SUPAR (SOLUBLE UROKINASE PLASMINOGEN ACTIVATOR RECEPTOR) IS ELEVATED IN CHILDREN WITH PNEUMONIA AND CORRELATES WITH SEVERITY OF PNEUMONIA*

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Introduction: High suPAR levels have been associated with activation of the immune system. It may be a novel biomarker for pneumonia severity, yet data on this subject is very limited.

Aim: To compare suPAR levels in children with community-acquired pneumonia (CAP) and healthy individuals and to assess its correlation with pneumonia severity.

Materials: 227 children (114 female, 113 male) aged 8 days-$17^{8}/_{12}$ years (median 38 months) hospitalized due to CAP and 119 healthy children(60 female, 59 male) in corresponding age (median 49 months) were enrolled. We used clinical (fever, time for defeverscence, heart and breath rate, saturation, length of antibiotic treatment and hospitalization) and laboratory (CRP, procalcitonin, white blood cells count and sodium) features to assess CAP severity.

Spearmann's rank coefficient was used to assess correlation between suPAR and severity markers.

Results: suPAR concentrations in children with pneumonia were significantly higher (median 7,11ng/ml) than in healthy individuals (4.68 ng/ml). We found a positive correlation between suPAR and fever, time for defeverscence, length of hospital stay and elevated CRP and procalcitonin levels. There was reverse correlation with sodium concentrations and blood saturation. No correlation with breath rate, heart rate, white blood cells count, neutrophil or lymphocyte count, nor length of antibiotic treatment was found. Furthermore, children were divided into 2 groups: A-severe, B-mild pneumonia. suPAR levels were significantly higher in group A (7.79ng/mL) compared to group B (6.87ng/mL; **p=0.006**)

Conclusion: suPAR elevation is observed in pneumonia and may reflect its severity.

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