to as black fungus, is a fungal infection caused by fungi. This disease can be potentially life-threatening in diabetic or severely immunocompromised individuals. It has been detected that many patients who are recovering or are recovered from Covid-19 are being infected with Mucormycosis or black fungus. People catch mucormycosis by coming in contact with the fungal spores in the environment. It can also develop on the skin after the fungus enters the skin through a cut, scrape, burn, or other type of skin trauma.

Mucormycosis frequently infects the sinuses, brain, or lungs. It begins to manifest as skin infection in the air pockets located behind our forehead, nose, cheekbones, and in between the eyes and teeth. It then spreads to eyes, lungs and can even spread to the brain. It leads to blackening or discoloration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing of blood.

### 03 // Symptoms of black fungus



Common symptoms of black fungus include discolouration of the nose and tongue, blurry vision, breathing problems, chest pain, coughing along with blood, redness in the eyes, fever, cough, headache, black lesion inside the mouth and vomiting.

### Symptoms of Black Fungus aka mucormycosis

- » Facial Deformity
- » Headache
- » Facial pain
- » Nasal congestion
- » Loss of vision or pain in eyes
- » Altered mental state, confusion
- » Swelling in cheeks and eyes
- » Toothache, loosening of teeth
- » Black crusts in the nose

### Prevention

**Use masks if you are working outside. Wear shoes, long trousers, long-sleeved shirts and gloves while gardening. Maintain personal hygiene including a thorough scrub bath.**





# CANARA COLLEGE MANGALORE NATIONAL SERVICE SCHEME

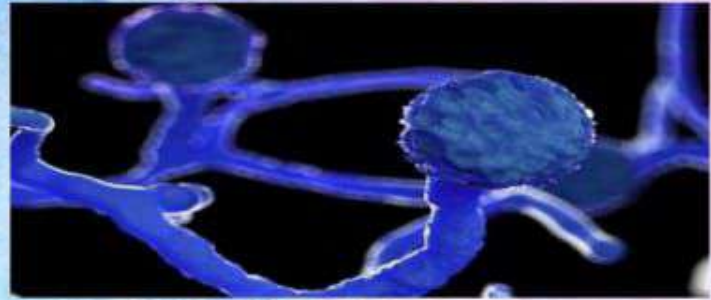


## AWARENESS CAMPAIGN ON BLACK FUNGUS

### BLACK FUNGUS

It is a serious but rare fungal infection caused by group of molds called Mucormycetes.... which is abundant in the environment... Molds found in soil and in decaying organic Matter like rotting leaves.

It mainly affects people who have health problems..



ABDOMINAL PAIN



COUGHING



### SYMPTOMS



SHORTNESS OF BREATH



HEADACHE



PAIN IN EYES

### TREATMENT

ANTIFUNGAL DRUG AMPHO B IS USED FOR TREATMENT. WHICH IS COMMONLY USED FOR TREATMENT OF THE INFECTION..

### PREVENTION

- Use masks if you are visiting dusty construction sites.
- wear shoes, long trousers, long sleeve shirts and gloves while handling soil.
- Maintain personal hygiene, including scrub bath.

## #STAY HOME STAY SAFE

JYOTHILAKSHMI.C  
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# CANARA COLLEGE Mangalore



## National service scheme Black Fungus Awareness Campaign

### WHAT IS BLACK FUNGUS?

COVID-19-associated mucormycosis, commonly referred to as black fungus, is the association of mucormycosis with COVID-19. It has been reported around the nose, eyes and brain – a clinical manifestation sometimes referred to as 'rhino-orbital-cerebral mucormycosis'. [Wikipedia](#)

**Black fungus is NOT contagious. It does NOT spread from direct or indirect contact. Please avoid misinformation.**

### Symptoms

Common symptoms of black fungus include discolouration of the nose and tongue, blurry vision, breathing problems, chest pain, coughing along with blood, redness in the eyes, fever, cough, headache, black lesion inside the mouth and vomiting.



### Don't s of black fungus



Do not overlook the symptoms of black fungus

Do not take blocked nose lightly mainly after getting recovered from COVID-19

Do not think twice about getting done any investigation if suggested by the doctor

**Sowjanya shetty**

**1 BBA**

**1743**





# CANARA COLLEGE MANGALORE



## NATIONAL SERVICE SCHEME BLACK FUNGUS AWARENESS CAMPAIGN What is black fungus ?

COVID-19-associated mucormycosis,<sup>[1]</sup> commonly referred to as **black fungus**,<sup>[2]</sup> is the association of **mucormycosis** (an aggressive **fungal infection**) with **COVID-19**.<sup>[3]</sup> It has been reported around the nose, eyes and brain – a clinical manifestation sometimes referred to as 'rhino-orbital-cerebral (ROC) mucormycosis'.<sup>[4]</sup>



A 47-year-old man with mucormycosis and electron micrograph of his skin showing sporangia of Mucorales fungi.

### Symptoms

Common symptoms of black fungus include discolouration of the nose and tongue, blurry vision, breathing problems, chest pain, coughing along with blood, redness in the eyes, fever, cough, headache, black lesion inside the mouth and vomiting.

### What you should do if you experience symptoms?

In case of symptoms, medical advice should be sought immediately. Doctors perform MRI and CT scan of the nasal cavity, sinuses and brain is performed, following which endoscopic evaluation of the nasal cavity can confirm a fungal lesion, according to *The Indian Express*. All fungal and necrotic tissue is removed from the nasal cavity and medical management is carried out with antifungal drugs, namely injection Liposomal amphotericin-B.

### What to do if black fungus symptoms emerge

To prevent the disease, blood glucose level should be monitored post-COVID discharge and also in diabetic patients; steroids should be used judiciously in correct timing, dose and duration; clean sterile water should be used in humidifiers during oxygen therapy; and antibiotics and antifungal medicines should be used correctly, it said.

The disease can be managed by controlling diabetes, discontinuing immunomodulating drugs, reducing steroids and extensive surgical debridement- to remove all necrotic materials, according to the advisory.

