

Are Small Adrenal Incidentalomas Solely a Radiological Finding?

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Objective

The criteria defining the threshold size of adrenal incidentaloma (AI) are greater than 1 cm diameter. However, data about AI \leq 1 cm diameter is scant. The aim of this study is to evaluate function of adrenal masses \leq 1 cm and to compare them with adrenal masses $>$ 1 cm as well as to understand the possible utility of determining salivary cortisol in diagnosis of SCS in patients with AI.

Methods

The study included 137 consecutive patients with AI (38 and 99 AI at \leq 1 cm and $>$ 1 cm, respectively).

Results

SCS was 5.3%, 17.2% in AI \leq 1 cm and $>$ 1 cm diameter, respectively. The patients with $>$ 1 cm AI had a higher prevalence of SCS and primary hyperaldosteronism than patients with $>$ 1 cm AI did, but they did not differ significantly. The prevalence of diabetes and hypertension was high both in non-functional AI with \leq 1 and $>$ 1 patients and showed no significant difference between two groups.

Using a cut-off of 0.33 μ g/dL for midnight salivary cortisol (MNSC), sensitivity, specificity, values of positive and negative predictivity for diagnosis of SCS were 58%, 86%, 40.7% and 91.8%, respectively.

Conclusion

The AI \leq 1 cm harboured SCS as was the case in AI $>$ 1 cm. Similar to AI $>$ 1 cm, non-functional AI \leq 1 cm also had higher prevalence of diabetes and hypertension. Furthermore, MNSC in patients with AI was found comparable with midnight serum cortisol in diagnoses of SCS.

Table 1. Demographic and hormonal characteristics of adrenal incidentalomas \leq 1 cm and $>$ 1 cm

	AI \leq 1 cm (n = 38)	AI $>$ 1 cm (n = 92)	P
Gender (F)	17/44.7%	44/47.8%	NS
Age	55.76 \pm 13.34	58.25 \pm 10.76	NS
BMI (kg/m ²)	29.79 \pm 6.85	30.17 \pm 5.64	NS
WHR	0.91 \pm 0.17	0.93 \pm 0.1	NS
Size (mm)*	8.81 \pm 4.74	22.71 \pm 8.4	$<$ 0.001
FPG (mg/dL)	106.68 \pm 29.06	109.63 \pm 43.7	NS
TC (mg/dL)	206.87 \pm 46.47	208.51 \pm 47.8	NS
HDL (mg/dL)	51.24 \pm 11.72	51.43 \pm 15.7	NS
LDL (mg/dL)	133.11 \pm 45.36	133.87 \pm 36.24	NS
TG (mg/dL)	154.5 \pm 83.2	149.33 \pm 70.99	NS
ACTH (pg/mL)	21.04 \pm 13.93	18.26 \pm 12.89	NS
DHEA-S (μ dL)	93.55 \pm 66.45	89.69 \pm 59.93	NS
HT (n%)	18/47.4%	45/48.9%	NS
DM (n%)	8/21.1%	26/28.3%	NS
SCS (n%)	2/5.3%	11/12%	NS
PHA (n%)	-	2/2.2%	NS
Ph	-	-	

AI, adrenal incidentalomas; F, female; NS, non-significant; BMI, body mass index; WHR, waist-to-hip ratio; FPG, fasting plasma glucose; TC, total cholesterol; TG, triglyceride; DHEA-S, dehydroepiandrosterone sulphate; HT, hypertension; DM, diabetes mellitus; SCS, subclinical Cushing's syndrome; PHA, primary hyperaldosteronism; Ph, pheochromocytoma.

*The size of the largest lesion in bilateral incidentalomas was used for analysis.