

Histological and phenotypic correlations of adrenal masses

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introduction

Adrenal masses are common. This is usually not of benign and secreting the adrenal cortex. However, a systematic exploration paraclinical dominated by imagery and a selection of standard laboratory tests is necessary to highlight the minority secreting lesions or other particular neoplastic nature which require surgical excision cases.

object:

The objective of our study was to investigate a correlation between clinical, biological, radiological and histological findings of adrenal masses.

Materials and methods

This is a retrospective study of 60 cases of patients with a mean age 39 ± 0.2 years of age with adrenal masses collected in 10 years. Only well-documented cases were selected for the study. All patients underwent clinical, laboratory examination and radiological guided exploration and CT or MRI. After the exploration, patients were operated

Results

Preoperative exploration was in favor of adrenocortical carcinomas in 40% of cases, pheochromocytoma in 38.34%, myélolipome in 1,66%, an adrenal cyst in 3,34%, cortisolic adenoma in a 5%, a nonfunctional adrenal adenoma in 1,66% and metastatic secondary location in 10% .(fig:1)

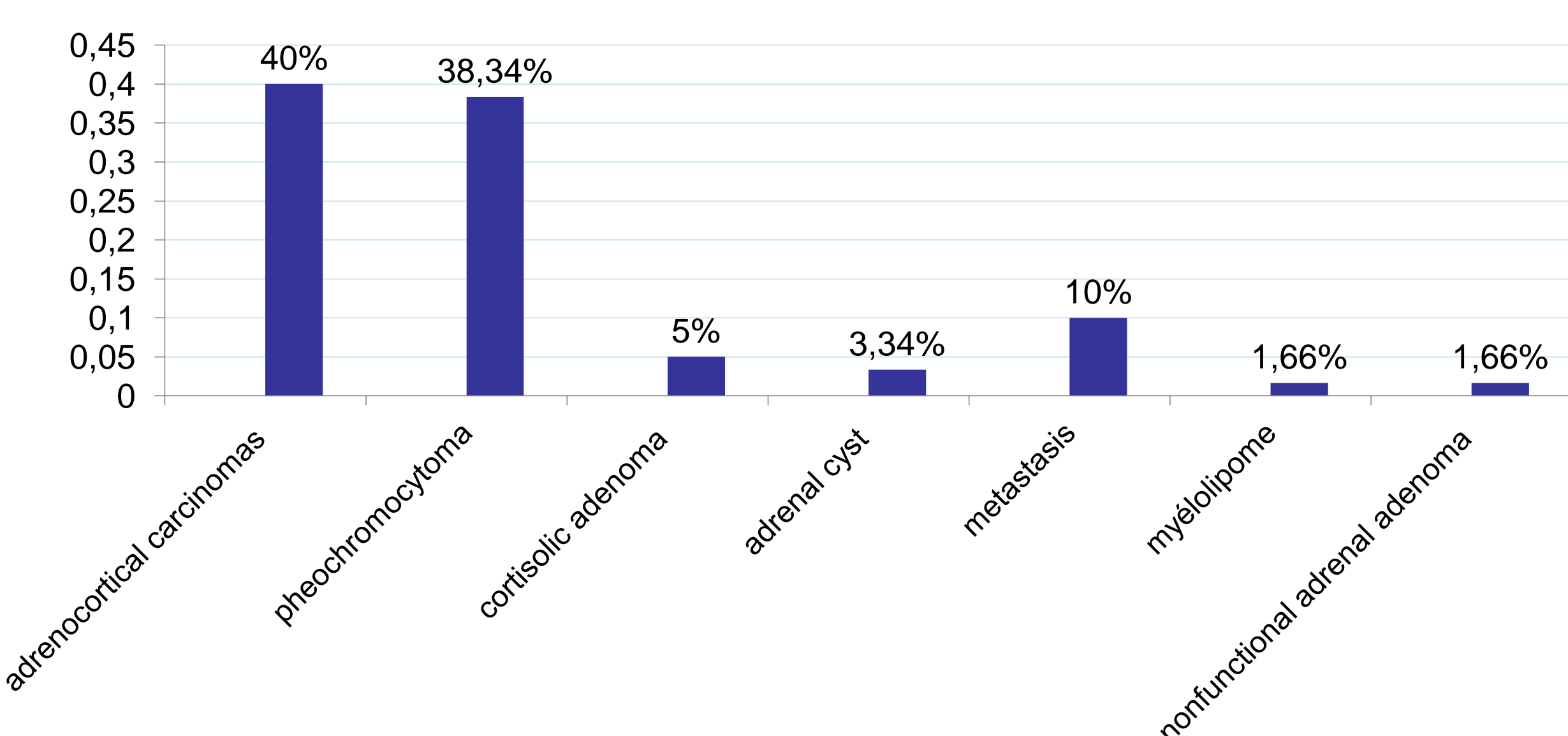


Fig1: adrenal masses in %

- Radiological aspects were typical in 95% of cases (spontaneous density, Wash out, size, necrosis, calcifications (fig:2)
- Correlation with pathological findings were concordant with the exception of one case taken for pheochromocytoma when it was an adrenocortical (fig:3)

| Tumor | spontaneous density | Wash out | size | necrosis | calcifications |
|-------------------------------|---------------------|---------------------|--------|----------|----------------|
| adrenocortical carcinomas | 41 | 31 | 103mm | 26% | 20% |
| pheochromocytoma | 43 | 30 | 56,5mm | 15% | 10% |
| myélolipome | | | 43mm | 0% | 0% |
| adrenal cyst | 15 | Do not take kontras | 51 mm | 0% | 0% |
| cortisolic adenoma | 15 | 53 | 50mm | 0% | 0% |
| nonfunctional adrenal adenoma | 17 | 56 | 24mm | 0% | 0% |
| métastasis | 20% | 70% | 42mm | 100% | 0% |

Fig2: Radiological caractéristiques of tumors

