Community Acquired Pneumonia - Radiological And Microbiological Diagnosis

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Abstract

This article addresses the role of radiological and microbiological tests in community acquired pneumonia (CAP). The main utilities include diagnosing the presence of CAP, assessing its severity and identifying the causative agent. Plain chest radiograph (CXR) remains the conventional imaging modality for establishing the diagnosis of CAP. However, it is not 100% sensitive and lacks specificity to identify the microbiological cause. Presence of specific patterns on CXR can suggest the likely etiological agent(s). Identifying the causative organism in blood and/or sputum cultures can help to narrow down the spectrum of antibiotic(s) to be used and thus reduce the risk of development of antibiotic resistance. However, problems with sample collection, storage, processing and isolation techniques limit their sensitivity and specificity. The etiology of CAP is often difficult to establish since the most effective methods are often invasive and serological methods yield results that are too late to be of any therapeutic use. Even after extensive evaluation, the causative agent remains unknown in about 50% of cases. Current recommendations therefore suggest that various microbiological and serological tests should be used only in patients with CAP who have severe disease, are hospitalized, have comorbidities and do not respond to empiric antibiotic therapy.

Key Words: Community acquired pneumonia, chest radiograph, blood culture, sputum culture, serology, etiology, diagnosis