



الملخص الانجليزي للبحث المقدم من  
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### البحث الثالث

## عنوان البحث باللغة الانجليزية

### **Relation between Baseline Total Serum Cortisol Level and Outcome in Pediatric Intensive Care Unit**

#### **Abstract:**

**Background:** Elevated cortisol level is a component of the stress response. However, some patients have low cortisol levels; a condition termed: critical illness-related corticosteroid insufficiency (CIRCI). Basal cortisol levels during PICU admission may be related to outcome.

**Aim of the work:** To assess basal total serum cortisol levels and their relation to outcome in PICU.

**Methods:** The study included 81 children over 6 months. Total serum cortisol was assessed using an early morning sample. The severity of illness was assessed using the PRISM-III score. Outcome measures included mechanical ventilation duration, use of inotropic support, length of stay, mortality.

**Results:** Comparison between patients' subgroups classified according to basal total serum cortisol levels revealed significantly higher PRISM-III score in patients with cortisol levels  $\geq 35$   $\mu\text{g/dl}$ . In addition, those patients had significantly higher mortality rate when compared with patients with low and normal total serum cortisol levels (39.3% vs 6.7% and 18.4% respectively;  $p = 0.033$ ). No statistically significant differences were noted between patients' subgroups regarding other clinical and outcome parameters. The relation between mortality and total serum cortisol levels was also confirmed by comparison the clinical and outcome variables between survivors and non-survivors. Significantly higher PRISM III score found in non-survivors when compared with survivors. Significant direct correlation between total serum cortisol levels and PRISM-III score ( $r = 0.415$ ,  $p < 0.0001$ ).

**Conclusion:** PRISM-III score and elevated total serum cortisol levels are significant predictors of mortality in the PICU. Although CIRCI is prevalent in this population, it wasn't associated with an increased mortality rate