

Letters

COMMENT & RESPONSE

Does a Diagnosis of Community-Acquired Pneumonia in a Child Always Require Antibiotics?

To the Editor This letter is in response to the Tribble et al article, "Comparison of Antibiotic Prescribing for Pediatric Community-Acquired Pneumonia in Children's and Non-Children's Hospitals,"¹ published online December 10, 2018.

Tribble et al¹ determined that physicians at children's hospitals provided guideline-recommended treatment for community-acquired pneumonia (CAP) more frequently than physicians at non-children's hospitals. They report that the guidelines indicate that hospitalized children with CAP should be treated with penicillin, amoxicillin, or ampicillin. However, there is evidence that there is frequently overdiagnosis and overtreatment of CAP resulting from those recommendations.

Overdiagnoses of pneumonia occur especially among children younger than 6 years. At a university hospital outpatient clinic in Turkey, 126 children diagnosed as having CAP and prescribed antibiotics were subsequently reevaluated in a Pediatric Chest Disease Department of the same hospital.² That reevaluation determined that the diagnosis of pneumonia was not supported in 40% of the patients, and antibiotics were judged to be unnecessary in 85%. An observational study was performed with 516 children younger than 5 years at 4 hospitals in India diagnosed and treated for pneumonia. The study found that 43% had, rather than pneumonia, what the investigators called "wheezy disease" consistent with asthma or bronchiolitis, neither of which should be routinely treated with antibiotics.³

A comprehensive assessment of the etiology of children with CAP requiring hospitalization was performed at 3 US hospitals.⁴ A viral or bacterial pathogen was identified in 81% of 2222 children with radiographic evidence of pneumonia and having diagnoses of CAP. At all ages, viral pathogens were identified as the major etiology associated with pneumonia in those children.

To examine the effectiveness of routine use of antibiotics, a placebo-controlled clinical trial of amoxicillin in children with CAP was performed in 1126 children younger than 6 years.⁵ Treatment failures by day 4 were only 4% and 7% in the amoxicillin and placebo group, respectively, and there were no further treatment failures by day 14. Thus, most of the patients improved without antibiotics, consistent with the relative infrequency of bacteria as a cause of pneumonia.⁴

A combination of clinical assessment, laboratory biomarkers, and radiology can generally distinguish the few patients with bacterial pneumonia requiring antibiotic treatment from most children with CAP who have a viral etiology and are not likely to benefit from antibiotics.

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