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## Critical Illness – Related Corticosteroid Insufficiency

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## Dear Editor,

In some acute critical illnesses, the function of Hypothalamus-Pituitary-Adrenal axis could be impaired. This event is called "Critical Illness-Related Corticosteroid Insufficiency" (CIRCI) [1]. We conducted a study to determine which CIRCI patients need steroid therapy. This study was performed on patients who were admitted in Pediatric Intensive Care Unit (PICU) in Namazee Hospital, affiliated to Shiraz University of Medical Sciences, Iran.

In first 24 hours of PICU admission, Serum cortisol levels were measured immediately before, 30 and 60 minutes after IV administration of 250 µg of synthetic adrenocorticotropic hormone (Synacthen®). Their clinical conditions and paraclinical data were followed and recorded. Twenty four patients were enrolled in the study. Twelve patients (50%) had CIRCI. CIRCI was defined as Random Serum Cortisol (RSC)<10 µg/dl or elevation of serum cortisol level after Synacthen administration below 9

µg/dl [2]. Results of serum cortisol level usually were ready one day after blood sampling. Based on general condition, blood pressure and serum electrolyte levels, all CIRCI patients were improved when serum cortisol levels were determined. Therefore, steroid therapy was not introduced for them. Finally, all CIRCI patients improved and after a few days, all of them were discharged from hospital in good conditions. Findings of our study showed that corticosteroid therapy was not needed as a routine treatment for CIRCI patients. This is in agreement with some other studies [3,4] but in contrast to some articles who recommended corticosteroid therapy for patients with CIRCI [1,2]. There is lack of consensus about optimal approach to CIRCI in children [5], therefor; well-designed RCTs and systematic reviews are needed to determine proper treatment recommendations for these critically ill children before administration.

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