**Name: Abhijna shetty**  
**Class: 1 BBA**  
**Roll no: 1727**







# Mangalore University



## National Service Scheme Canara College

Watch out for these symptoms  
before it turns fatal



Pain/redness  
around eyes/nose



Fever



Headache



Coughing



Shortness of breath

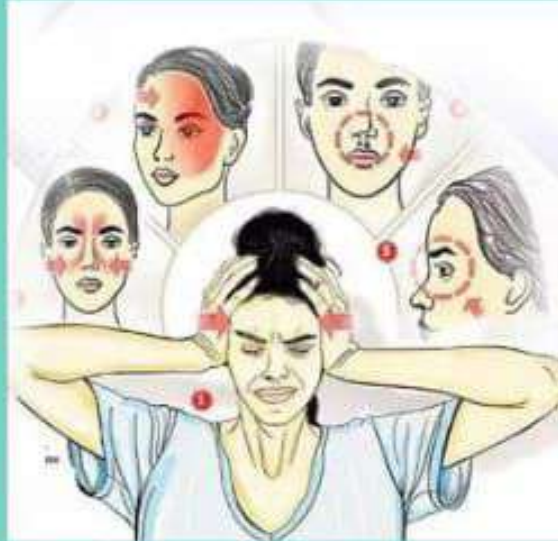


Bloody vomits



Altered mental status

# BLACK FUNGUS



- Keep blood sugar under check Covid or no Covid
- Use steroids judiciously while treating Covid
- Use clean water in humidifier used for O2 support
- Maintain overall cleanliness around patients
- Any oral ulcer should be treated immediately



Bhavyashree DM  
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1245





MANGALORE UNIVERSITY  
NATIONAL SERVICE SCHEME  
**CANARA COLLEGE**  
MANGALURU, KARNATAKA



# BLACK FUNGUS A QUICK GUIDE

Patients suffering from the fungal infection typically have symptoms of stuffy and bleeding nose; swelling of and pain in the eye; drooping of eyelids; and blurred and finally, loss of vision. There could be black patches of skin around the nose

## WARNING SIGNS



Pain, redness around eyes and/or nose



Fever



Headache



Coughing



Shortness of breath



Bloody vomits



Altered mental status

**Geethika**  
**1st Bcom 'C'**  
**1412**





**canara college  
Mangalore**



## Awareness Campaign on Black Fungus

**ಈ ಬ್ಯಾಚ್ ಭಂಗರ್ ಬಾಳೆ ಮರವು ಕೊಂಕಿಡ್**  
ರೋಗಿಗಲಿಕ್ಕೆ ಯಾಕೆ ಅಮ್ಮುಲೊಲ್ಲವುರೆ?

- ಕೊಂಕಿಡ್ ರೋಗಿಗಲೊಂದು, ಕೊಂಕಿಡ್ ರೋಗಿಗೆ ಮಕ್ಕನಿ  
ಬೇಕೊಲೊಂದಿದ್ದರು ಮರವೊಂದನು ವೃಕ್ಷಗಳೆ ಇದ್ದ  
ಕುಡ್ಡುಗುತ್ತಿರುವುದು ಕುಂಬುಲೊಂದಿ ಮುಖ್ಯವಾಗಿ ದೇವರ  
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ನೀರಿನಿಂದ ಸ್ವಲ್ಪವಾಗಿ ಕೊಡು  
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ಇದು ಕೂಡ ಕಾರಣವಾಗುವುದು.  
ಮರವೊಂದಿ ದೇವರ  
ನಿರ್ಮಾಪಕರಾದ ಪರ ಇಂತ ಈ ಕೊಂಕಿ  
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ಇದ್ದು ಇದರೊಂದಿ ಈ ರೋಗಿಗೆ ನಿರ್ಮಾಪಕರಾದ  
ಕೊಂಕಿಮರವೊಂದಿವರವರು.



**ಬಾಕ್ ಫಂಗಸ್**  
ಆತಂಕ ಬೇಡ, ಎಚ್ಚರ ಇರಲಿ



**ಎಕೆ  
ಕೊರೊ  
ಕೇರ್**

**ಈ ಬ್ಯಾಚ್ ಭಂಗರ್ ಬಾಳೆ ಮರವು ಕೊಂಕಿಡ್**  
ರೋಗಿಗಲಿಕ್ಕೆ ಯಾಕೆ ಅಮ್ಮುಲೊಲ್ಲವುರೆ?

- ಕೊಂಕಿಡ್ ರೋಗಿಗಲೊಂದು, ಕೊಂಕಿಡ್ ರೋಗಿಗೆ ಮಕ್ಕನಿ  
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ಕೊಂಕಿಮರವೊಂದಿವರವರು.



**Srajan B.S**  
**1B.COM.C**  
**1470**





MANGALORE UNIVERSITY  
NATIONAL SERVICE SCHEME  
**CANARA COLLEGE**  
MANGALURU, KARNATAKA



# UNDERSTANDING MUCORMYCOSIS

IF UNCARED FOR - MAY TURN FATAL

- Mucormycosis is a fungal infection that mainly affects people who are on medication for other health problems that reduces their ability to fight environmental pathogens.
- Sinuses or lungs of such individuals get affected after fungal spores are inhaled from the air.

## SIGNS AND SYMPTOMS

Pain and redness around eyes and/or nose



Fever



Headache



Shortness of breath



Sore Throat



Diarrhoea



Discolouration Of Fingers And Toes



**Shravana**

**1st B.com 'C'**

**1458**



# National service scheme canara college mangalore



Common symptoms of black fungus include discolouration of the nose and tongue, blurry vision, breathing problems, chest pain, coughing along with blood, redness in the eyes, fever, cough, headache, black lesion inside the mouth and vomiting.



## What is Mucormycosis?

Mucormycosis, commonly known as 'Black Fungus' has been observed in a number of Covid-19 patients recently. A fungal infection mainly affecting people with medical health problems that reduce their ability to fight environmental pathogens.



