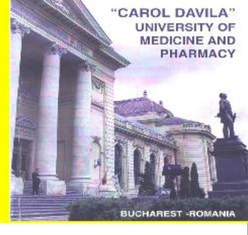
Concurrent hyperthyroidism and thyroid cancer – case presentations



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OBJECTIVES

• The prevalence of thyroid carcinomas found during surgery in hyperthyroid patients is reported to vary widely, ranging from 1.6% up to 21.1% (in most studies between 3 – 8%) [1]. The most frequently reported type is papillary thyroid carcinoma, followed by follicular thyroid carcinoma, and rarely by anaplastic carcinoma and medullary thyroid carcinoma.
• If this association predisposes to larger, multifocal or more aggressive cancer (especially in Graves'disease) is a matter of debate [2,3]. Most of the surgically detected cancers in Graves'disease are, however, microcarcinomas (up to 88%) [1]
• We describe the clinical and hystopathological aspects and evolution in 2 patients with hyperthyroidism and clinically significant differentiated thyroid cancer.

CASE PRESENTATION 1

• A 42 year-old woman from a iodine deficiency area was diagnosed in 2008 with ***Graves'disease :***
- overt hyperthyroidism, TSH < 0.03 mIU/L, high T3 413 ng/dL (N 80 -200) and T4 18.7 µg/dL (N 4.5 – 13)
- mild exophtalmos of the right eye (17 mm),
- medium goiter; on ultrasound **multiple nodules in the right lobe** (1.1 to 1.7 cm, one **1.5** cm ill-delineated, hypoechoic,with small calcifications).
• She was treated with methymazole but lost to follow-up for 2 years.
• In 2011 she presents with overt hyperthyroidism, 19 mm right eye and 18 mm left eye exophtalmos and a large goiter, with a **4/2.5 cm** hypoechoic **nodule** in the superior pole of the right lobe with microcalcifications and internal vascularisation, "cold" on I131 scintigraphy ***(fig.1)***
• She underwent **total thyroidectomy.**
• HP Diagnosis: **multifocal papillary carcinoma:** 3.3 cm in the right lobe, with capsular invasion, and 1.5 cm in the isthmus **("follicular variant")**.
- No metastases detected.
• The patient received **150 mCi I^{131}** (100 + 50 after 6 months) and is disease-free at 2.5 years of follow-up.

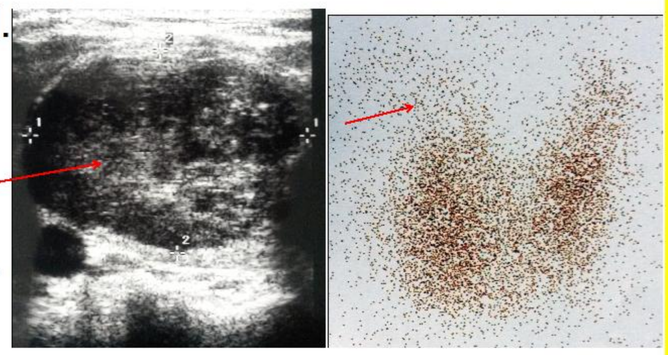

Fig 1

CASE PRESENTATION 2

• A 56 years-old woman was diagnosed at the age of 35 with a thyroid nodule and lost to follow-up.
• At the age of 56 she came with a ***multinodular goiter with subclinical hyperthyroidism***
- TSH 0.09 mIU/L, FT4 1.49 ng/mL (0.8 – 2), normal TPOAb..
- medium goiter, palpable nodule in the left lobe
- Thyroid US showed **a 2 cm nodule** with peripheral calcification in the right lobe (inferior) and a **4 cm hypoechoic nodule** with increased internal vascularisation in the left lobe.
- I131 scintigraphy showed a "hot" nodule in the left lobe, the rest of the thyroid being inhibited **(fig 2).**
• She underwent total thyroidectomy after a 2 month course of methymazole.
• HP Diagnosis: **multifocal papillary thyroid carcinoma "follicular variant":** 2 cm in the right lobe, 0.1 cm in the isthmus and 0.2 cm in the left lobe. The "hot" nodule in the left lobe was a benign follicular adenoma.
- No local metastases were found.
- The patient received I131 treatment in Mar 2015.

Fig.2

CONCLUSIONS

➢ Although the occurrence of thyroid cancer in hyperthyroid patients is thought to be a rare event, the presence of a suspicious nodule in a hyperfunctioning thyroid should be carefully evaluated to exclude the presence of concurrent malignancy.
➢ In both our cases the cancer was multifocal papillary carcinomas "folicular variant", but not otherwise aggressive.
➢ Nodules in patients with Graves' disease appear to have a greater risk of malignancy than nodules in euthyroid goiters.

References

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Clinical Cases - thyroid/others
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