

Etiology and characteristics and of community-acquired pneumonia among children requiring bronchoalveolar lavage in North China

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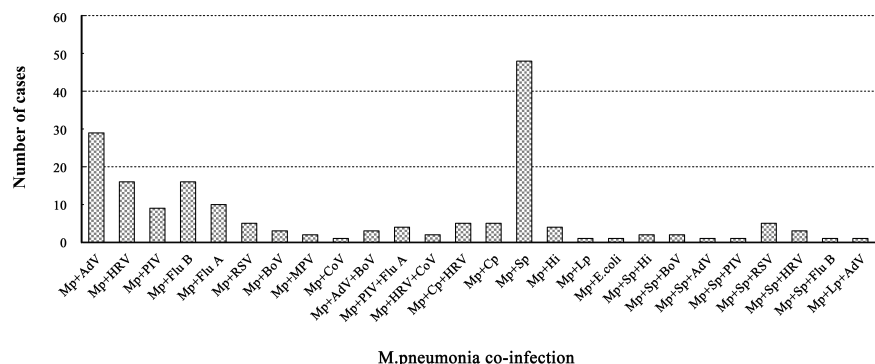
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Abstract

Objective: To identify the pathogens and compare the clinical characteristics between different type pathogen infection among children with community-acquired pneumonia (CAP) requiring bronchoalveolar lavage. **Study design:** Children <14 years old hospitalized with CAP requiring bronchoalveolar lavage were enrolled between February 2019 to January 2020. Multiplex reverse transcription polymerase chain reaction (mRT-PCR) and loop-mediated isothermal amplification (LAMP) were used for pathogen detection. The demographic and clinical characteristics were compared between different type pathogen infection groups. **Results:** Among 1166 children studied, [?]1 pathogen was detected in 1084 (93.0%) children and co-infection was detected in 215 (18.4%) children. *Mycoplasma pneumoniae*, *Streptococcus pneumoniae* and adenovirus were the most frequently detected pathogens. Children infected with atypical bacteria alone were older and more likely to display a fever, cough, decreased breath sounds, consolidation, single lobar infiltration, mucosal erosion and/or necrosis and plastic bronchitis. Children with virus-atypical bacteria co-infection were more prone to manifest fatigue, chest pain, tachypnea, chest indrawing, and mucosal erosion and/or necrosis. Those infected with virus alone or co-infected with [?]3 pathogens were liable to display changes in bronchial morphology. **Conclusions:** Pathogens were detected in 93.0% of enrolled children. *M. pneumoniae* infection might be the greatest pediatric disease burden due to CAP in North China. **Keywords:** Children; community-acquired pneumonia; bronchoalveolar lavage fluid; etiology; co-infection.

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