## How does patient gets predisposed to Mucormycosis?

Co-morbidities - post transplant/malignancy  
Voriconazole therapy  
Uncontrolled diabetes mellitus  
Immunosuppression by steroids  
Prolonged ICU stay

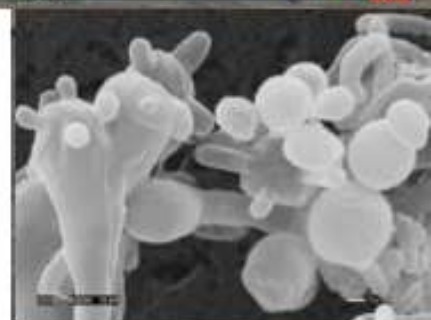


## The treatment

The treatment requires multidisciplinary expertise because the fungal infection spreads through the nose, eyes and can reach the brain.

Treatment involves surgically removing all dead and infected tissue. In some patients, this may result in loss of upper jaw or sometimes even the eye.

Cure may also involve a 4-6 weeks course of intravenous anti-fungal therapy. Since it affects various parts of the body, treatment requires a team of microbiologists, internal medicine specialists, intensivist



**Rahul R Shetty**

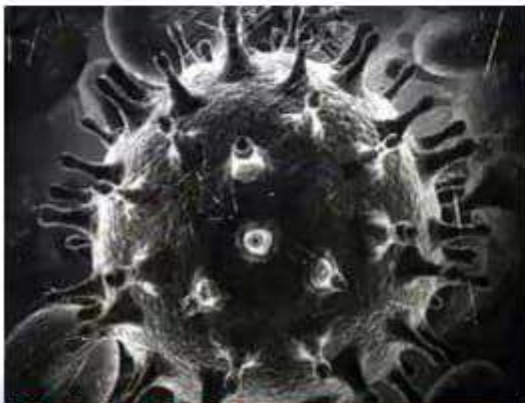
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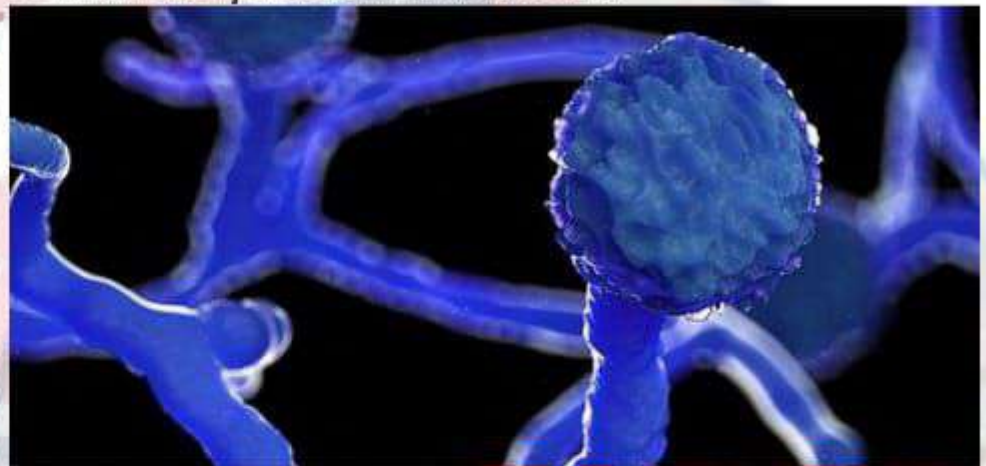
# NATIONAL SERVICE SCHEME CANARA COLLEGE MANGALORE, KARNATAKA

Mangalore University



## WHAT IS BLACK FUNGUS?

Also known as 'mucormycosis', black fungus is a rare kind of fungal infection affecting 1 in 10,00,000 people, but with an overall mortality rate of 50 per cent. The disease is often characterised by hyphae growing in and around blood vessels and can be potentially life-threatening in diabetic or severely immunocompromised individuals.



## SYMPTOMS TREATMENT

includes discolouration of the oral tissues, tongue, gums, stuffy nose, severe pain, swelling of face, heaviness below the eyes, discomfort, fever and headache.

As Black Fungus infections are on rise, there has been sudden rise in demand for anti-fungal drug Ampho B, which is commonly used for the treatment of the infection

Source: Times of India

## CAUSES

The Ministry of Health has confirmed that the infection is being detected among people who are recovering or have recovered from COVID-19. People undergoing oxygen therapy in ICU, where a humidifier is used are more at risk due to exposure to moisture. Thus, it is recommended to use sterile water for oxygen therapy. A weak immunity system, overuse of steroids, voriconazole therapy and uncontrolled diabetes also put people at risk of black fungus infection.

SHRI LAXMI

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**Canara college  
Mangalore,  
Karnataka**



# **National service scheme**

## **WHAT IS MUCORMYCOSIS?**

Serious but rare fungal infection caused by a group of molds called mucormycetes

Affects those with underlying health issues or people who take medicines that lower body's ability to fight germs and sickness

Affects the sinuses or the lungs after inhaling fungal spores from the air. It can also occur on the skin after a cut or a burn

### **What to watch out for**

Headache, facial pain, nasal congestion, loss of vision or pain in the eyes, swelling in cheeks and eyes, and black crusts in the nose

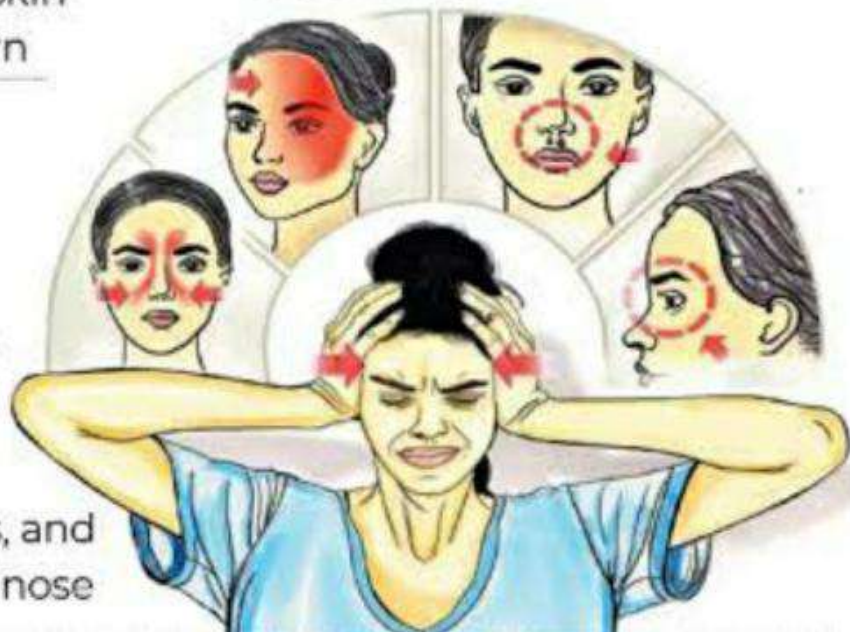
Fatal if goes untreated for a long time

If it infects the lungs or the brain, it can cause:

