

ATRIAL NATRIURETIC PEPTIDE SECRETION IN CHILDREN WITH PNEUMONIA

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Background: Atrial Natriuretic Peptide (ANP) is a peptide with known natriuretic, diuretic and vasodilatory effects. Synthesized and stored in the atria. Stretching of the atrial muscle fibers during an increase in venous return causes ANP release into the blood stream. Expression of ANP and its receptors have been shown in lung tissue, and high levels of ANP have been measured in various lung diseases. Pneumonia in children is frequently accompanied by hyponatremia due to the syndrome of inappropriate ADH secretion (SIADH). High levels of ANP have been found among patients with SIADH. **Objective:** to determine if in children with pneumonia, ANP plasma levels are increased, and to evaluate if there is correlation between severity of pneumonia and ANP levels. **Methods:** Blood samples from 28 children diagnosed with pneumonia were collected. Plasma ANP levels were determined by radioimmunoassay and compared to the levels in 25 healthy children. **Results:** ANP levels in the pneumonia group (16.02 ± 11.69 pg/ml) were significantly increased ($p < 0.01$) compared to the levels in the control group (7.44 ± 9.29 pg/ml). The children in the pneumonia group also exhibited low levels of plasma sodium (134.88 ± 2 mmol/L) compared to the levels in healthy children (139.77 ± 4.15 mmol/L) ($p < 0.01$). There was no correlation between ANP plasma levels and the severity of pneumonia. **Conclusions:** ANP levels were higher in children with pneumonia. The high ANP levels may play a role in maintaining water and electrolyte equilibrium during a state of inappropriate ADH secretion known to accompany pneumonia.

