

DISCUSSION

The link between the invasive mucormycosis sinusitis and the SARS-CoV-2 virus is harmful thus it must be taken more seriously. Uncontrollably high blood sugar and overuse of corticosteroids are the most prominent causes of disease aggravation, and must all be managed. In instances where the patient had prior infection with COVID-19 and now currently also having mucormycosis infection, timely intravenous anti-fungal therapy and adequate surgical intervention must be attempted, as a favourable outcome and less severe critical or fulminate illness course can be attained. There is still much more to gain knowledge about the triple threat that has arose as a result of the pandemic, but it will be critical in the future to constantly watch blood sugar levels as well as meticulously discuss whatever underlying health issues the individual has prior to actually starting steroid treatment for COVID-19 infection [12].

In order to properly manage Mucormycosis and reduce mortality, doctors must remain vigilant and raise knowledge across the public health care system. Numerous healthcare systems in our nation have established Mucormycosis Out Patient Divisions (OPD) to track every COVID-19 healed individuals during 10 days to 6 weeks, as during that time period they are especially more susceptible to the infections by fungus. In the event of any symptoms, patients must visit as soon as possible the closest urban primary health centre or even the appropriate OPDs in healthcare institutions. For the timely and prompt detection and care of Mucormycosis infection, the ICMR recommends a multidisciplinary team approach involving medical and dental professionals [13].

CONCLUSION

In this perspective, we believe that a comprehensive set of instruments should be proposed in order to successfully define the epidemiology of invasive fungal infections throughout this devastating pandemic:

- Adoption of detection technologies on a local level to improve early diagnosis and patient management by allowing for fast specialised antifungal therapy. An effective syndromic genomic technique (QPCR for *Pneumocystis jiroveci*, *Mucorales* and *Aspergillus*) might be used alongside culture for pulmonary specimens together in two-step process. If any of these tests are positive, blood bioindicators would be used to verify the findings, such as blood QPCR and/or serum galactomannan, and/or serum beta-D-glucan, and/or cryptococcal antigenemia for *Mucorales* or *Aspergillus*, depending upon the positive results.
- Nationwide multicentre investigations involving collaborative consortia of ICU and Mycology professionals to explore the possibility of fungal super infection during COVID-19.
- Participation in national and worldwide registries, such as the European confederation of medical mycology's.

Collectively aim:

- To understand better the occurrence and dynamics of fungal illnesses during COVID-19, especially during in the Intensive care unit stay.
- To enhance diagnosis by presenting a syndrome molecular method for fungal pulmonary illness in acute respiratory distress syndrome patients who may be distributed amongst all hospitals who receive COVID-19 cases.
- To improve prompt COVID-19 care delivery by actual time assessment in order to offer a focused treatment as soon as feasible. Aspergillosis, pneumocystosis, and mucormycosis all have distinct first line therapies, and empirical therapies would be resisted as and when feasible. Preventive interventions including such antifungal drugs and chemoprophylaxis and environmental measures might well be considered based on the epidemiological data provided, with the goal of lowering morbidity and death.

The following aspects must be addressed in order to prevent COVID-associated invasive fungal infections

- In order to improve glycaemic control in diabetics
- Systemic corticosteroids should be used as needed
- Antibiotic, antifungal, and other immune modulators should not be used until absolutely essential

Countries might experience a rise in fungal infections as a result of the delta variant's expansion, not just in India but across the world. It is critical for health care workers to be more aware and prepared, particularly when dealing with high risk patients. Controlling these fungal diseases will need faster diagnosis, improved treatment options, and more research.

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