- Paralysis
- Pneumonia
- Seizure
- Death

### **How is it treated?**

The first steps in treating mucormycosis is intravenous antifungal medications and surgical removal of infected tissue



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# canara college Mangalore



## Black fungus awareness campaign

### WHAT IS **MUCORMYCOSIS**?

It is a fungal infection. It can manifest as pulmonary Mucormycosis or rhino-orbital-cerebral Mucormycosis



**Pulmonary manifestation** | Cough, shortness of breath and fever

**Rhino-orbital manifestation** | Swelling in eyes, unilateral nasal discharge, headache, numbness

➤ Mucormycosis generally occurs in patients with diabetes



### Treatment procedure



- The suspected patient is sent for CT scan/MRI or other tests. If the fungal growth is found, its sample is collected and sent for biopsy
- Through sensitive MRI scans, the experts try to assess the extent of fungal growth and its possible source
- Experts use treatment protocol such as Amphotericin B deoxycholate injection to treat the patients. The injection, costing about Rs 2,500-3,000 is required six times a day for about 15 to 21 days. Other treatment procedures are also adopted

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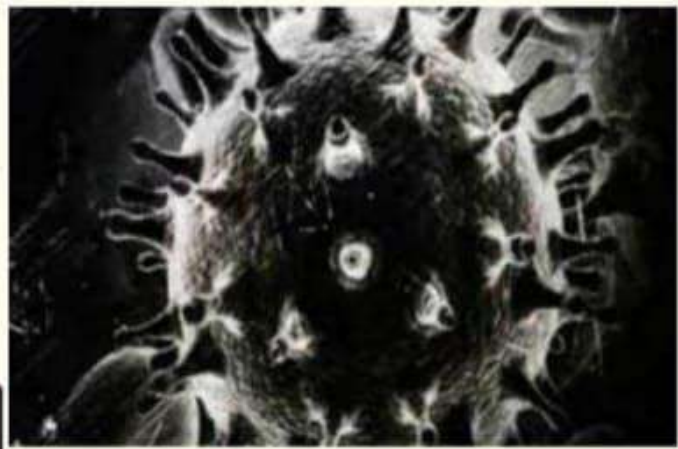
## Who kind of people are at risk?

According to medical science, diabetes patients are majorly vulnerable to fungal infections such as mucormycosis. So are immuno-suppressed people who have been recently cured of Covid.

Particular care is required for Covid patients who are also diabetic. ICMR says that controlling diabetes is among the best preventive measures for this disease.

The disease is being majorly seen in people who have recovered from Covid or are recovering, the Union Health ministry said.

Without treatment, it can lead to lethal bloodstream infection.



**BLACK FUNGUS INFECTIONS HAVE BEEN DETECTED IN KARNATAKA, UTTARAKHAND, TELANGANA, MADHYA PRADESH ANDHRA PRADESH, HARYANA AND BIHAR AMONG OTHERS WHILE SOME STATES HAVE MADE IT A NOTIFIABLE DISEASE, SOME LIKE RAJASTHAN HAVE ALREADY DECLARED IT AN EPIDEMIC.**

Black fungus, or mucormycosis, is a complication caused by a fungal infection. This is a relatively rare but potentially fatal condition.

## How does one catch black fungus?

Primarily, fungal spore floating in the environment give people this infection. One may also catch it when the fungus "enters the skin through a cut, burn, or other types of skin trauma."

On coming in touch, the fungus can stick to a body part, and after a point travel inward through the nose, sinus or lungs.

## How are black fungus cases treated?

After infecting a person, the fungus doesn't remain static but spreads through the nose, attacks the eyes, and eventually reaches the brain, at which point it becomes potentially deadly. This necessitates multi-discipline expertise to treat it.

In a majority of cases, especially if undetected for long, a number of different parts end up getting affected by mucormycosis. So it calls for a combined team of microbiologists, internal medicine specialists, intensivist neurologists, ENT specialists, ophthalmologists, dentists, surgeons, etc.

As part of life-saving procedures, all infected tissues have to be surgically removed. Some patients end up losing the eye/s and, in some cases, the upper jaw.

Patients might need an intravenous anti-fungal procedure spanning four to six weeks.

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# Canara college Mangalore, Karnataka



## National service scheme

### What is black fungus

Mucormycosis is a very rare infection. It is caused by exposure to mucor mould which is commonly found in soil, plants, manure, and decaying fruits and vegetables. "It is ubiquitous and found in soil and air and even in the nose and mucus of healthy people," says Dr Nair. It affects the sinuses, the brain and the lungs and can be life-threatening in diabetic or severely immunocompromised individuals, such as cancer patients or people with HIV/AIDS.

### Causes

Generally, some types of fungi don't cause any infections in humans but can cause sickness in people with weakened immune systems known as opportunistic infections.

Some common types of a fungal infection include:

- \*Skin infections like ringworm
- \*Nail infections

- \*Deeper cutaneous infections following trauma,
- \*Breach in the skin with subsequent fungal implantation and growth
- \*Sinus infections and deep lung infections
- \*The fungi can also affect the gastrointestinal system, renal systems and can cause a full-blown infection resulting from the entry of fungus into the bloodstream.

### Treatment

After infecting a person, the fungus doesn't remain static but spreads through the nose, attacks the eyes, and eventually reaches the brain, at which point it becomes potentially deadly. This necessitates multi-discipline expertise to treat it.

In a majority of cases, especially if undetected for long, a number of different parts end up getting affected by mucormycosis. So it calls for a combined team of microbiologists, internal medicine specialists, intensivist neurologists, ENT specialists, ophthalmologists, dentists, surgeons, etc.

