

IMPACT OF POLISH COMMUNITY-ACQUIRED PNEUMONIA GUIDELINES ON PNEUMONIA-RELATED HOSPITALIZATIONS IN CHILDREN

August Wrotek^{1,2}, Aldona Chróściewicz² and Teresa Jackowska^{1,2}

¹Department of Pediatrics, Centre of Postgraduate Medical Education, Marymoncka 99/103, 01-813 Warsaw, Poland, e-mail: tjackowska@cmkp.edu.pl,

²Department of Pediatrics, Bielanski Hospital, Ceglowska 80, 01-809 Warsaw, Poland, e-mail: tjackowska@cmkp.edu.pl

Background: Community-acquired pneumonia (CAP) in children under 5 years of age often requires hospitalization. The study aimed to assess frequency of hospitalization according to these Polish criteria, its correlation with clinical and laboratory course of pneumonia, impact of criteria on potentially missed septic patients, as well as costs of treatment.

Material and methods: 246 children with CAP aged 12 days- 58months (median 20 months) were hospitalized between January 2017 and June 2018. We retrospectively analyzed presence of following admission criteria: age under 6 months, tachypnea, tachycardia, oxygen blood saturation (SpO₂)<92%, pleural effusion, dehydration, neurological signs or symptoms, leukocytosis over 20x10⁹/L. They were matched with patients' clinical and laboratory CAP severity markers.

Results: Hospitalization criteria were fulfilled only in 69% (170/246) of cases, being responsible for additional 557 days of hospitalization, which corresponds to 29% of total cost of hospital treatment (€65924.8/€227718.7). Children who fulfilled criteria presented worse baseline characteristics, including tachypnea (45 vs. 30 breaths/minute, **p<0.01**), tachycardia (140 vs. 128 beats/minute, **p<0.01**), lower SpO₂ (95% vs. 96%, **p=0.016**) and required longer hospital stay (8 vs. 7 days, **p=0.022**). Sensitivity of criteria in predicting potentially septic patient (based on CRP, procalcitonin alone and CRP with procalcitonin) was 79.16%, 72.22%, and 87.5% respectively, with negative predictive value of 93.42%, 92.75%, 98.68% respectively.

Conclusions: Adherence to admission criteria is related with low risk of missing septic course of pneumonia, but may help saving up to 30% of resources spent on hospital treatment.

[1] *This study was supported by CMKP grant no. 501-1-20-19-18*