

Prevalence and natural history of adrenal incidentalomas - a prospective cohort study

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Introduction

- ▶ Adrenal incidentalomas (AIs) are frequently detected due to the increasing use of abdominal imaging for diagnostic purposes.
- ▶ Few prospective studies exist with respect to their natural history, regarding their size and clinical course.

Aims

The aim of this study was to report the prevalence and natural history of AIs.

Patients and methods

Interim-analysis of a prospective cohort study, conducted at the department of Endocrinology in Hippokration General Hospital (Thessaloniki, Greece), a tertiary referral centre for endocrinology and diabetes.

Hormonal assessment:

- ◆ Serum cortisol nocturnal rhythm, 24h-urinary free cortisol, low-dose dexamethasone-suppression-test
- ◆ Aldosterone to plasma-renin-activity ratio
- ◆ 24h-urinary total metanephrines and catecholamines

In cases of positive results, confirmatory tests were performed.

Radiological assessment (CT or MRI)

At 6-12 months and yearly thereafter

Results

- ✓ 64 patients [19 (30%) males, mean age 59.7 ± 12.1 years] were included (median follow-up time: 36 months, range 4-84).
- ✓ **Median size:** 2.5 mm (range 0.5-6.5) [unilateral adenoma in 50 (78%)].
- ✓ **Final diagnosis** was:
 - 56 non-functioning adenomas (87.5%),
 - 5 (7.8%) subclinical Cushing's syndrome (SCS)
 - 1 (1.6%) pheochromocytoma
 - 1 (1.6%) aldosteronoma
 - 2 (3.2%), adrenocortical carcinomas, one of which had also SCS.

Natural history

- Mass enlargement (9mm) was observed in one patient (2.8%), while a decrease (7-27 mm) in three (8.5%).
- No hormonal evolution was noticed.

Clinical outcomes

- Regarding **glucose metabolism**, 12%, 16.7% and 20% of the patients presented deterioration in glucose metabolism at the first, second and third year of follow-up, respectively.
- The respective percentages for **dyslipidemia** were 26%, 43% and 44% and for **hypertension** or blood pressure worsening were 38%, 44% and 48%.
- After excluding those with SCS, these percentages did not alter significantly.
- New **cardiovascular events or fractures** were recorded in 7.8% of the patients.

Conclusions

- ✓ The vast majority of AIs involved benign, non-secretory masses.
- ✓ Mass enlargement was rare.
- ✓ >1/3 of patients developed hypertension or their lipid profile worsened, while 1/5 showed deterioration in glucose metabolism, irrespectively of SCS.

References

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