As part of life-saving procedures, all infected tissues have to be surgically removed. Some patients end up losing the eye/s and, in some cases, the upper jaw.

Patients might need an intravenous anti-fungal procedure spanning four to six weeks.



Pooja R Shetty  
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# MANGLORE UNIVERSITY NATIONAL SERVICE SCHEME CANARA COLLEGE MANGLORE



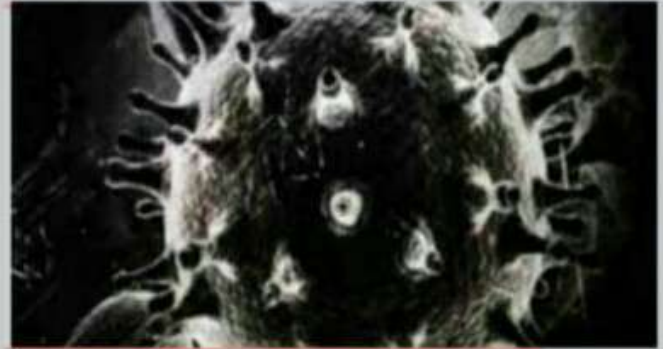
ಕಪ್ಪು ಶಿಲೀಂಧ್ರವನ್ನು ತಪ್ಪಿಸಲು ಏನು ಮಾಡಬೇಕು ಮತ್ತು ಏನು ಮಾಡಬಾರದು, ಯಾರು ಹೆಚ್ಚು ಅಪಾಯದಲ್ಲಿದ್ದಾರೆ ಗೊತ್ತಾ?

- \* ಕ್ಯಾನ್ಸರ್ ಚಿಕಿತ್ಸೆ ಪಡೆಯುತ್ತಿರುವವರು ಮತ್ತು ಕಸಿ ಮಾಡುವವರು.
- \* ಆರಂಭದಲ್ಲಿ ಸ್ವೀರಾಯ್ಡ್ ನೀಡಿದ ರೋಗಿಗಳು.
- \* ಹೆಚ್ಚಿನ ಪ್ರಮಾಣದಲ್ಲಿ ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ನೀಡಿದ್ದರೂ ಸಹ ರೋಗಿಯ ಅಪಾಯ ಹೆಚ್ಚಾಗುತ್ತದೆ.
- ಅಂತಹ ಜನರ ರಕ್ತದಲ್ಲಿ ಮಾಧುರ್ಯದ ಪ್ರಮಾಣವು ಹೆಚ್ಚಾಗುತ್ತದೆ, ಇದು ಅಧಿಕ ರಕ್ತದ ಸಕ್ಕರೆಯ ರೂಪದಲ್ಲಿ ಬರುತ್ತದೆ.
- \* ದೀರ್ಘಕಾಲದವರೆಗೆ ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ನೀಡಿದ್ದರೂ ಸಹ, ಜನರು ಕಪ್ಪು ಶಿಲೀಂಧ್ರಕ್ಕೆ ಗುರಿಯಾಗಬಹುದು.
- \* ಕೆಲವು ಔಷಧಿಗಳನ್ನು ಸಹ ಬಹಳ ಎಚ್ಚರಿಕೆಯಿಂದ ನೀಡಬೇಕು, ಅವು ಶಿಲೀಂಧ್ರಗಳ ಸೋಂಕುಗೂ ಕಾರಣವಾಗಬಹುದು.
- \* ವೈದ್ಯಕೀಯ ಸಲಹೆಯಿಲ್ಲದೆ ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ತೆಗೆದುಕೊಳ್ಳುವುದು ಅಪಾಯಕಾರಿ.
- \* ಸರಿಯಾದ ಪ್ರಮಾಣದ ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ತೆಗೆದುಕೊಂಡು ಅವುಗಳನ್ನು ಕನಿಷ್ಠ ಸಮಯಕ್ಕೆ ತೆಗೆದುಕೊಳ್ಳಿ.
- \* ನೀವು ರಕ್ತದಲ್ಲಿನ ಸಕ್ಕರೆ ನಿಯಂತ್ರಣದಲ್ಲಿಲ್ಲದಿದ್ದರೆ, ವೈದ್ಯರನ್ನು ಕೇಳದೆ ಸ್ವೀರಾಯ್ಡ್ ತೆಗೆದುಕೊಳ್ಳುವುದನ್ನು ನಿಲ್ಲಿಸಬೇಡಿ.

- \* ಮೂರು ವಿಷಯಗಳು ಬಹಳ ಮುಖ್ಯ - ಮೊದಲ ಸಕ್ಕರೆ ನಿಯಂತ್ರಣವು ತುಂಬಾ ಉತ್ತಮವಾಗಿರಬೇಕು, ಎರಡನೆಯದಾಗಿ ನಾವು ಯಾವಾಗ ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ನೀಡಬೇಕು, ಈ ಎಚ್ಚರಿಕೆ, ಮೂರನೇ ಡೋಸ್ ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ನೀಡಬೇಕು.
- \* ಸಕ್ಕರೆ ನಿಯಂತ್ರಣ - ರಕ್ತದಲ್ಲಿನ ಸಕ್ಕರೆ ಮಟ್ಟವನ್ನು ಹೆಚ್ಚಿಸಲು ಬಿಡಬೇಡಿ.
- \* ಮಧುಮೇಹ ಹೊಂದಿರುವ ಜನರು ತಮ್ಮ ರಕ್ತದಲ್ಲಿನ ಸಕ್ಕರೆಯನ್ನು ನಿಯಂತ್ರಿಸಲು ಹೆಚ್ಚುವರಿ ಪ್ರಯತ್ನ ಮಾಡಬೇಕು.
- \* ಮಧುಮೇಹವಿಲ್ಲದ ಆದ್ರೆ, ನಿಯಮಿತವಾಗಿ ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ತೆಗೆದುಕೊಳ್ಳುತ್ತಿರುವವರು ಯಾವಾಗಲೂ ತಮ್ಮ ರಕ್ತದಲ್ಲಿನ ಸಕ್ಕರೆಯನ್ನು ಪರೀಕ್ಷಿಸುತ್ತಿರಬೇಕು.
- \* ಸ್ವೀರಾಯ್ಡ್ ಮಾರ್ಗಸೂಚಿಗಳನ್ನು ಕಟ್ಟುನಿಟ್ಟಾಗಿ ಪಾಲಿಸುವುದು.
- \* ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ನೀಡಲು ಹೊರಡಿಸಿದ ಮಾರ್ಗಸೂಚಿಗಳ ಪ್ರಕಾರ, ಅದಕ್ಕೆ ತಕ್ಕಂತೆ ಸ್ವೀರಾಯ್ಡ್ ನೀಡಬೇಕು.
- \* ಸ್ವೀರಾಯ್ಡ್‌ಗಳ ಬರಡಾದ ಬಳಕೆಯನ್ನು ತಪ್ಪಿಸುವುದು - ಸ್ವೀರಾಯ್ಡ್‌ಗಳನ್ನು ನೀಡುವುದನ್ನು ತಪ್ಪಿಸಿ.
- \* ಅಗತ್ಯವಿದ್ದರೆ, ಕಡಿಮೆ ಪ್ರಮಾಣವನ್ನು ನೀಡಿ ಮತ್ತು ಹೆಚ್ಚು ಅಲ್ಲ.
- \* ಈ ರೀತಿಯ ಇತರ ಔಷಧಿಗಳನ್ನು ಸಹ ಅಗತ್ಯವಿದ್ದಾಗ ಮಾತ್ರ ನೀಡಬೇಕು

