

Does IGF-1 have a role in etiopathogenesis of adrenal incidentaloma?

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OBJECTIVES

Due to increased usage of imaging modalities today, incidence of adrenal incidentaloma (AI) has increased. Insulin resistance is considered as the etiopathogenic mechanism. Since both insulin and IGF-1 are capable of interacting with same receptors, we aimed to investigate whether IGF-1 has a role in development of adrenal incidentaloma.

METHODS

50 female patients with nonfunctional adrenal incidentaloma and 55 acromegaly patients (20 male, 35 female) that admitted to endocrinology outpatient ward between 01/08/2012 and 01/01/2014 and have had undergone abdominal CT or MRI scan were included in this study in addition to a control group of 38 female patients who was performed abdominal CT scan due to urolithiasis. Those patients in adrenal, acromegaly and control groups were analyzed regarding age, body mass index, waist circumference and serum IGF-1 levels.

Table 1: Comparison of adrenal incidentaloma, acromegaly and control groups

Parameters	Groups			P
	Adrenal n=50	Acromegaly n=55	Control n=38	
Age (year)	54 (39-63)	48 (26-61)	51.5 (22-70)	0.09
BMI (kg/m ²)	29.2 (20.1-53.7)	28.6 (24.4-50.8)	22 (17.9-38.6)	<0.001
WC (cm)	94 (69-138)	95 (67-130)	70 (60-105)	<0.001
IGF-1 (pg/ml)	142 (39-515)	855 (406-1408)	91.5 (27-273)	<0.001

Data were given as median (minimum-maximum)
BMI: Body mass index; WC: waist circumference

RESULTS

Regarding age, no significant difference was present between three groups. Body mass index (BMI) and waist circumference (WC) in the control group was lower than those in the acromegaly and adrenal groups ($p < 0.001$). Although BMI and WC values were higher in adrenal group, IGF-1 values were significantly higher when compared to the control group ($p < 0.001$) (Table 1). Prevalence of adrenal incidentaloma was found to be significantly higher in the acromegaly patients than the control group (25% vs 3%). The results were similar when male patients in acromegaly group are excluded and analysis was conducted only among female subjects. Adrenal incidentaloma prevalence in female acromegaly patients was 34% whereas in the control group it was 3%.

CONCLUSIONS

In this study, our findings of elevated serum IGF-1 levels in nonfunctional AI patients and higher prevalence of adrenal incidentaloma in acromegaly patients when compared to control group let us think that IGF-1 has a role in the etiopathogenesis of adrenal incidentaloma.

