

High levels of atrial natriuretic peptide and copeptin and mortality risk

[Asociación de valores elevados de péptido natriurético auricular y copeptina con riesgo de mortalidad]

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Objective To determine whether high levels of mid-regional pro-atrial natriuretic peptide (MR-proANP), copeptin, and procalcitonin (PCT) plasma concentrations are associated with increased mortality risk. **Methods** Prospective observational study including 254 critically ill children. MR-proANP, copeptin and PCT were compared between children with high (Group A; n = 33) and low (Group B; n = 221) mortality risk, and between patients with failure of more than 1 organ (Group 1; n = 71) and less than 2 (Group 2; n = 183). **Results** Median (range) of MR-proANP, copeptin, and PCT levels in group A vs B were, respectively: 209.4 (30.5?1415.8) vs. 75.0 (14.6?867.2) pmol/L ($P<.001$); 104.4 (7.4?460.9) vs. 26.6 (0.00?613.1) pmol/L ($P<.001$), and 7.8 (0.3?552.0) vs. 0.3 (0.02?107.0) ng/mL ($P<.001$). The area under the curve (AUC) for the differentiation of group A and B was 0.764 (95% CI: 0.674-0.854) for MR-proANP; 0.735 (0.642-0.827) for copeptin, and 0.842 (0.744-0.941) for PCT, with no statistical differences. The AUCs for the differentiation of group 1 and 2 were: 0.837 (0.784-0.891) for MR-proANP, 0.735 (0.666-0.804) for copeptin, and 0.804 (0.715-0.892) for PCT, with statistical differences between MR-proANP and copeptin, $P=.01$. **Conclusions** High levels of MR-proANP, copeptin and PCT were associated with increased mortality risk scores. MR-proANP showed a higher association than copeptin with number of organs in failure.

Atrial natriuretic peptide

Copeptin

Critically ill children

Mortality risk

Organ failure

Procalcitonin

Prognosis

atrial natriuretic factor

biological marker

calcitonin

copeptin

glycopeptide

adolescent

blood

child

critical illness

female

human

infant

male

mortality

multiple organ failure

newborn

preschool child

prognosis

prospective study

risk assessment

Adolescent

Atrial Natriuretic Factor

Biomarkers

Calcitonin

Child

Child, Preschool

Critical Illness

Female

Glycopeptides

Humans

Infant

Infant, Newborn

Male

Multiple Organ Failure

Prognosis

Prospective Studies

Risk Assessment