ಕಪ್ಪು ಶಿಲೀಂಧ್ರವು ಆಕ್ರಮಣ ಮಾಡಿದೆ ಎಂದು ಅರ್ಥಮಾಡಿಕೊಳ್ಳುವುದು ಹೇಗೆ?

- \* ಮೂಗಿನ ಸಮಸ್ಯೆ
- \* ತಲೆನೋವು
- \* ನಿಮ್ಮ ಮುಖದ ಒಂದು ಭಾಗದಲ್ಲಿ ನೀವು ನೋವು ಅನುಭವಿಸಬಹುದು
- \* ಮುಖ ನಿಶ್ಚೇಷ್ಟಿತವಾಗಿದೆ
- \* ಮುಖದ ಬಣ್ಣವನ್ನು ಬದಲಾಯಿಸುವುದು
- \* ಹಲ್ಲುಗಳು ನಡುಗಲು ಪ್ರಾರಂಭಿಸುತ್ತವೆ



ಕಪ್ಪು ಶಿಲೀಂಧ್ರ ಎಷ್ಟು ಅಪಾಯಕಾರಿ, ಚಿಕಿತ್ಸೆ ಏನು?

- \* ವೈದ್ಯ ಟ್ರೆಹನ್, 'ಇದು ಮೂಗು ಅಥವಾ ಬಾಯಿಯ ಮೂಲಕ ದೇಹವನ್ನು ಪ್ರವೇಶಿಸುತ್ತದೆ.
- \* ಎರಡನೇ ಹಂತದಲ್ಲಿ ಅದು ಕಣ್ಣಿನ ಮೇಲೆ ಪರಿಣಾಮ ಬೀರುತ್ತದೆ ಮತ್ತು ಮೂರನೇ ಹಂತದಲ್ಲಿ ಅದು ಮೆದುಳಿನ ಮೇಲೆ ದಾಳಿ ಮಾಡುತ್ತದೆ.
- \* ನಾಲ್ಕರಿಂದ ಆರು ವಾರಗಳವರೆಗೆ medicines ಔಷಧಿಗಳನ್ನು ತೆಗೆದುಕೊಳ್ಳಬೇಕಾಗುತ್ತದೆ. ತೀವ್ರತರವಾದ ಪ್ರಕರಣಗಳಲ್ಲಿ, ಚಿಕಿತ್ಸೆಯು ಮೂರು ತಿಂಗಳವರೆಗೆ ಇರುತ್ತದೆ.

ಕಪ್ಪು ಶಿಲೀಂಧ್ರವು ಕ್ವಾಸಕೋಶದ ಮೇಲೆ ಆಕ್ರಮಣ ಮಾಡಿದ್ದರೆ, ಈ ಲಕ್ಷಣಗಳು ಕಂಡುಬರುತ್ತವೆ..!

- \* ಜ್ವರ
- \* ಉಸಿರಾಟದ ಸಮಸ್ಯೆ
- \* ಕಫ
- \* ರಕ್ತ ಹವ್ಯಗಟ್ಟುವಿಕೆ
- \* ಎದೆ ನೋವು
- \* ಕಣ್ಣು ಮಸುಕಾಗುವುದು

ಈ ರೋಗಲಕ್ಷಣಗಳನ್ನು ನೀವು ನೋಡಿದರೆ, ತಕ್ಷಣ ವೈದ್ಯರನ್ನು ಸಂಪರ್ಕಿಸಿ

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**canara college**  
**Mangalore**



# BLACK FUNGUS AWARENESS CAMPAIGN

**What is mucormycosis** | It is an aggressive and invasive fungal infection that can affect various vital organs such as the brain and cause internal damage to the ear, nose, throat, and mouth. It is not contagious but can be fatal if not detected early

**Prevalence:** The Center for Disease Control and Prevention, U.S., calls it a serious but rare disease. A computational model by Arunaloche Chakrabarti et al. estimated a prevalence of 0.14 cases per 1,000 individuals in India

**Underlying cause:** Diabetes mellitus is the most common underlying cause. According to doctors, "an

indiscriminate use of a high dose of steroids in patients" could trigger the disease post-COVID-19 infection

**Cure:** The main line of treatment is an anti-fungal drug called Amphotericin B, which is given over an extended period of time under strict observation. Surgery might also be warranted

## Black fungus infection or Mucormycosis Disease

It is a serious disease but rare fungal infection, it can become fatal if not treated quickly. It is affecting people whose immune systems have been damaged by the Coronavirus, viral diseases, and other medical conditions



**Causes, Symptoms,  
Diagnosis and Treatment**

**RATHAN SHETTY**  
**1 B COM C**  
**1446**



# NATIONAL SERVICE SCHEME CANARA COLLEGE MANGLORE



**How does one catch black fungus?**

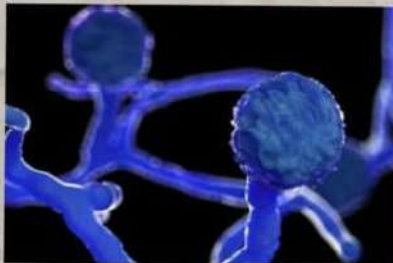
Primarily, fungal spore floating in the environment give people this infection. One may also catch it when the fungus "enters the skin through a cut, burn, or other types of skin trauma."

