

## LETTER TO THE EDITOR

## Lessons from India's COVID-19 crisis: *Meyerozyma guilliermondii* presenting in a mucormycosis-like picture

### Editor

We are reporting the case of a 75-year-old woman, who was admitted to the emergency department of Basildon University hospital in December 2021. She presented with a history of cough and shortness of breath over a few days. Her past medical history was significant for hypertension, gout, hyperlipidaemia and stage 5 chronic kidney disease on haemodialysis. Bisoprolol, one-alpha, allopurinol and atorvastatin were among her regular medications. Her severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) PCR test was positive, and the patient was admitted to the ward with COVID-19 pneumonia and hypoxia. Her chest x-ray showed left lower zone consolidation, and she was initiated on intravenous antibiotics, dexamethasone and oxygen supplementation.

After being admitted, the patient became acutely confused and developed a rash on her face consisting of a black plaque. The medical team started her on acyclovir for potential herpes zoster, but there was no improvement. Therefore, she was referred to the dermatology team at Basildon Hospital for further assessment. Upon review, the rash appeared to be a foul-

smelling black necrotic plaque involving the mid-face and extending to involve the nasal and oral mucosae. No other areas were affected by the rash (Fig. 1).

The initial clinical impression was mucormycosis. This was based on the clinical picture of the rash, the patient's age, background of chronic kidney disease and COVID-19 status. Because of this, a tissue swab was obtained due to high clinical suspicion, and intravenous amphotericin was initiated after liaising with the microbiology team. An urgent referral was then arranged to oral and maxillofacial surgeons for consideration of surgical debridement. Computed tomography (CT) of the head was ordered, and it revealed no acute intracranial pathology with normal sinuses.

*Meyerozyma* (*Candida*) *guilliermondii* was subsequently isolated from the tissue obtained by debridement using a nuclear ribosomal repeat region sequencing PCR test.

After 1 week of intravenous amphotericin and surgical debridement, the rash significantly improved with only minimal residual erythema. The medical team performed a confusion screen, which revealed a negative blood culture and a heavy mixed growth urinary tract infection. Following a course of intravenous antibiotics, the patient was discharged after a dramatic improvement in consciousness.

The devastating pandemic of COVID-19 was started by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus. It has been reported to infect over 300 million people and



**Figure 1** *Meyerozyma guilliermondii* infection in COVID-19 patient (a) Mucormycosis-like black necrotic plaque involving the mid-face and extending to the nasal and oral mucosa; (b) dramatic response to 1 week intravenous amphotericin and surgical debridement.

killed over 5 million as of January 2022. Fungal infections can exacerbate the clinical course of COVID-19 and are linked to a higher mortality rate, particularly in vulnerable patients who require intensive care.<sup>1</sup> COVID-19-related immunosuppression, hypoxia, invasive mechanical ventilation, hyperglycaemia and prolonged hospitalisation may all contribute to the higher incidence of fungal co-infections.<sup>2</sup> Pulmonary aspergillosis, invasive candidiasis, fungal pneumonia and mucormycosis are among the most commonly reported fungal infections in COVID-19 patients.<sup>3</sup>

The clinical presentation of our case, COVID-19 status, background of chronic kidney disease and very high ferritin levels on admission supported the clinical diagnosis of mucormycosis. This therefore indicated the initiation of intravenous antifungal therapy while awaiting laboratory results. This lesson was learned from the COVID-19 disaster in India, where multiple cases of COVID-19-related mucormycosis had been reported with a 30% mortality rate.<sup>4</sup> The pan-fungal PCR assay identified *Meyerozyma guilliermondii* (previously known as *Candida guilliermondii*) on the debridement tissue specimen by nuclear ribosomal repeat region sequencing. *Meyerozyma guilliermondii* is a rare fungal isolate from environmental sources. It can cause opportunistic fungal infections in immunosuppressed hosts, including onychomycosis, superficial cutaneous infections, osteomyelitis and invasive infections.<sup>5</sup>

*Candida guilliermondii* exhibits decreased susceptibility to azole antifungals, which are the most common agents for the treatment of *Candida* infections.<sup>6</sup> The microorganism has a variable susceptibility to amphotericin B, which explains the dramatic clinical response of our case after 1 week of antifungal treatment.<sup>7</sup> Invasive and oropharyngeal candidiases caused by other species like *Candida albicans*, *tropicalis*, *parapsilosis*, *glabrata*, *dublinsiensis* and *krusei* were also reported in COVID-19 patients.<sup>8,9</sup>

The report emphasises the significance of COVID-19 fungal co-infections, which necessitates a high index of clinical suspicion for early detection and treatment. This is needed in combination with the prudent use of corticosteroids in COVID-19 patients to minimise the catastrophic complications and fatalities imposed by these co-infections.

### Conflicts of interest

The authors declare no conflicts of interest.

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The patients provided written informed consent for publication of their case details, including the use of images.

### Data availability statement

Non applicable.

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