

requirements and 3.2-fold higher ICU mortality. CBG concentration was the only directly reversible independent mortality risk factor.

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Corticosteroid-binding Globulin Deficiency Independently Predicts Mortality and is Associated with Norepinephrine Requirements in Septic Shock.

Marianne Chapman, Michael Davies, Marni Nenke, Wayne Rankin, Rosemary Rushworth, David Torpy, and Emily Meyer

Context: Hydrocortisone administration in septic shock remains controversial. Corticosteroid-binding globulin (CBG) transports cortisol to inflammatory sites and is depleted in septic shock. **Objective:** To determine if severely deficient plasma CBG <200 nmol/L (Ref range 269-641 nmol/L) independently predicts septic shock mortality. **Methods:** A prospective observational study in patients with septic shock. Patients were categorised into two groups: mean plasma CBG concentrations <200 nmol/L and \geq 200 nmol/L (day 1/2), with additional categorisation by nadir CBG. Primary outcome was Intensive Care Unit (ICU) mortality. Secondary outcomes were 28- and 90-day mortality, norepinephrine requirements, renal-replacement therapy, and clinician-instituted hydrocortisone. **Results:** 135 patients were included. Mortality rates in ICU were higher in the CBG <200 nmol/L vs the CBG \geq 200 nmol/L group: 32.4% vs 13.9%; Odds ratio (OR), 2.97, (95% confidence intervals (CI) 1.19,7.41); P=0.02: 28-days; OR 2.25 (95% CI 0.99,5.11): 90-days; OR 2.21 (95% CI 0.99,4.91). Multivariate analysis revealed 4 factors independently associated with ICU mortality: CBG <200 nmol/L (OR 3.23, 95% CI 1.06,9.88), Acute Physiology and Chronic Health Evaluation (APACHE) II >25 (OR 3.58, 95% CI 1.20,10.68); Sequential [Sepsis-related] Organ Failure Assessment (SOFA) liver score (OR 1.98, 95% CI 1.04,3.72); and renal-replacement therapy (OR 6.59, 95% CI 2.17,20.01). Nadir CBG levels were associated with higher SOFA cardiovascular scores, norepinephrine total dose (ug) P<0.01 and duration (days) P<0.01. Plasma cortisol concentrations and hydrocortisone administration did not relate to ICU mortality. **Conclusion:** Septic shock patients with CBG <200 nmol/L had higher norepinephrine