

SODIUM AND COPEPTIN LEVELS IN CHILDREN WITH COMMUNITY-ACQUIRED PNEUMONIA*

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Aim: The study was designed to assess the relation between severity of community-acquired pneumonia (CAP) and hyponatremia (HN; group A) or copeptin levels (group B) in children. Moreover, correlation between sodium and copeptin was evaluated in CAP patients and a group of 84 healthy individuals.

Materials: Group A consisted of 412 patients (207 male, 205 female) aged 8 days-17⁹/₁₂ years, hospitalized due to pneumonia (January 2011 to March 2013). 227 (114 female, 113 male) patients (aged 8 days-17⁸/₁₂ years) from group A were chosen at random to measure copeptin levels. Clinical findings and inflammatory markers were used to predict disease severity.

Results: Hyponatremia was found in 176/412 (43%) children with pneumonia. Hyponatremic patients had elevated CRP and procalcitonin levels, higher neutrophil count and lower lymphocyte count with no differences in white blood cells count. Hyponatremic children had elevated fever on admission (38.4 versus 38.2°C, **p=0.02**). Other clinical features (time for defervescence, breath and heart rate, saturation, length of antibiotic treatment and hospitalization) did not differ. Copeptin levels were significantly higher in patients with CAP (median 0.88 ng/mL) versus healthy children (0.33ng/mL; **p<0.01**). There was weak reverse correlation between sodium and copeptin concentrations (Spearman's rank coefficient = -0.19). Copeptin levels were higher in hyponatremic patients (0.84ng/mL) versus normonatremic (0.69ng/mL, **p=0.013**). Copeptin elevation did not reflect CAP severity.

Conclusion: Copeptin elevation is rather characteristic for pneumonia, but it does not reflect disease severity, which may be assessed better with sodium levels.

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