

Fig. 102

hyaline septate hyphae morphologically suggestive of *Aspergillus* spp. Patients who were diagnosed with CPA according to criteria were treated and followed up.

Results: A total of 15 patients were screened in the study, 4 patients who had concurrently detected pulmonary tuberculosis detected by Genexpert, were excluded from the study. Majority of patients presented with complaints of recurrent episodes of cough and hemoptysis. Imaging features included cavitation, bronchiectasis, pleural thickening, and fungal ball. Sputum microscopy for fungal elements was positive only in 10 patients. The serum *Aspergillus* Ig G (values ranged from 19.8-200 u/mL) was raised in all patients while serum GMI above cut-off was present in only 5 patients. All confirmed CPA patients were managed with voriconazole for 4 months. Following 4 months of treatment, all patients had favorable outcomes in terms of radiological improvement and clinical cure.

Conclusion: CPA is an underestimated post-TB sequel and should be considered as differentials in patients with respiratory symptoms in post TB patients. *Aspergillus* Ig G and chest imaging are recommended as initial diagnostic tools for diagnosing CPA.

Sources:

- Denning DW, Cadran J, Beigelman-Aubry C et al. European Society for Clinical Microbiology and Infectious Diseases and European Respiratory Society. Chronic pulmonary aspergillosis: rationale and clinical guidelines for diagnosis and management. *Eur Respir J*. 2016; 47(1): 45-68.
- Agarwal R, Denning DW, Chakrabarti A. Estimation of the burden of chronic and allergic pulmonary aspergillosis in India. *PLoS One*. 2014; 9(12): e114745.
- Page ID, Byanyima R, Hosmane S et al. Chronic pulmonary aspergillosis commonly complicates treated pulmonary tuberculosis with residual cavitation. *Eur Respir J*. 2019; 53: 1801184

P204

Secondary organizing pneumonia caused by *Aspergillus flavus* in immunocompromised patients

Chhavi Gupta, Sapna Yadav, Mrinal Sircar, Rajesh Gupta, Neela Chavhan, Saurabh Mehra, Prateek Koolwal, Sunny Kumar, Sujeet Singh, Anurag Deshpande, Siddharth Anand, Ravneet Kaur
Fortis Hospital, Noida, Delhi, India

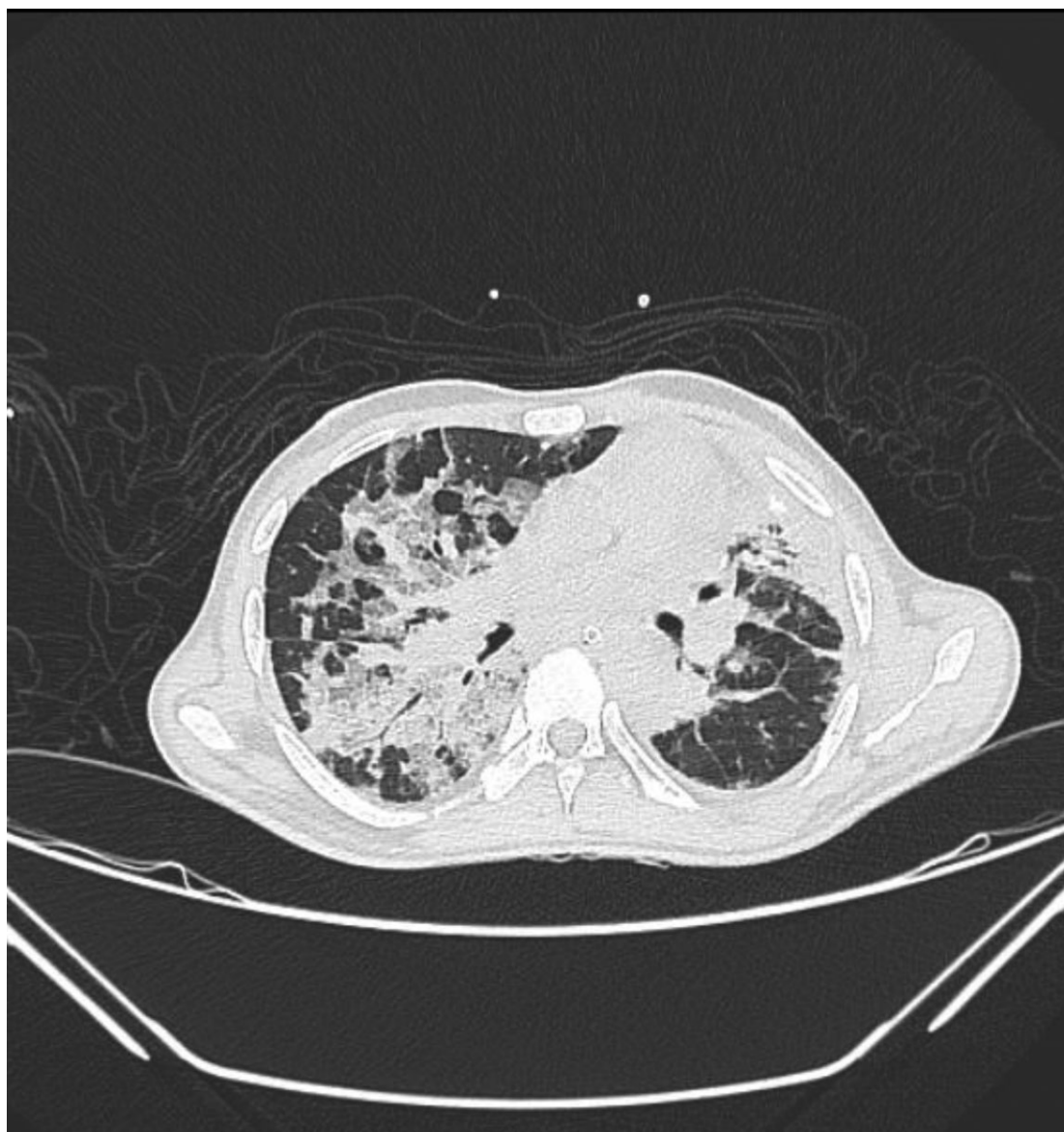
Poster session 2, September 22, 2022, 12:30 PM - 1:30 PM

