P142 Leptospirosis: An emerging cause of lung injury
Harishman Kaur1, Parankitt Gupta2, Sharmant Shankaranayak2, Abhishek Pandey2, Anup Ghosh1, Anurakto Chakraborty2
1PGIMER Chandigarh, Chandigarh, India
2Charles lab, Dept. of Physics Edmonton AB, Canada

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Background: Leptospirosis, earlier considered as a natural state of Canidae pastepulosis, was described as a distinct species isolated on rabbits for its presence of serum. Now, as case of human infection by this year have been described from Mexico, China, Malawi, Korea, Australia, and the USA. We describe here eight cases of haemagglutination by L. biflexa from a tertiary care hospital in North India.

Methods: Clinical, laboratory and radiological factors associated with L. biflexa haemagglutination were evaluated. Isolation from blood culture (BD BACTEC™ 9240, New Jersey, USA) was identified by matrix-assisted laser desorption ionization-time of flight mass spectrometry technique. Molecular typing of L. biflexa was carried out by Dr. Neeraj Shukla (DSM, Germany) and sequencing of 16S rDNA region of a large subset of ribosomal DNA. We performed antifungal susceptibility testing for amorolfine B, fluconazole, terconazole, voriconazole, posaconazole, caspofungin, amphotericin B, and itraconazole by the microbroth dilution method recommended by the Clinical and Laboratory Standards Institute (CLSI).

Results: We report eight cases of haemagglutination of L. biflexa at our tertiary care centre. Of these, three were infants (male) and five were adults (3 males and 2 females). The mean age of adults was 43.4 years. Among the pediatric cases, underlying immunodeficiency was observed in one patient. chest X-ray showed bilateral infiltrates. However, the acute respiratory distress syndrome (ARDS) was excluded as the cause of these cases. L. biflexa infection was also associated with aortic valve abscess.

Conclusions: L. biflexa haemagglutination was an emerging respiratory pathogen causing fever in patients with comorbidities and underlying surgery or invasive interventions. Though the antifungal breakpoints exist for this year, all the isolates exhibited low MICs for all the tested antifungals.

P143 Incidence of chronic pulmonary aspergillosis in a cohort of bacteriologically confirmed TB patients at a tertiary hospital in Ghana

Osei Boamah Bright1, Benjamin Oteng1, Abdulreman Adjei4, Chris Kromah2, Jane Afriyie-Mensah3, Japheth Owusu3, David Amponsah3
1University of Manchester, Manchester, United Kingdom
2Noguchi Memorial Institute of Medical Research, AccraLegon, Ghana
3Korle-Bu Teaching Hospital, AccraKorle-Bu, Ghana
4Manchester University NHS Foundation Trust, Manchester/Wythenshawe, United Kingdom
5University of Ghana Medical School, AccraKorle-Bu, Ghana

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Objective: Chronic pulmonary aspergillosis (CPA) is a common complication of tuberculosis. Previous studies on CPA in TB have mainly focused on immunocompromised patients not bacteriologically confirmed. Although, our evidence of CPA in TB is critical in diagnostic algorithms for CPA, in rare cases, CPA may occur in patients with active TB. This prospective longitudinal study aimed to determine the incidence of CPA at three timepoints in a cohort of bacteriologically confirmed TB patients placed on anti-TB treatment in Ghana.

Methods: Consecutive patients in whom TB was detected by molecular analysis (GenoType MTB and subsequently placed on anti-TB treatment were enrolled. They were screened for CPA at baseline or the time of diagnosis (0-4 weeks) and at the end of 12-month treatment (12-16 weeks) using chest X-rays and the Aspergillus galactomannan (GaM) assay (VIA Assay, Liofilchem). We also screened for CPA, while being the antifungal therapy for CPA using the Aspergillus galactomannan (GaM) assay (VIA Assay, Liofilchem).

Results: A total of 46 patients were enrolled at baseline, of whom 34 (74%) were assessed at the end of treatment. Only 13 patients (30%) were screened for CPA at baseline or the time of diagnosis.

Conclusions: The incidence of CPA in TB is higher than previously believed and CPA should be investigated in all cases and not only in patients who are at high risk for CPA. CPA should be assessed in all patients in whom TB is diagnosed, whether or not they are neutropenic or immunocompetent.

P144 The uncommon meet the common: Invasive Aspergillosis and tuberculosis coinfection in non-neutropenic patients – are rare cases

Ashiktha B, Gopin Krishna Bommar, Durga Shankar, Deepak Kumar, Nareesh Kumar Matha, Vishal Jain, Shivang Sharma, Santhi Ram, Mahendra Kumar Garg, Kuldip Singh, Nishant Kumar Chauhan, Ankur Sharma
1Department of Medicine, AIIMS Jodhpur, India
2Department of Microbiology, AIIMS Jodhpur, India
3Department of Pediatrics, AIIMS Jodhpur, India
4Department of Pulmonology, AIIMS Jodhpur, India
5Department of Anesthesiology, AIIMS Jodhpur, India

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Background and Objective: Invasive aspergillosis (IA) is known to occur in immunocompromised patients including neutropenic patients. But, recently increasing cases have been reported in patients with non-clinical risk factors and non-neutropenic patients like diabetes mellitus, chronic lung diseases, HIV infection, critically ill patients, etc. According to ISHAM these non-risk factors are included in low risk category for diagnosis of IA.