On coming in touch, the fungus can stick to a body part, and after a point travel inward through the nose, sinus or lungs.

**What are the symptoms of mucormycosis?**

Some early signs of the condition include "sinus pain or nasal blockage on one side of the face, one-sided headache, swelling or numbness, toothache and loosening of teeth," says the Indian Council of Medical Research (ICMR).

According to reports from various top hospitals across India, patients are reporting "blurred vision, discoloration or blackening of tissue on nose and cheeks and black lesions inside the mouth or discharge from nose."



**Who kind of people are more at risk?**

According to medical science, diabetes patients are majorly vulnerable to fungal infections such as mucormycosis. So are immuno-suppressed people who have been recently cured of Covid.

Particular care is required for Covid patients who are also diabetic. ICMR says that controlling diabetes is among the best preventive measures for this disease.

The disease is being majorly seen in people who have recovered from Covid, or are recovering, the Union Health ministry said.

Without treatment, it can lead to lethal bloodstream infection.

**How are black fungus cases treated?**

After infecting a person, the fungus doesn't remain static but spreads through the nose, attacks the eyes, and eventually reaches the brain, at which point it becomes potentially deadly. This necessitates multi-discipline expertise to treat it.

In a majority of cases, especially if undetected for long, a number of different parts end up getting affected by mucormycosis. So it calls for a combined team of microbiologists, internal medicine specialists, intensivist neurologists, ENT specialists, ophthalmologists, dentists, surgeons, etc.

As part of life-saving procedures, all infected tissues have to be surgically removed. Some patients end up losing the eye/s and, in some cases, the upper jaw.

Patients might need an intravenous anti-fungal procedure spanning four to six weeks.

**How risky is this condition?**

The fatality rate in mucormycosis cases is very high.

As per data available thus far, mortality is as high as 80% if a patient goes untreated, or remains untreated long. If treated, it is still 40-50%. In cases where the infection is caught at the the sinus stage itself, patients mostly completely recover.

Besides, according to doctors, drugs used for treating this condition come with strong side-effects. That can, in some cases, lead to "kidney issues, neurological dysfunction and stroke".

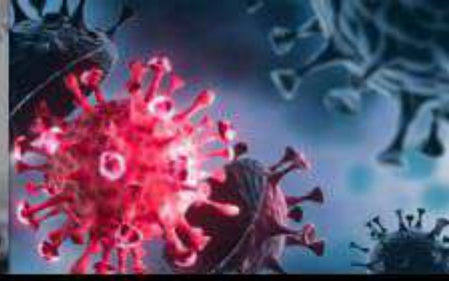
Source • Centers for Disease Control and Prevention (cdc.gov)

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1435  
1st Bcomc



# BLACK FUNGUS

infection



**EXPRESS**  
**explained.**

## 'BLACK FUNGUS' IN COVID-19 PATIENTS

Mucormycosis (previously zygomycosis), a rare but serious fungal infection, is affecting some COVID-19 patients. The disease manifests in the skin, affects lungs and brain, and can lead to loss of the upper jaw or eye. It's been declared a notified disease in Haryana, the national COVID-19 task force has issued an advisory, and the Union health ministry has asked states/UTs to declare Black Fungus as an epidemic

➤ It is caused by a group of fungus called **micromycetes**

➤ Immunocompromised patients having diabetes, **HIV/AIDS**, cancer and those on prolonged use of steroids in high doses fall in high-risk category

➤ Found in one individual in 8 lakh but frequent after Covid

outbreak

➤ Treated with antifungal drugs

➤ Common symptoms include sinusitis, nasal congestion, facial pain or numbness, blackish discoloration over the bridge of the nose, toothache, blurred or double vision, and chest pain

Mortality  
rate is  
**50-60%**

### Do's

- Control hyperglycaemia
- Monitor blood glucose level post COVID-19 discharge & in diabetics
- Use steroid judiciously
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/ anti fungal judiciously

### Don'ts

- Do not miss warning signs & symptoms
- 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 immunomodulator
- Don't hesitate in seeking aggressive investigations as appropriate for detecting fungal etiology
- Don't lose crucial time to initiate treatment for mucormycosis

## BLACK FUNGUS & KEY FACTS

■ Scientifically known as mucormycosis, black fungus is not infectious and does not spread from person to person

■ Occurs mostly in immuno-compromised patients

■ Patients who have been on O<sub>2</sub> supply or on steroids during Covid-19 treatment are most vulnerable

■ Itching, redness and heaviness in eye not be ignored



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**Deepika Nayak**  
**1st Bcom 'A'**  
**1218**



## BLACK FUNGUS: A QUICK GUIDE

### PREVENTION



**1**

Use masks if you are visiting dusty construction sites



**2**

Wear shoes, long trousers, long sleeve shirts, gloves while handling soil (garbening), moss or manure



**3**

Maintain personal hygiene including thorough scrub bath

### DOs

- Control hyperglycemia
- Monitor blood glucose level post COVID-19 discharge, also in diabetics
- Use steroid judiciously – correct timing, correct dose and duration
- Use clean, sterile water for humidifiers during oxygen therapy
- Use antibiotics/antifungals judiciously

### DON'Ts

- Do not miss warning signs, symptoms
- Do not consider all cases with blocked nose as bacterial sinusitis
- Do not hesitate to seek aggressive investigations
- Do not lose crucial time to initiate treatment for mucormycosis





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## AWARENESS CAMPAIGN ON BLACK FUNGUS

### WHAT IS BLACK FUNGUS?

COVID-19-associated mucormycosis, commonly referred to as black fungus, is the association of mucormycosis with COVID-19.

