Mucormycosis has been increasingly associated with COVID-19 infection and carries a mortality rate of 54-85%.2

Case Presentation

The patient was a 44-year-old male with poorly controlled type II diabetes mellitus (A1c 11%), NASH cirrhosis, and hypothyroidism. After contracting COVID-19, he had multiple ED visits for worsening headache that was attributed to COVID-19. On his third presentation, he also had blurry vision, a cranial nerve deficit, diabetic ketoacidosis.

Introduction

• SARS-CoV-2 infects the sinonasal tract, leading to sinus symptoms/headache in 25%-35% of patients.1
• Mucormycosis has been increasingly associated with COVID-19 and sinusitis. (Figure 1A)

Case Presentation

The patient relocated and was lost to follow-up 3 months later.

Hospital Course

• Maxillofacial CT w/ contrast: concern for pre-septal cellulitis and sinusitis. (Figure 1A)
• Ophthalmology consult: CN VI palsy on exam
• ENT consult: noted history of noninvasive, non-Mucor, fungal sinusitis of the left sphenoid sinus 1 year prior
• Bedside nasal endoscopy revealed bilateral fuzzy white debris, blood crusts with purulent drainage, necrotic mucosa, and insensate middle turbinates. (Figure 2)
• Urgent sinus surgery for bilateral debridement revealed extensive necrosis extending into cribriform plate and skull base, purulent drainage, and a fungus ball in the left sphenoid sinus.
• Pathology confirmed invasive fungal mucormycosis and cultures grew Zygomycetes (Lichtheimia corymbifera).
• Immediate post-op MRI revealed cerebral invasion. (Figure 1B)
• Neurosurgery determined it was non-operable
• Despite broad anti-fungal therapy he developed complete ophthalmoplegia, optic neuropathy, and fixed dilated pupil.
• Ophthalmology follow-up 3 months later noted persistent left orbital apex syndrome with optic neuropathy, complete ophthalmoplegia, and a fixed dilated pupil.
• The patient relocated and was lost to follow-up.

Conclusions

• Invasive mucormycosis is an emerging complication of COVID-19 and should be ruled out among COVID-19-positive patients with severe, persistent headache and/or sinonasal symptoms.
• The multi-organ effects of COVID-19 are varied and currently poorly understood. The association with mucormycosis is also poorly understood, proposed relationship in Figure 3.
• Clinicians must remain vigilant in combatting diagnostic bias among patients positive for COVID-19 and maintain a broad differential in the face of worsening symptoms.

References