Editorial

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Robert M. Centor and Rajashekar Kumar

Diagnostic error in community-acquired pneumonia

The syndrome “community-acquired pneumonia” (CAP) describes a symptomatic lower respiratory tract infection associated with morbidity and mortality. This syndrome includes both typical bacterial pneumonia and atypical pneumonias. However as a syndrome, we too often attribute an initial diagnosis of CAP, without microbiological conformation. In US CAP guidelines, for outpatients with no comorbid cardiopulmonary disease and no history of recent antibiotic use, therapy can be with an advanced macrolide (azithromycin or clarithromycin) or doxycycline [1]. If the diagnosis of CAP turns out to be accurate, then most patients exhibit improvement and stabilization in their clinical, laboratory and imaging findings [2].

How do we define this syndrome? Many physicians apparently use a simple illness script that includes productive cough, fever, and any chest X-ray infiltrate. This simple illness script leaves out several important features that one should include. We would suggest a more complex illness script that includes recent onset (over the past few days), purulent sputum, fever (and especially either a drenching night sweat or rigors or both), and resolution with routine antibiotics.

Patients who either do not match the illness script or do not show a prompt response to initial empiric antimicrobial therapy deserve diagnostic reassessment. In starting anew one should consider the broad differential of the simple illness script of productive cough, fever and abnormal CXR. One should start by considering risk factors and by obtaining a thorough history. The history plus a consideration of demographics and epidemiologic clues may suggest specific pathogens or even suggest an alternative diagnosis. As clinicians we too often fail to reconsider the diagnostic process for non-responding patients. We fail to think outside the box and thus continue to make repeated errors before realizing that the lack of a proper diagnosis leads to patient harm and additional burden for the health system.

Over the past few years we have seen the following diagnoses admitted with a presumed diagnosis of CAP: sarcoidosis, tuberculosis, pulmonary thromboembolism, granulomatosis with polyangiitis, AIDS with pneumocystis pneumonia, lung cancer with post-obstructive pneumonia and systolic dysfunction. The article by Sarosi in this issue reminds us to also consider fungal pneumonias [3].

The report in this issue represents a classic “CAP” diagnostic error. We have seen many patients who received inadequate evaluation until the third or fourth clinical presentation. We must stress to all clinicians that response failure to standard antibiotics should lead us to consider and presume an alternative diagnosis. We must always remember that CAP is not a diagnosis, rather it is a syndrome, and we suggest often a diagnostic wastebasket that inhibits our thinking, and too often leads to diagnostic errors.

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References


Robert M. Centor, MD, FACP
Regional Dean, UAB Huntsville Regional Medical Campus,
301 Governors Drive, Huntsville, AL 35801, USA,
E-mail: rcentor@uab.edu

Rajashekar Kumar, MD
UAB Huntsville Regional Medical Campus,
Huntsville, AL, USA