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Title: Risk factors for pleural complications in children with community acquired pneumonia

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Body: Introduction Parapneumonic effusion (PPE) and empyema are the most common complications of pneumonia in children. Unexpectedly, since the 1980s an increasing incidence of PPE/empyema has been reported in many countries. Aim The aim of the study was to determine the risk factors for PPE and empyema in children admitted to a hospital with community acquired pneumonia (CAP). Methods We conducted a prospective observational study of children with CAP admitted to the Department of Pediatric Pulmonology and Allergy, Medical University of Warsaw between February 2012 and February 2013. Demographic data, clinical signs and symptoms as well as the results of routine laboratory tests on admission were compared in two patients groups: 1) children with CAP complicated with PPE/empyema and 2) children with CAP but without pleural complications Results 124 children (62 boys and 62 girls) aged from 2 months to 17 years with CAP were included. 31 of them (25%) presented with PPE/empyema. We found neither significant differences in demographic data (e.g. age, gender, history of pneumococcal vaccination, allergic diseases, passive smoking) nor clinical signs (e.g. dyspnea, fever, chest pain, abdominal pain) between study groups. Children with complicated pneumonia had significantly higher concentration of CRP, WBC count and significant differences in differential cell count. They also received ibuprofen, paracetamol and antibiotics more frequently prior to hospitalization. Conclusions No simple demographic or clinical factor which can reliably predict development of pleural complications was demonstrated. Laboratory test results might have some value in prediction of pleural complications in children with CAP.