Abstract

Objective: To study the incidence of AI & relation between oesinophilia and AI in patients with sepsis and septic shock.

Design: Observational prospective study .

Setting: Critical Care Department , Cairo University .

Participants: 13 patients with sepsis and 50 patients with septic shock who required vasopressor therapy after adequate volume resuscitation .

Interventions: Each patient had complete blood count (CBC) to detect oesinophilic count & underwent ACTH stimulation test . Some patients were empirically given hydrocortisone 100mg/8hr before serum cortisol values became available .

Measurement: Oesinophilia was defined as oesinophilic count ≥ 3%. AD defined as serum cortisol <20µg/dl with Δ cortisol (60 min.post ACTH minus baseline) of ≤9µg/dl . FH defined as serum cortisol <30µg/dl or Δ cortisol ≤9µg/dl. AI defined as the presence of either AD or FH .

Results: 63 pts; 38 males & 25 females with mean age 56.73±17.39 and APACHE II score 25.78±9.79. Intra-abdominal infections and infected wounds are the most common source (47.6%). CBC showed anemia in 76.2% of pts, lymphopenia in 44.4%& oesinophilia in 15.9% . AI was found in 55.6% (62% in septic shock group & 30.8% in sepsis group) with lower total baseline & stimulated cortisol levels in patients with serum albumin <2.5gm% in relation to patients with serum albumin >2.5gm% (P=0.046) . In septic shock group, significantly higher incidence of oesinophilia in patients with AI in relation to pts with no AI ; specificity 100% (P=0.018) . Hyperkalemia was significantly higher in patients with AI (P=0.016) . Statistically significant higher incidence of AI in pts with pre-existing liver disease (P=0.026) . 35 patients received steroid therapy; 48.5% had initial hemodynamic improvement with no significant effect on mortality. Increased mortality (74.3%) with AI vs 53.6% with no AI (P=0.074). Overall mortality 65.1% in all pts.

Conclusions: There is a high incidence of AI in septicemia especially in septic shock. Oesinophilia is a specific but not a sensitive marker of AI. Higher mortality in septic shock with AI.

***Key words*:** sepsis,septic shock,adrenal insufficiency, oesinophilia, steroid therapy .

Abbreviations: APACHE II: Acute Physiology And Chronic Health Evaluation score II
AD:Adrenal Dysfunction. FH:Functional Hypoadrenalism. AI : Adrenal Insufficiency