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Radiologic scales as a tool for the etiologic diagnosis of pediatric community-acquired pneumonia☆

Escalas radiológicas como uma ferramenta para o diagnóstico etiológico de pneumonia adquirida na comunidade pediátrica

Dear Editor,

The use of chest radiograph as an adjunct method for the diagnosis of pediatric community-acquired pneumonia (CAP) has been highly debated over the past decades. So far, current evidence has demonstrated that specific radiological findings cannot be reliably used for the etiological diagnosis of CAP.[1,2] Nevertheless, in our study, we demonstrated that the presence of a normal chest radiograph has a high negative predictive value for infection by *Streptococcus pneumoniae*, the most common typical bacterial agent of CAP. As viral agents are the most common etiologic agents of pediatric CAP, this finding may aid in the clinical management of children with signs and symptoms of CAP by selecting those who might benefit from empiric antibiotic therapy.[3]

Standardized protocols for the evaluation of the chest radiograph are useful in the interpretation of this exam. In our study, we used the recommended criteria defined by the World Health Organization.[3,4] However, alternative scales have been described and partially validated for clinical practice. Heinsohn has mentioned the Khamapirad scale,[5] which is a grading system based on radiologic characteristics such as the presence, type and location of pulmonary infiltrates, pleural effusion, abscesses and atelectasis. Although high sensitivity and specificity have been described for the use of this scale,[6] it is important to note that further validation in a clinical setting is required, including the use of reliable and sensitive techniques for the etiologic diagnosis of bacterial and viral agents of CAP. Nevertheless, the recognition of radiological patterns, particularly the normal chest radiograph, as a tool for the management of pediatric CAP is valid and merits further investigation.

In conclusion, chest radiographs provide indirect evidence of etiologic agents of CAP. Radiologic scales or grading systems that aid in the differentiation between a normal chest radiograph and radiological pneumonia may be a useful tool for the management of pediatric CAP cases but should be adequately validated before inclusion in the clinical practice.

Conflicts of interest

The authors declare no conflicts of interest.

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