It has been reported around the nose, eyes and brain – a clinical manifestation sometimes referred to as 'rhino-orbital-cerebral mucormycosis'.

### HOW DOES IT EFFECT?

Black fungus commonly affects the sinuses or lungs after a person inhales fungal spores in the air, and can also affect the skin following a surface injury like a cut or burn. Symptoms depend on where in the body the fungus is growing, but can include facial swelling, fever, skin ulcers and black lesions in the mouth.

### PREVENTION OF BLACK FUNGUS

Wearing masks is compulsory. Fungal spores found in air can easily enter the body through the nose. This makes masking up doubly important, in preventing infection. People who work at or visit construction sites should specifically pay attention to this.

"People with coronavirus cases are getting black fungus. Patients if not taken precautions and are already diabetic one and used steroids have mostly the chances of being infected by black fungus. It can be fatal if not diagnosed early and treated as early as possible."



*DISHA Y*  
*1st Bcom 'A'*  
*1250*





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## NATIONAL SERVICE SCHEME

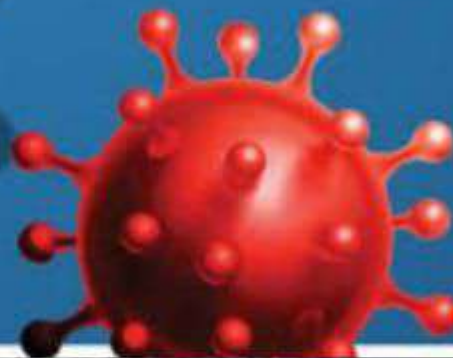
### awareness camping on black fungus



It's caused by a group of molds, called mucormycetes. Individuals are infected after inhaling fungal spores found naturally in India's environment and soil. "For most people with a healthy immune system, exposure to the fungus really won't matter," he says. 13-May-2021

The prevalence of mucormycosis is around **70 times higher** in India than that in global data.

Due to the spotlight on Coronavirus, the black fungus remains lurking in its shadow.



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If the fungus goes in through a cut or a burn, it can cause local infections. But if it goes in through the sinus, it can affect the eyes and eventually, the brain, leading to a fatal situation





# Canara college Mangalore



## Black fungus

Infections is caused by mucormycetes a group of moulds fungus abundant in environmeny  
It mainly affects sinuses lungs of people

### Symptoms

- \*Bloody vomits
- \*Pain redness around eyes
- \*Fever
- \* Headache coughing
- \* Shortness of breath



### Treatment for black fungus

As black fungus is infection are on rise  
There has a sudden rise in demand  
for anti fungal drug Ampho B  
which is commonly used for treatment

**Ankitha**  
**1st Bcom A**  
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## **BLACK FUNGUS AWARENESS CAMPAIGN**

### **WHAT IS BLACK FUNGUS THREAT TO LIFE**

A life-threatening infection known as mucormycosis (colloquially as black fungus) which, if untreated, results in blindness followed by death



#### **WHAT MAKES YOU VULNERABLE**

Exposure to mucor mould which is commonly found in soil, plants, manure etc

**BRAIN**

**SINUSES**

**LUNGS**



It affects the sinuses, the brain and the lungs and can be life-threatening in diabetic or severely immunocompromised patients, such as those with cancer or HIV/AIDS

#### **WHO IS AT RISK**

People who are on medication for other health problems which reduces their ability to fight environmental pathogens

Some doctors believe it may be being triggered by steroids, a life-saving treatment for severe & critically ill Covid-19 patients

#### **TREATMENT**

Doctors say most patients arrive late, when they are already losing vision, & doctors have to surgically remove the eye to stop the infection from reaching the brain

Source: **NEWS 18**  
creative

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MANGALORE UNIVERSITY  
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## BLACK FUNGUS AWARENESS CAMPAIGN

### BLACK FUNGUS

Patients suffering from the fungal infection typically have symptoms of stuffy and bleeding nose; swelling of and pain in the eye; drooping of eyelids; and blurred and finally, loss of vision.

There could be black patches of skin around the nose

#### WARNING SIGNS



Pain, redness around eyes and/or nose



Fever



Headache



Coughing



Shortness of breath



Bloody vomits



Altered mental status

#### PREVENTION



1

Use masks if you are visiting dusty construction sites



2

Wear shoes, long trousers, long sleeve shirts, gloves while handling soil (garbening), moss or manure



3

Maintain personal hygiene including thorough scrub bath

source



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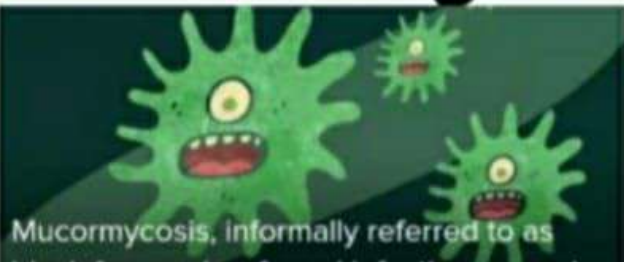




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## Black fungus awareness campaign



Mucormycosis, informally referred to as black fungus, is a fungal infection caused by fungi. This disease can be potentially life-threatening in diabetic or severely immunocompromised individuals. It has been detected that many patients who are recovering or are recovered from Covid-19 are being infected with Mucormycosis or black fungus. People catch mucormycosis by coming in contact with the fungal spores in the environment. It can also develop on the skin after the fungus enters the skin through a cut, scrape, burn, or other type of skin trauma.

Mucormycosis frequently infects the sinuses, brain, or lungs. It begins to manifest as skin infection in the air pockets located behind our forehead, nose, cheekbones, and in between the eyes and teeth. It then spreads to eyes, lungs and can even spread to the brain. It leads to blackening or discoloration over the nose, blurred or double vision, chest pain, breathing difficulties and coughing of blood.

### 03 / 7 | Symptoms of black fungus



Common symptoms of black fungus include discolouration of the nose and tongue, blurry vision, breathing problems, chest pain, coughing along with blood, redness in the eyes, fever, cough, headache, black lesion inside the mouth and vomiting.

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