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Basal Cortisol Levels in the Elderly and Middle-Aged Type 2 Diabetic Patients

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Abstract

Objective: Cortisol and ACTH levels increase by age. Causes of cortisol increase are increased secretion and decreased catabolism. Aim of this study was; 1. To compare basal cortisol levels in elderly and middle-aged type 2 diabetic patients. 2. To determine the factors affecting plasma cortisol levels.

Material and Methods: Fourty diabetic patients ≥65 years of age, and 50 middle-aged diabetic patients were enrolled in the study. Patients receiving oral, parenteral or inhaled corticosteroid therapy were excluded. Biochemical tests were evaluated retrospectively.

Results: Mean cortisol level was 10.1±4.9 µg/dL in the elderly, and 11.3±5.0 µg/dL in the controls (P>0.05) (mean age= 75.8±11.8 years; 54.2±6.0 years, respectively). Mean cortisol level in older women were higher than in men (12.1±7.6 and 9.9±6.1. P<0.001). Mean cortisol level correlated positively with fasting blood glucose (FBG) (r=0.344, P=0.001) and HbA1c (r=0.230, P=0.005), negatively with uric acid level (r=-0.110, P=0.01) in the elderly. In the controls; mean cortisol level positively correlated with FBG (r=0.400. P=0.0001), post prandial BG (r=0.700, P=0.001) and HbA1c (r=0.170, P=0.01).

Conclusion: In elderly and middle-aged diabetic patients, mean basal cortisol level was similar. Older women had higher cortisol levels than men. In all diabetics; there was a positive correlation between cortisol and FBG. There was a negative correlation with cortisol and uric acid in the elderly.

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