Pneumonia: an Unexpected Graveyard Visitor?

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Introduction

Community acquired pneumonia caused by Influenza can present with superinfection. On rare occasions, an unexpected organism is discovered.

Case Description

40-year-old male with no significant medical history comes to our facility complaining of flu-like symptoms including a productive cough with thick yellow sputum over the past week. On arrival, his vital signs were within normal limits. Initially serologic testing was only positive for influenza type B. Rest of labs were unremarkable except for neutrophilic leukocytosis and suspected acute kidney injury. Chest x-ray and chest CT suggested a large consolidation in right upper lobe with extension into the right lower lobe, consistent with multilobar pneumonia. A sputum culture was obtained, and patient was admitted for community-acquired pneumonia secondary to Influenza B with likely bacterial superinfection. He was started on Tamiflu, antibiotics, and supportive care. During his hospitalization, he developed fevers and acute hypoxemic respiratory failure. He was intubated, mechanically ventilated, and his antibiotic coverage was broadened. Two bronchoscopies revealed copious yellow secretions with unknown black particulates in right lung, and the aspirate was sent to lab. Approximately 1 liter of fluid was aspirated during both procedures. Aspirate analysis found Lophomonas trophozoites, and Infectious Disease consultants recommended meropenem for broad coverage. He made a complete recovery. Allegedly, this patient worked in a graveyard around aerosolized dirt and frequently drank water from a water hose. This may be the source of the Lophomonas.

Discussion

Lophomonas blattarum is a very rare anaerobic parasite that typically invades the respiratory tract. It was first identified in 1993 by Chen and Meng, and since then 136 cases have been reported, none in the USA. The vast majority of cases were reported in China. L. blattarum have been known to reside in intestinal tracts of termites and cockroaches, as well as feces of certain birds. The organism can be transmitted through the spread of the protozoa cysts in contaminated food and clothing. The most common symptoms are productive cough (82%) and fever (58.1%). The most common lab finding is eosinophilia (24.8%). On imaging, the most documented findings on CT scan are patchy nodular or linear infiltrating opacities scattered throughout both lungs, which may be migratory and associated with significant bronchial obstruction. The diagnosis is typically made by sputum samples, bronchoscopy with biopsy or bronchoalveolar lavage. The most documented treatment is with metronidazole 500 mg every 8h orally for 7 to10 days in adults. Lophomonas continues to be an emerging parasite described in the literature and there is still much to learn about it.

References

Video presentation