Abstract

Adrenal insufficiency in acute coronary syndrome

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Background: Acute coronary syndrome (ACS) is an acute stressful condition which stimulates the hypothalamus-pituitary-adrenal axis (HPA) that regulates neurovascular and hormonal responses. Functional adrenal hypoadrenalism has been shown to be associated with significant morbidity and mortality in the critically ill patients.

Objective: To determine the prevalence of adrenal insufficiency (by using low-dose and standard-dose ACTH stimulation tests) in patients with ACS and to correlate it with in-hospital morbidity and mortality.

Patients and Methods: This study was conducted on thirty patients admitted with acute coronary syndrome.

To all included patients short ACTH stimulation test was performed with a low-dose (1 μg) ACTH stimulation test (LDT), followed by a standard dose (250 μg) ACTH stimulation test (SDT) two hours later.

Results: The prevalence of adrenal insufficiency in our patients with was 56.7% (17 patients) and 33.3% (10 patients) by utilizing LDT and SDT, respectively. There was statistically significant higher basal serum cortisol levels by both LDT & SDT in non-survivors(33.2±3.2 & 31.9±2.5) compared to survivors(16.7±6.6 & 16.9±7.2) respectively, and statistically significant higher maximum change (Δ Max) in baseline cortisol in survivors compared to non-survivors (10.4±3.6 Vs 6.2±1.3) p value < 0.05 with LDT but not with the SDT.

Conclusion &Recommendation: Adrenal insufficiency is found in patients with acute coronary syndrome however, this is not associated with any significant morbidity& mortality. Patients with acute coronary syndrome who had higher baseline serum cortisol levels and inadequate response to the low dose ACTH stimulation test had fewer chances of survival and so basal serum cortisol can be used as a mortality marker of ACS.

Keywords: Adrenal insufficiency, mortality, acute coronary syndrome.