Case report; mycobacterium chimaera associated pulmonary disease in two members of the same household

A. Khan*, H. Rehman

Chesterfield Royal Hospital

Backgrounds and Purpose: To explore and report a rare case of mycobacterium chimaera causing a non-tuberculous mycobacterium pulmonary infection in two members of the same household in a small town in the UK named chesterfield.

Methodology: A PubMed search was carried out with the terms 'mycobacterium chimaera' and 'pulmonary infection'. No reported UK cases had been found in our search.

Results and discussion: We therefore report a rare case of a 68 year old male with a past medical history of long-standing chronic obstructive pulmonary disease who presented with a 4 month history of weight loss, night sweats, fevers, loss of appetite and a productive purulent cough. He reported a contact with his recently deceased wife who had mycobacterium chimaera associated pulmonary infection. Both the patient and his former partner had never reported any travel history or surgical history. Both the patients had presented with a right sided cavitating mass in the apex of the lung on their CT scan. They both met the diagnostic criteria for mycobacterium avium complex associated pulmonary disease. Most of the literature regarding mycobacterium avium complex inform us that it is commonly associated with environmental agents and evidence regarding human to human transmission is weak. This could be a potentially very rare case of human to human transmission of a rare species of mycobacterium avium complex associated pulmonary infection.

Conclusion: This case reminds us to have broad based differential when analysing a patient presenting with an apical cavitating mass in the lung. Of the differentials of lung malignancy, tuberculosis and sarcoidosis, mycobacterium avium complex infections should be considered. A careful history and examination with thorough investigations is therefore essential.

https://doi.org/10.1016/j.jiph.2018.10.054

Rare cause of TB caused by mycobacterium Bovis in a British Born Male

H. Rehman*, A. Khan

Respiratory Medicine

Backgrounds and Aim: To explore a rare cause of Mycobacterium Bovis in a British born male.

Methodology: A PubMed search was carried out with the terms 'mycobacterium bovis', 'pulmonary infection' and 'UK'. Only 0.5% of cultured positive human tuberculosis were identified as Mycobacterium Bovis in 2007.

Results and discussion: 72-year-old male retired driver with a past medical history of Non-Specific Interstitial Pneumonitis (NSIP), Congestive Cardiac Failure and Hypertension presented to the respiratory clinic with a 3 month history of increasing shortness of breath, dry cough, night sweats and rigors and generalised body aches. There was no family history or foreign travel history. The patient was taking prednisolone 20 mg once a day for the NSIP. The chest X-ray showed bilateral changes in keeping with known pulmonary fibrosis. Initially patient was treated for lower respiratory tract infection with oral Co-amoxiclav. His prednisolone was increased to 30 mg. One of the differential considered was progression of NSIP. His HRCT scan showed a new cavitating lesion in the right middle lobe which was suggestive of new infection. The NSIP appeared stable. A bronchoscopy and bronchoalveolar lavage (BAL) from the right middle lobe was carried out. This was positive for Acid Fast Bacilli. Patient was commenced on treatment for Mycobacterium Tuberculosis. The culture from BAL grew Mycobacterium Bovis sensitive to isoniazid, Ethambutol and Rifampicin, but resistant to Pyrazinamide. Patients treatment regimen was hence modified and His history was revisited. He remembered helping his father in a farm as a young child over 50 years ago.

Patient subsequently developed DVT and pulmonary embolism. He also developed Hospital acquired pneumonia and unfortunately passed away.

Conclusion: Mycobacterium Bovis is a member of the Mycobacterium tuberculosis complex (MTBC). Among patient diagnosed with TB, Mycobacterium Bovis should be considered as a causative agent in immunocompromised individuals.

https://doi.org/10.1016/j.jiph.2018.10.055

Prevalence of NDM-1 and OXA-48 among Enterobacteriaceae Isolates from Patients with Urinary Tract Infections at KFMMC Hospital, Dhahran, Saudi Arabia

A. Alomar*, S. George, Z. Alkharraz

Prince Sultan Military College of Health Sciences

Background: OXA-48 and NDM-1 are increasing remarkably as plasmid-mediated genes responsible for carbapenemase production among Enterobacteriaceae isolates, especially in the Arabian Peninsula. Urinary tract infection (UTI) patients with Carbapenem-resistant Enterobacteriaceae (CRE) are more prone to develop severe clinical outcomes due to the limitation of therapeutic options. Few epidemiological studies were conducted regarding the prevalence of CRE in Saudi Arabia. In our study, we investigated the prevalence of OXA-48 and NDM-1 among Enterobacteriaceae isolates from patients with UTIs at King Fahd Military Medical Complex hospital, Dhahran, Saudi Arabia.

Methodology: A total of 135 Enterobacteriaceae isolates were randomly collected from UTI patients attending inpatient and outpatient clinics of KFMMC hospital in Dhahran city over a period of six months from July 2017 to December 2017. Isolates' identification and antimicrobial sensitivity patterns were determined using VITEK II Compact system. DNA extraction for CRE isolates was done based on QIAamp DNA Mini Kit protocol. OXA-48 and NDM-1 genes were amplified and detected using Bio-Rad C100 Thermal Cycler and agarose gel electrophoresis.

Results: Of the 135 isolates collected, 92.6% were from female patients (125/135) and 10% were from male patients (10/135). Isolate number 6 and 134 were not susceptible to meropenem and imipenem 1.5% (2/135) and were isolated from emergency department and female medical ward, respectively. All CRE isolates were Klebsiella pneumoniae. Both patients were females. All isolates were harboring NDM-1 with the absence of OXA-48 which contradicts previous CRE studies in Saudi Arabia.

Conclusion: The results show low prevalence of CRE among UTI patients with NDM-1 being the only detected gene in this study. Due to few CRE researches in Saudi Arabia, we recommend further studies on evaluating the prevalence of CRE and its molecular epidemiology.

https://doi.org/10.1016/j.jiph.2018.10.056