

# Analysis of 176 cases of adrenal incidentaloma investigated in a single clinical center, What are we doing?

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## INTRODUCTION:

The number of patients referred to an endocrinologist for assesment of incidental adrenal mass is increasing. In most cases are bening lesions, non-functional and remain stable over time. Current clinical management is variable due to the lack of evidence, wich leads in some cases to unnecessary tests and follow up.

## OBJECTIVES:

Analyze clinical, radiologic and hormonal characteristics of patients studied for adrenal incidentaloma (AI) in our service. Evaluate the number and utility of complementary tests solicited for its diagnosis, what outcome and how long were they followed up.

## MATERIAL AND METHODS:

Observational, retrospective study in patients evaluated for AI in the endocrinology service of a tertiary hospital from 1993-2014. We excluded those with symptoms of hormonal hyperproduction and those with insufficient data.

## RESULTS:

176 patients (111 women and 65 men) met inclusion criteria. The medium age was 59,68±12,54 years (31-84).

### Radiologic study:

Each patient had a medium of 4.14 ±2,69 radiologic tests (1-14), mainly CT and a medium follow up of 3,65± 3,75 years (0-18).

64% of tumors measured less than 3cm, 20% measured 3-4cm and 16% measured more than 4cm (Figure 1).

29% of patients had bilateral disease (Figure 2).

With the first radiologic test, 87% of the lesions were well characterized. The radiologic diagnose was: adenoma (69%), Hyperplasia (6%), Mielolipoma (3%), Suspicious of malignancy (2%) and Pheochromocytoma (1%).

Only 13%( 22) of them remained indetermined with the fist radiological test. This lesions, once completed the study, the final diagnose was: 14 adenomas (66%), 5 Pheochromocytomas (24%), 2 metastases (9%) and ne still remained indetermined because the patient refused to continue the study.

### Funcional study:

The hormonal test most frecuently solicited was the 1 mg dexametasone suppression test (1mg DST), ACTH, urinary 24 hour cortisol and urinary catecholamines. Medium laboratory follow up was 3.75±3,5 years (0-17). 75% of patients had at least one laboratory test out of normal range at diagnose or during follow up, 1mg DST was the test most frequently altered in 80 patients (47.3%) but only 33 patients(18,7%) fulfilled criteria for subclinical Cushing syndrome (SCS).

After complete study (excluding the metastases) the functional diagnosis was: 64% (107) Nonfunctioning adenoma; 19% (32) Subclinical Cushing Syndrome, 4% (8) Pheochromocytomas, 3% (5) Clinical adrenal Cushing, 1 ACTH dependent Cushing. (Figure 4).

### Malignancy:

Metastases were diagnosed in 6 patients, all of them were detected in study of extension in patients with known neoplasia. No adrenal carcinoma was diagnosed.

### Outcomes:

The majority of patients remained stable. 7 patients that were initially diagnosed of non-functioning adenoma, developed SCS. No patients with SCS developed clinical Cushing (Figure 5).

Only 4 tumors grewed significantly, all of them were metastases (Figure 6).

20 Patients required surgery: 5 adrenal Cushing, 6 SCS, 8 pheochromocytomas and 1 metastases.

None of the lesions that were considered bening at diagnosis, suffered from malignant transformation to adrenal carcinoma. One patient with colon carcinoma and initial diagnose of adenoma was diagnosed of metastasis after 6 years of follow up and died because of malignant disease.

FIGURE 1: SIZE

■ < 3 cm ■ 3-4 cm ■ > 4cm



FIGURE 2

■ UNILATERAL ■ BILATERAL

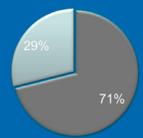


FIGURE 3: RESULTS OF THE FIRST RADIOLOGIC TEST

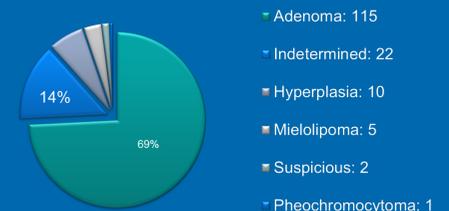


FIGURE 4: FUNCTIONAL DIAGNOSIS

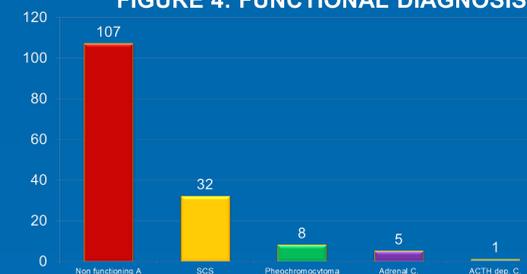


FIGURE 5: DEVELOPMENT OF FUNCIONALITY

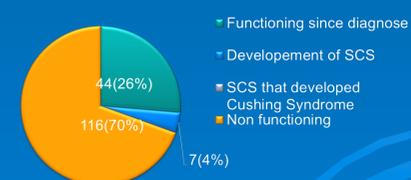
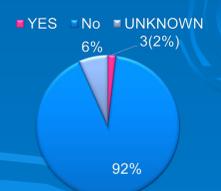


FIGURE 6: GROWTH



## CONCLUSIONS:

- The incidental adrenal masses studied in our centre are predominantly small, benign, nonfunctioning, stable in time in terms of growth, hormonal production and malignancy.
- Most of them are well characterized with the first radiologic test.
- We found a high prevalence of bilateral lesions and of Subclinical Cushing síndrome when compared with other series.
- In non-oncologic patients is rare to find malignant lesions.
- Adrenal carcinoma is rarely presented as asymptomatic adrenal incidentaloma.
- The low incidence of malignant transformation of benign lesions should make us reconsider our clinical practice to avoid prolonged follow up and duplicity of radiologic and laboratory tests.