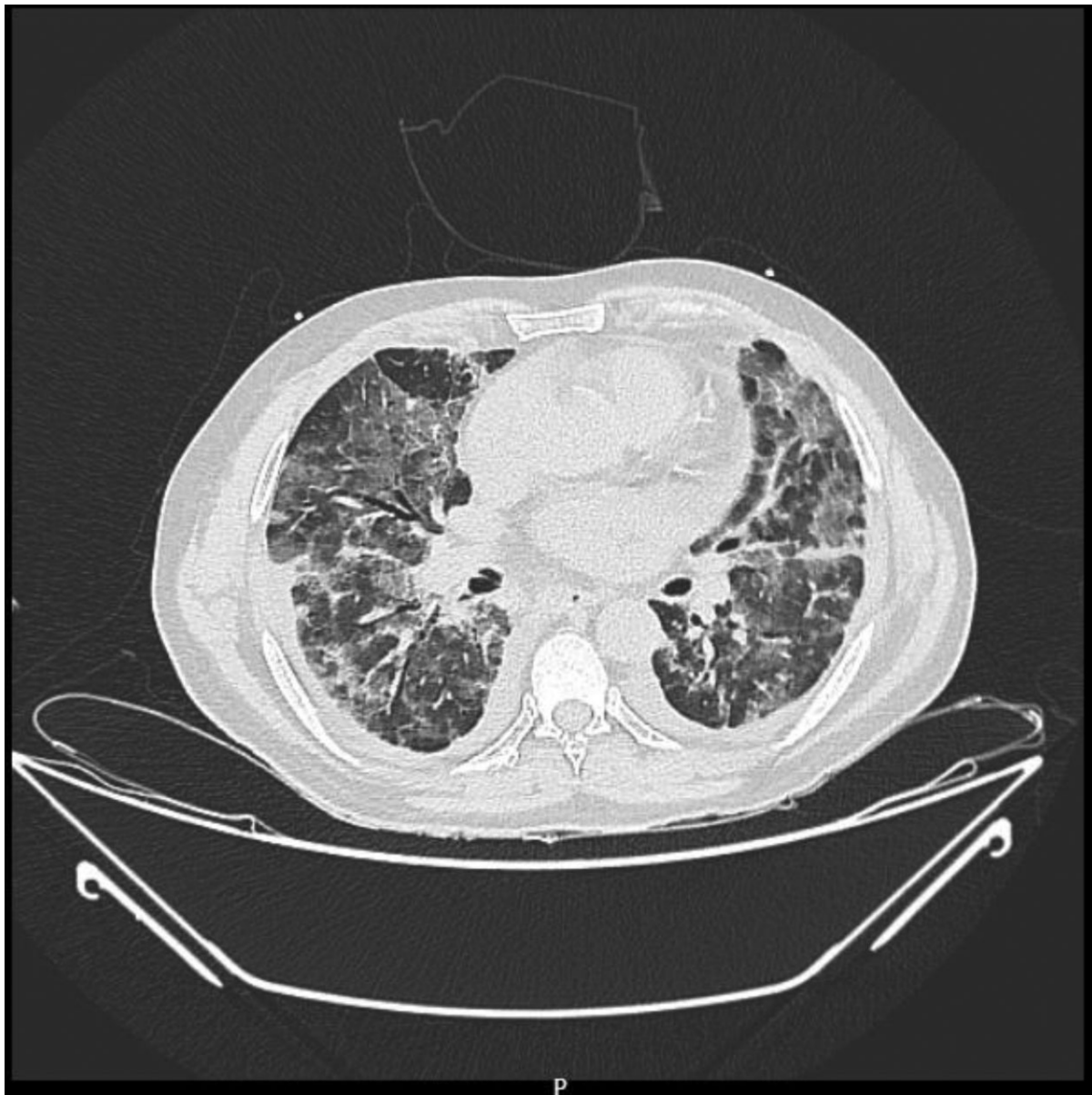
Introduction: Fungal pneumonia is a known complication in immunocompromised patients. However fungal infection leading to organizing pneumonia (OP) is a rare entity. Here we present two cases of co-occurrence of OP with *Aspergillus* lung infection