India has a high tuberculosis (TB) burden, and this is always considered as the first differential for any patient with fever, cough, hemoptysis, etc. We report four cases of chronic pulmonary aspergillosis coinfection in non-neutropenic patients.

Conclusion: IA in non-neutropenic patients is a rare case, and the more common infections should be ruled out first. The choice of antitubercular therapy should be guided by susceptibility of organisms, and the use of second-line anti-TB drug combinations may be required for treatment failure. Invasive aspergillosis was considered in patients who had at least one clinical and one mycological evidence. Galactomannan test was used in all cases. The sensitivity and specificity of GM test were found to be 100%.

P145 Co-infections due to Aspergillus and Mucorales: Case series from a superspecialty medical center in India

Bhuvan Rana1, Immacta Xee2, Jagadeesh Singh1, Naveen Kumar3, Manihi Sreen4, Ashima Jain3, Ajay Roy Choudhury5
1Department of Microbiology, All India Institute of Medical Sciences, New Delhi, India
2Department of EPI, All India Institute of Medical Sciences, New Delhi, India
3Department of Medicine, All India Institute of Medical Sciences, New Delhi, India
4Department of Microbiology, National Institute of Mental Health and Neurosciences, Bangalore, India
5Department of Dental Surgery, All India Institute of Medical Sciences, New Delhi, India

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Objective: To present details of a case series of fungal co-infection (aspergillosis and mucormycosis) including clinical course, laboratory diagnosis, treatment, and outcome.

Methods: Clinical features of 7 cases of fungal co-infection (3 pulmonary, 4 rhino-orbito-cerebral or sino-orbital) were reviewed and reports of samples like sputum and BAL were analyzed to elucidate the mucocutaneous fungal infections were retrieved from laboratory records. Presence of aspergillus and mucofungi in direct microscopy of clinical samples and/or growth of Aspergillus and Mucorales in culture was considered as evidence of probable mucormycosis and aspergillosis (as per EORTC guidelines).

Results: Mucormycosis, cutaenuy lung disease, and renal failure with metabolic acidosis were unique risk factors observed in pulmonary co-infection, while use of systemic corticosteroids for treatment of AMR/GvC infection was common in rhino-orbito-cerebral (ROC) or sino-orbital (SN) co-infection. Diabetes mellitus was a common risk factor for both groups of cases.

Conclusions: Fever, cough, shortness of breath were the most common features in pulmonary fungal co-infections cases, while headache, facial swelling and pain, nasal stricture, vision loss, and altered sensorium were the most common features in ROC/SN co-infection.

Conclusion: Concomitant or collapsing, bronchiectasis, cavitation changes in and around the lesions were the most frequent radiological features in pulmonary fungal co-infection cases, while mucoid thickening in multiple parenchymal areas, and involvement of orbit and cerebral sinuses were the most frequent features in ROC/SN co-infection.

Presence of aspergillus and mucofungi in direct microscopy was seen in tissue samples from all ROSN cases, which enabled early intervention. However direct microscopy was not indicative of co-infection in any of our sputum samples from pulmonary cases, and diagnosis was only established by culture, leading to delayed initiation of treatment or no treatment. Liposomal amphotericin B (SABM in range 50-200 mg/kg) was used for treatment of fungal co-infection, with posaconazole 400-800 mg/day as an stop-gap therapy if SABM was not tolerated.

Out of these three pulmonary fungal co-infection cases, one only received appropriate antifungal treatment but expired nonetheless. Out of the three ambulatory patients, one expired, and one was discharged after medical advice without resolution of symptoms. Surgical interventions were done for only two patients. In 3 cases of ROSN co-infection were appropriately managed with immediate surgical debridement and survival. The remaining patient required appropriate antifungal and surgical intervention.

Conclusions: Fungal co-infection with aspergillosis and mucormycosis is a serious condition requiring early intervention. This is facilitated by high sensitivity of direct microscopy in tissue samples used for diagnosis in ROSN co-infection, but histopathology is the most direct way of confirming diagnosis in tissue samples taken from lesions than lung biopsies. Robust clinical adjuvant therapies, early diagnosis, and combined surgical and pharmacological approaches are crucial to a favorable outcome.

P146 Penicillium-like mycetoma: caught red-handed, but remained unidentified

Sujata Raza1, Rajeev Somani3, Dipsal Chavan1, Mahendra Daske2
1Bharati Vidyapeeth Medical College, Pune, India
2Jaihoop Hospital, Pune, India
3Deenanath Mangeshkar Hospital, Pune, India

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Objective: This case highlights the presence of a sub-limited respiratory mycosis in an immunocompetent host and need for fungal sequencing in diagnosis of such rare cases.

Methods: We describe a case of neutro-penic mycetoma due to Penicillium sp., which was analyzed by ITS sequencing of fungal DNA.

Results: Xpert MTB/RIF positive culture and PCR confirmed the diagnosis of Penicillium sp. DNA which was absent in normal respiratory swabs.

Conclusion: This case highlights the presence of a sub-limited respiratory mycosis in an immunocompetent host and need for fungal sequencing in diagnosis of such rare cases.