Role of steroid for the treatment of severely burned.

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Introduction: In severe burn injury with shock a disturbance in the interaction of the immune and neuroendocrine systems, including increased secretion of adrenal hormones were studied. Secondary immunodeficiency states with inhibition of the cellular link and cytokine disbalance were induced.

Methods: 35 patients with dermal burns 20-70% TBSA were under supervision. The study group – 20 patients, 70% necrotic tissue was excised within 10 days. Control group – 15 patients, necrotic tissue was excised late.

Results: An increase in proinflammatory interleukins IL-1 up to 130 pg/ml and TNF up to 1065 pg/ml from the first day of the injury were determined. The level of IL-10 to 70 pg /ml by 8-10 days after injury indicates the development of immune response suppressing reactions. An increase in the level of cortisol to 850 nmol / l in the 1st day was observed, which survived after the removal from shock. For two weeks after the injury gradually decreased. A high concentration of cortisol is the natural response of the neuroendocrine system.

The level of cortisol below 280.0 nmol / l in the 1st day is a prognostically unfavorable sign, indicating a high probability of death and septic complications right up to septic shock. Septic shock may be complicated by 1) an occult adrenal insufficiency, 2) a glucocorticoid peripheral resistance syndrome.

Correlation of cortisol and cytokine IL-10, as the “key” factor of the immunosuppressive phase of systemic inflammation, indicating risk of complications.

Conclusions. Our study demonstrated the efficacy and tolerability of hydrocortisone replacement therapy (50 mg intravenously bolus four times a day) is given for 10 day and its positive effect on systemic inflammatory response.