P170
Life threatening hemoptysis in COVID-19 associated Pulmonary Aspergillosis (CAPA)

Rajeev Soman, Sourabh Chakraborty, Vineet Rao, Shailesh Rohit, Geethu Joe

Jupiter Hospital, Pune, Pune, India

Poster session 2, September 22, 2022, 12:30 PM - 1:30 PM

Objective: We report a case of large pulmonary mycotic aneurysms with massive hemorrhage as an unusual complication of CAPA which required vascular radiological interventions along with appropriate antifungal treatment.

Method and Results: A 71-year-old female patient had COVID-19 and was admitted elsewhere and she received steroids, aspirin, antibiotics, and fluconazole. Cough, dyspnea, and hemoptysis started 3 weeks later which markedly worsened over 4 days, requiring emergency hospitalization due to shock, and she received a large number of packed RBCs. The chest CT scan revealed two large nodular opacities with central breakdown and CT pulmonary angiography revealed large mycotic aneurysms within the nodular opacities (Fig. 1).

The important task at the moment of presentation was pulmonary artery embolization to arrest hemoptysis; which took precedence over the diagnosis and treatment of the likely infectious process. Both aneurysms were embolized using coils and vascular plugs resulting in their obliteration.

Common causes of such nodules with central necrotic cavitation and formation of pseudoaneurysms are angioinvasive molds like *Aspergillus* and Mucorales. In the post-COVID-19 and post steroid setting in India, invasive Mucormycosis (IM) is thought to be more common than invasive Aspergillosis (IA). A mixed infection with these molds appears to be present in about 15% of the cases. Absence of DM or hyperglycemia was somewhat against a diagnosis of Mucormycosis. TB was considered less likely due to the imaging features and Nocardia was considered less likely due to the tempo of the illness and the severity of hemoptysis.

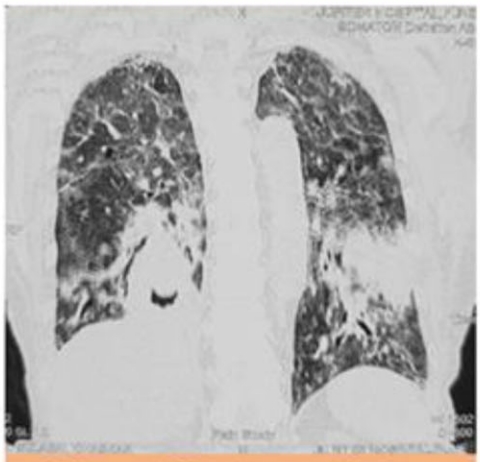
Since the clinical distinction between Aspergillosis and Mucormycosis was not possible and posaconazole can be potentially useful for both, it was chosen for treatment in preference to voriconazole. Both amphotericin B and isavuconazole were in short supply at that time. Posaconazole was used for the patient intravenously followed by gastroresistant tablets. Expectorated sputum revealed narrow, septate, acute angle branching fungal hyphae. Therapeutic drug monitoring was used later to assure an adequate drug exposure. Serum galactomannan and BDG reports were received soon after and were 2.49 ODI (Optical density Index) and >523pg/ml respectively. The mold grew in culture as shown in and was identified by morphological features and by MALDI TOF MS as *Aspergillus fumigatus* (Fig. 2). Sensititre MIC to posaconazole was found to be 0.12 which is considered in the susceptible range.

Despite these findings indicating IA, posaconazole was not replaced by voriconazole as IM could not be ruled out as part of a mixed infection. The patient showed clinical improvement, had no further hemoptysis, serum galactomannan turned negative and CT showed obliteration of the aneurysms.

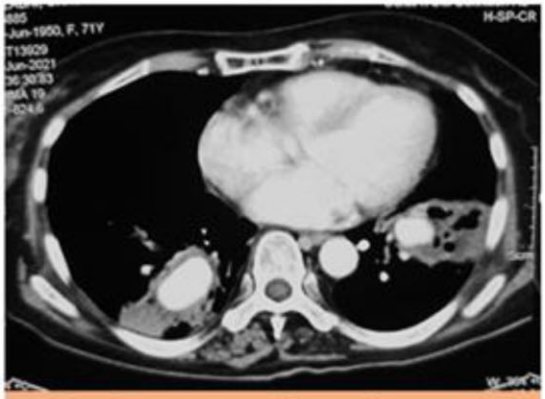
Conclusion: Posaconazole and isavuconazole may indeed emerge as good contemporary choices over voriconazole for IA and over amphotericin B for IM.

This case adds to the clinical experience of using medical treatment with posaconazole as the sole drug and not undertaking surgery in cases such as these, due to certain extenuating circumstances.

Figure 1.

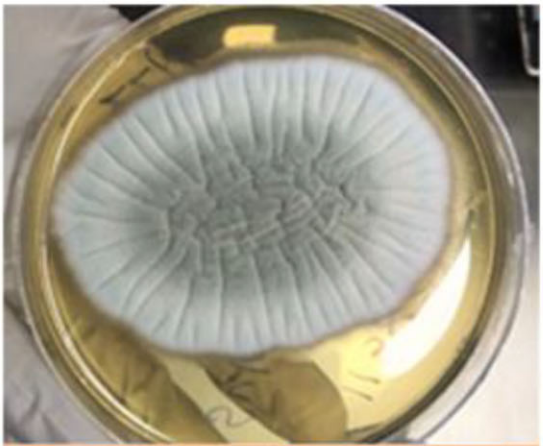


CT scan (Chest): revealed two large nodular opacities with central breakdown

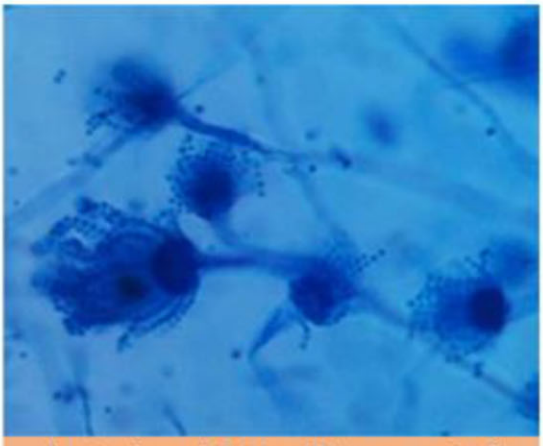


CT pulmonary angiography revealed large mycotic aneurysms within the nodular opacities

Figure 2.



Culture on SDA (Sabouraud Dextrose Agar)



Lactophenol Cotton Blue mount of culture