| Tumor | clinicopathologic | radiology | histology | concordance |
|-------------------------------|----------------------|-----------|-----------|-------------|
| adrenocortical carcinomas | 26,68% secreting | 38,33% | 40% | 95,82% |
| pheochromocytoma | 33,33% functional | 40% | 38,34% | 95,85% |
| myélolipome | 1,66% tumor syndrome | 1,66% | 1,66% | 100% |
| adrenal cyst | 3,34% tumor syndrome | 3,34% | 3,34% | 100% |
| cortisolic adenoma | 5% Cushing syndrome | 5% | 5% | 100% |
| nonfunctional adrenal adenoma | 1,66% tumor syndrome | 1,66% | 1,66% | 100% |
| métastasis | 10% asymptomatic | 10% | 10% | 100% |

fig3: Histological and phénotypique corrélations

Discussion

Although the majority of adrenal masses are benign and non-functional, it is important to investigate, as a percentage of these can cause serious endocrine diseases or be to show if the mass is secreting or not cancers. The imaging results are used to determine if a required surgical resection. Multiple paraclinical tools can be used to understand the histological nature of the tumor, but none of them, however, has absolute diagnostic value, this is the endocrine laboratory tests, data from the CT scan or MRI, adrenal scintigraphy and adrenal biopsy. In the study of an adrenal mass, magnetic resonance imaging (MRI) and spiral CT have brought new arguments sémiologiques amending diagnostic strategy. Indeed, the CT symptomatology (CT) (bulk density on the stereotype injection), compared to results of the MRI (signal mass on T2-weighted sequences), allows us to approach an accurate diagnosis in most cases. The contentious cases require histological evidence. Adrenal mass biopsy under CT, easy and without major complications control can be proposed.

Conclusion

Advances in the field of hormonal and radiological investigations (CT and magnetic resonance imaging) have reduced the surgical excision indications. In agreement with the literature, there is a concordance between data clinico-biological, radiological and histological results. The CT lesions (spontaneous density study of washout, size, presence of necrosis) analysis is fundamental in the etiological diagnosis of adrenal masses.

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