Case 1: A 33-year-old male with a history of recurrent oral-genital ulcerations and low-grade fever for the last 3 months presented with shortness of breath and high-grade fever for 10 days. On presentation he was hypotensive, tachycardic, and tachypneic, examination revealed bilateral crackles. His initial investigations were hemoglobin (Hb) 8.8, total leucocyte counts (TLC) 13 000, platelet 190 000, liver function test (LFT), and kidney function test (KFT) were normal. High-resolution computed tomography (HRCT) revealed multifocal areas of interlobular septal thickening with ground glass opacity and patchy areas of consolidation seen in bilateral lung fields (Fig. 1). He was initially managed with broad-spectrum antibiotics and oxygen support by a high flow nasal cannula (HFNC); as the condition deteriorated, he was mechanically ventilated. Fiberoptic bronchoscopy with bronchoalveolar lavage (BAL) was performed. Investigations for tuberculosis, nocardia, pneumocystis carinii, and bacterial infection in BAL was negative. Galactomannan index (GMI) in BAL was 3.15 and grew *Aspergillus flavus*. Transbronchial biopsy revealed features consistent with organizing pneumonia. He was started on voriconazole and steroids. He was diagnosed with undifferentiated connective tissue disorder. As the patient's condition improved in due course of time, he was extubated and discharged in stable condition on voriconazole and steroids and is currently doing fine.

Case 2: A 56-year-old male known case of mantle cell lymphoma on consolidation therapy, presented with 15 days history of shortness of breath and high-grade fever. Chest examination revealed decreased breath sounds bilaterally in the lower lung zones with lower zone crackles. Initial investigations showed Hb 10.9, TLC 3.90, platelet 150000, KFT and LFT were normal. HRCT scan revealed multilobular areas of consolidation showing air bronchogram with ground glass opacities in bilateral lung (Fig. 1). Bronchoalveolar lavage fluid (BALF) revealed the growth of *Aspergillus flavus* and was GMI 1.97. Investigations for tuberculosis, nocardia, pneumocystis carinii and bacterial infection was negative. Transbronchial biopsy revealed features consistent with organizing pneumonia. He was started on combination therapy with voriconazole and micafungin along with steroids. Initially, he was managed with oxygen support but his oxygenation gradually worsened, he was mechanically ventilated, and received multiple pruning sessions. Patient had refractory organizing pneumonia, did not show any improvement even after 1 month, and left against medical advice.

Conclusion: Bacterial and viral infections are the common causes of secondary OP. Fungal infections implicated in secondary OP are rarely described, of which there are reports of *Pneumocystis jirovecii* (PJP) and *Penicillium* infection leading to secondary OP. *Aspergillus flavus* is a ubiquitous fungal agent and is considered as pathogenic in immunocompromised settings can lead to secondary organizing pneumonia. High index of suspicion for OP is always to be kept in mind while treating *Aspergillus flavus* pneumonia.





