Prognostic value of carboxyhemoglobin in pediatric intensive care unit

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Objectives: To determine the carboxyhemoglobin (COHb) levels of the patients admitted to the pediatric intensive care unit and investigate its relationship with prognosis.

Methods: This retrospective observational study included patients aged one month to 18 years admitted to Mersin University Hospital pediatric intensive care unit from January 2020 to January 2021. Demographic characteristics, hospitalization causes, PRISM III, PELOD scores, hospitalization length, mechanical ventilation supports, transfusion needs, lactate and, SpCO levels of all patients were determined. SpCO levels of the excitus and surviving patients were compared, and the relationship with mortality was investigated.

Results: Total 365 patients were included in the study. The median carboxyhemoglobin level of the excitus patients was statistically significantly higher when compared to the level of the surviving patients [(1.8(1.4-2,4) vs 0.65(0-1) $p<0.001$]). For mortality prediction, the cut-off point for SpCO, which was determined with 100% sensitivity and 96.5% specificity, was calculated as 1.3.

Conclusion: Since SpCO levels are increased in critically ill children and correlate with increased PICU mortality, SpCO may be a predictive marker for prognosis in PICU.