



Retrospective review of COVID-19 patients with mucormycosis

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Abstract

Introduction: India is also facing a new challenge in form of COVID-19 associated mucormycosis. It is a rare but fatal infection if not treated. It is often referred as black fungus. Aim: The present study reviewed COVID-19 associated mucormycosis in a tertiary care centre. Methods: This retrospective study included COVID-19 positive patients confirmed on RT-PCR during the period of one month (May 2021) at Bangalore Medical College, Bangalore, Karnataka. Results: Male to female ratio was 2.6:1. 53.2% complained of decreased vision while 23.4% had nasal discharge. 85% patients were diabetic, and 29.8% were hypertensive. Thirteen patients underwent sinus endoscopy, and all of them showed black discoloration, yellowish discharge, and eschar. Conclusion: COVID-19 associated mucormycosis is a serious problem, and early diagnosis and treatment of these patients are required for successful management.

Keywords: COVID-19, mucormycosis, amphotericin B

Introduction

India is affected substantially by COVID-19 2nd wave. WHO report states approximately 4 lakh cases on May 7, 2021, and thereafter, a decrease in cases has been reported. Although, the number of COVID-19 cases is decreasing, India contributed to about 45% of the new detected cases globally during the 3rd week of May, 2021 [1].

During the pandemic, India is also facing a new challenge in form of COVID-19 associated mucormycosis [2]. Mucormycosis is caused by a group of moulds known as mucormycetes. It is a rare but fatal infection if not treated. It is often referred as black fungus. As per a newspaper article, it has infected at least 7,250 people in India by May 21, 2021. In Karnataka alone, 97 cases of mucormycosis had been reported [3].

The present study reviewed COVID-19 associated mucormycosis in a tertiary care centre.

Methods

This retrospective study included COVID-19 positive patients confirmed on RT-PCR during the period of one month (May 2021) at Bangalore Medical College, Bangalore, Karnataka [4].

The patients' demographic characteristics such as age, sex, presenting symptoms, co-morbidities, vaccine status, and treatment were noted.

Data were expressed as mean, standard deviation (SD), frequency, and percentages.

Results

General characteristics

A total of 47 patients were included in this study. Majority of the patients (59.6%) aged between 41 and 60 years. Male to female ratio was 2.6:1. 53.2% complained of decreased vision while 23.4% had nasal discharge. 85% patients were diabetic, and

29.8% were hypertensive (Table 1).

Vaccine status

Nine patients received at least a single dose of vaccine while only 3 patients received both doses.

KOH mount

Out of 7 patients, 4 patients showed candida albicans hyphae on KOH mount examination.

Sinus endoscopy

Thirteen patients underwent sinus endoscopy, and all of them showed black discoloration, yellowish discharge, and eschar.

Treatment

All of the patients were receiving liposomal amphotericin B, and one patient was also receiving oral Posaconazole.

Discussion

Time of presentation of mucormycosis in the patients with COVID-19 is variable; however, it is often observed around 3rd weeks of onset of COVID-19 symptoms. There are a number of possible reasons including pre-existing diabetes, excessive use of steroids and antibiotics etc.

There is not much data available in the literature. Garg et al performed a systemic review till Jan 2021, and found a total of 8 cases of COVID-19 associated mucormycosis from USA, India, UK, Brazil, and Italy. 50% of them were diabetic [5].

Hyperglycemia control, early treatment with liposomal amphotericin B, and surgery are important for the successful management of the disease [6]. However, in COVID-19 these all three aspects are compromised. Firstly, therapies of COVID-19

(glucocorticoids) aggravate hyperglycemia. Coexisting respiratory distress and multiorgan dysfunctions prevent early diagnostic testing [7]. Finally, the healthcare facilities are overwhelmed due to COVID-19, and hence, services like diagnostics and surgeries may also curtailed [8].

Conclusion

In conclusion, COVID-19 associated mucormycosis is a serious problem, and early diagnosis and treatment of these patients are required for successful management.

Table 1: General characteristics

	Frequency	Percentage
Age (Years)		
21-40	6	12.8
41-60	28	59.6
>60	13	27.7
Sex		
Male	34	72.3
Female	13	27.7
Presenting complaints		
New onset fever	5	10.6
Nasal discharge	11	23.4
Decreased vision	25	53.2
Co-morbidities		
Overweight/obese	1	2.1
Ischemic heart disease	1	2.1
Hypertension	14	29.8
Diabetes	40	85.1
Immuno compromised	6	12.8

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