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Research Article

Mycobacterium Malmoense Infection in A Previously Healthy Patient Living in A Low-Incidence Country

Alameeri Amel*, Moloney Eddie

Respiratory Medicine Department, Tallaght University Hospital, Trinity College Dublin, Dublin

***Corresponding author:** Amel Alameeri, Respiratory department, Tallaght University hospital, Trinity College Dublin

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Abstract

Mycobacterium malmoense infection is a bacterium naturally found in the environment, such as in wet soil, house dust and water. It is a slow-growing mycobacterium that was first isolated in 1977. This species presents unique challenges for diagnosis and treatment and continues to cause considerable morbidity and mortality if inadequately treated. The following case report describes a pulmonary manifestation caused by *M. malmoense* in a previously healthy Irish woman.

Keywords: Bronchiectasis; Cavitary Lung Lesion; *Mycobacterium Malmoense*; Slow-Growing Non-Tuberculosis Mycobacterium

Case Discussion

79years Irish lady, previously healthy. Never smoked before. Family history positive for TB in her brother many years back. Referred to our respiratory clinic for an abnormal chest x-ray that was ordered by a neurology team as part of vertigo assessment. On further questionings patient denied any symptoms of: cough, breathlessness or sputum production. Her weight is stable and no sweating. On examination, her temperature was 36.9 ˚C, his blood pressure was 121/82 mmHg and his oxygen saturation was 97% in room air. There was no evidence of clubbing. No palpable lymphadenopathy. Normal breath sound.

Chest x-ray showed: Biapical pleural thickening with new LUL cavitary lesion.

CT Chest: Bilateral apical scarring, Left upper lobe bronchiectasis changes with focus of airspace opacification within the internal cavitation measuring 5.0×3.4×5.1cm (Figures 1,2). No evidence of pleural or pericardial effusion. Calcified left hilar lymph nodes noted.

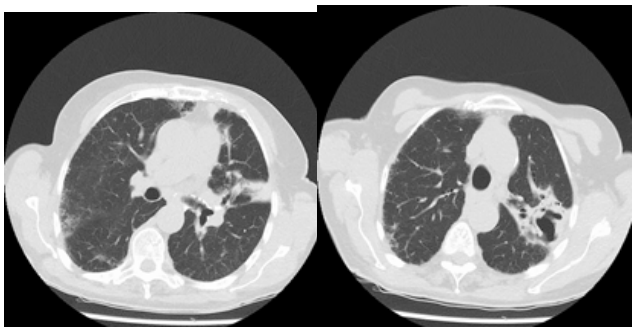

Figure 1,2: Bilateral apical scarring, Left upper lobe bronchiectasis changes with focus of airspace opacification within the internal cavitation.

The differential diagnosis at that time was possible cavitating TB in the setting of calcified lymph nodes and bilateral subpleural interstitial thickening or malignancy. Her blood tests showed: normal electrolytes and renal function tests. Liver function test showed normal albumin level of 38 g\L. Her CRP was 4.2 mg\L and ESR of 52 mm\hr. Hemoglobin level of 12.2 g\dL, White cell count of 10\ul. Immunoglobulins level were normal, IgE level of 153 IU/ml with negative Aspergillus titer. Negative connective tissue workup.

Pulmonary function test showed FEV1 85%(1.4L), FVC 75%(1.62), FEV1\FVC% 87%. Bronchoscopy showed clear airways and lavage was done from the left upper lobe for cytology and microbiology. Cytology was negative for any malignancy but the culture for the mycobacterium showed positive growth of mycobacterium malmoense.

Discussion

The prevalence of Non-Tuberculous Mycobacterium (NTM) appears to be increasing [1]. Much of the experience in the literature about this emerging organism comes from specialized units or populations such as cystic fibrosis patients [2]. Whilst some NTMs may not be pathogenic, they have been associated with a wide variety of lung diseases including cavitary disease, bronchiectasis and hypersensitivity pneumonitis [3]. Because environmental NTMs are capable of contaminating clinical specimens or acting merely as commensals, correlation with clinical and radiological findings is required to define the presence of the disease.

Twenty years ago, the non-tuberculous mycobacterium *Mycobacterium malmoense* was described as a new species after being isolated from the respiratory secretions of four patients with pulmonary infections in the city of Malmö, Sweden [4]. In fact, *Mycobacterium malmoense* infection has rarely been reported in Ireland.

Mycobacterium malmoense was interpreted as being responsible for initial clinical and persistent radiological features in this patient, and in view of absence of significant symptoms no treatment was started for her.

This case is highly interesting since it documents *M. malmoense* infection in a patient living in a low-incidence country where no environmental or animal isolates have been described. Whether infection was acquired through respiratory or digestive route and whether human to human or human to animal transmission occurred could not be established. Epidemiology studies linking genetically identical human and environmental isolates in space and time are still needed to better understand *M. malmoense* routes of infection.

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