A case of community acquired pneumonia caused by *Pseudomonas aeruginosa*

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Abstract

Pseudomonas aeruginosa is not considered as a pathogen in community-acquired pneumonia (CAP) when considering empiric antibiotic therapy. It is important to consider this organism in certain risk groups such as diabetics, alcoholics, cigarette smokers, patients with cystic fibrosis, malignancy, bronchiectasis and heart disease. This is a case report of such a patient.

Case report

A 62 year old diabetic smoker who also had ischemic heart disease presented with a history of dry cough, low grade fever and loss of appetite of one and half months duration. He had retired a few months back as a supervisor in a company dealing with iron products where he had exposure to iron dust during his work. Chest x-ray revealed right upper lung nodular opacities as shown and contrast computerized tomography (CT) was reported as an atypical, low grade infection. Patient was treated with cefotaxime 1g 8hrly for 5 days.
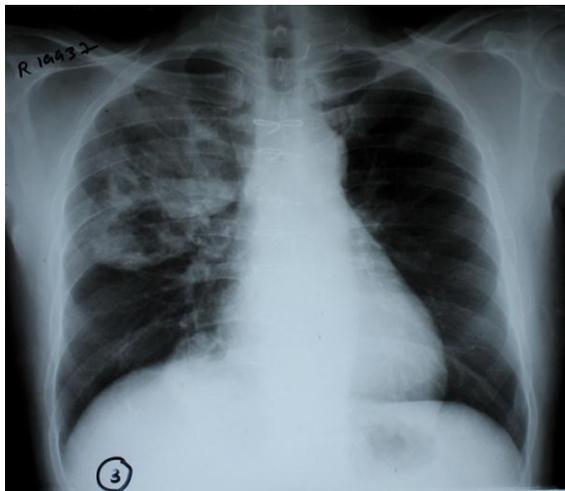
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Bronchoalveolar lavage (BAL) was examined and sent for acid fast bacilli (AFB), PCR for *Mycobacterium tuberculosis*, fungal culture and histopathology. AFB, PCR for *M tuberculosis* and fungal culture were negative. Histology was suggestive of an acute infective lesion. The BAL specimen was not sent for bacterial culture.

A CT guided transthoracic fine needle aspiration of the right lung was performed and Gram stain, Ziehl Neelsen stain for AFB, bacterial and fungal cultures were performed on the aspirate. Gram stain showed pus cells with field full of Gram negative bacilli. AFB were not seen. A pure growth of *Pseudomonas aeruginosa* was isolated and identified using the API 20 NE commercial kit. The patient was treated with intravenous ceftazidime and ciprofloxacin for 14 days and made an uneventful recovery.

Discussion

Pseudomonas aeruginosa is a common nosocomial pathogen that causes pneumonia in certain groups of hospitalized patients. Although rare, there have been case reports of community-acquired pneumonia (CAP) caused by *P. aeruginosa*.[1,2,3] Although based on limited data, these patients tend to be middle-aged and most were smokers.[3] Any lobe of the lung can be involved, but two-thirds of the patients experienced involvement of the right upper lobe.[3] The patients described in the literature included a welder and a foundry worker, both of whom were probably exposed to dust containing metals such as iron.

The treatment of *P. aeruginosa* pneumonia can be difficult because this microorganism tends to be resistant to antibiotics usually recommended for the treatment of CAP. Treatment should consist of combination therapy with anti-pseudomonal agents to prevent the emergence of resistance.

The patient described in this case report also highlights the importance of performing culture of relevant specimens. Occupational exposure to metal and other dusts should alert clinicians to unusual causes of lower respiratory causes which do not respond to conventional antibiotic regimes.

Reference:

1. Fishman H, Eaton B, Lipson A, Delaney D. Primary pseudomonas pneumonia in a previously healthy man. *Southern Medical Journal* 1983;**76**:260-262. *doi:10.1097/00007611-198302000-00033*
2. 2. Ruiz M, Ewig S, Torres A, Arancibia F, Marco F, Mensa J *et al* Severe Community-acquired pneumonia. Risk factors and follow-up epidemiology. *Am J Respir Crit Care Med* 1999**; 160**: 923–929. *No doi*
3. Hatchette T, Gupta R, Marrie T**.** *Pseudomonas aeruginosa* community- acquired pneumonia in previously healthy adults: Case report and review of the literature. *Clinical Infectious Diseases* 2000; **31**: 1349–56. *doi:10.1086/317486*