P205

Uncommon *Aspergillus* species encountered in human infections

Prakriti Gupta, Harsimran Kaur, Sourav Agnihotri, Anup Ghosh, Shivaprakash M. Rudramurthy
PGIMER, Chandigarh, Chandigarh, India

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

Objective: *Aspergillus* species are ubiquitously found in environment and have propensity to infect both immunocompromised as well as immunocompetent individuals. Though the most common species implicated in human illness include *Aspergillus fumigatus* and *A. flavus*, many uncommon *Aspergillus* species are increasingly being reported. Moreover, these *Aspergillus* species have the potential to afflict varied organ systems and can thereby, be implicated in a wide array of infections. Here, we describe three patients infected by rare *Aspergillus* species viz. *A. sclerotium*, *A. cristatus*, and *A. japonicum* causing brain abscess, corneal ulcer and chronic dacryocystitis.

Methods: Uncommon *Aspergillus* species were isolated from clinical samples (nasal scraping, corneal scraping, and brain biopsy). Samples were inoculated on Sabouraud dextrose agar (incubated at 37°C and 25°C) and brain heart infusion agar (incubated at 25°C), followed by slide culture and lactophenol cotton blue (LCB) mount. The isolates were further subjected to molecular identification using polymerase chain reaction (PCR) targeting ITS region, followed by sequencing. Demographic details, clinical characteristics, risk factor, and management profile associated with these *Aspergillus* species were evaluated. We conducted systematic review using the search terms '*A. sclerotium*' AND 'humans', '*A. cristatus*' AND 'humans' and '*A. japonicum*' AND 'humans'.

Results: We isolated three newer *Aspergillus* species from nasal scraping, corneal ulcer and brain biopsy. Direct microscopy using potassium hydroxide-calcium hydroxide mount from all these clinical samples showed hyaline septate hyphae in background of pus cells. After 3-5 days of incubation, yellow-green mycelia were observed on the obverse in all the isolates. However, their microscopic features did not relate with the typical lactophenol cotton blue (LCB) picture of *A. flavus*, owing to which these were sub-cultured on Czapek Dox agar. After 4-5 days of incubation, LCB of these isolated again failed to divulge any specific picture and these isolates were subjected to molecular identification.

- A) Nasal scraping from 31-year-old immunocompetent male who presented with post-traumatic chronic dacryocystitis and recurrent orbital cellulitis yielded *A. japonicum*. He responded well with empirical antibiotics and oral voriconazole.

- B) Corneal scrapings from 56-year-old immunocompetent male who presented with post-traumatic blurring of vision yielded *A. cristatus*. He was treated with nystatin and voriconazole with good response.
C) Brain biopsy from 45-year-old male with hypertension and subarachnoid hemorrhage, who presented with fever, headache, vomiting and periorbital swelling yielded *A. sclerotium*. He was treated with amphotericin B and had favorable outcome.

The systematic literature review didn't yield any results of infection caused by these species in humans.

Conclusion: This is the first report of isolation of *A. sclerotium*, *A. japonicum*, and *A. cristatus* from human tissue, though these fungi have been isolated from ambient air and environment. The present report highlights the emergence of uncommon *Aspergillus* species causing invasive infections even in immunocompetent patients and the requisite of molecular modalities to aid in identification of these rare, emerging species.

P206

Phenotypic and molecular characterization of emerging *Basidiomycete Schizophyllum commune* isolated from clinical samples from India

Sunita Gupta, Harsimran Kaur, Anup Ghosh, Shivaprakash Rudramurthy, Arunaloake Chakrabarti
Department of Medical Microbiology, PGIMER, Chandigarh, India

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

Objective: *Schizophyllum commune* is an environmental basidiomycete capable of causing human infections. Its identification is difficult as often it produces sterile, cottony white colonies without any conidia formation. *S. commune* is characterized by clamp connections and hyphal spicules. Though it produces basidiocarps with basidiospores it is difficult to induce *in vitro*. Molecular techniques are essential to confirm its identification. Here, we present the description of *Schizophyllum commune* isolates collected at our center over the last 5 years.

Methods: All the isolates used in this study were received from various part of India and accessioned at the National culture collection of pathogenic fungi (NCCPF), Chandigarh India. Isolates were grown on Sabouraud dextrose agar and malt-extract agar (MEA) at 25°C for 5-7 days. Lacto phenol cotton blue mounts were prepared and a microscopic examination was done. For observing basidiocarps, MEA plates were incubated for 6-8 weeks. DNA extraction was done using the phenol-chloroform method and ITS region was amplified using pan-fungal primers followed by Sanger sequencing.