PARATHYROID TISSUE IN ECTOPIC THYROID TISSUE

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Introduction

Postmortem studies have shown that a fifth parathyroid gland may be present in about 5% of patients with hyperparathyroidism. 1% of parathyroid glands are located in thyroid tissue. There's a prevalence of 7-10% of thyroid ectopic tissue.

Case Report

I. Identification: 53 years old, male, Caucasian.

II. Family History: Irrelevant.

III. Personal History: Grawitz Tumour submitted to bilateral nephrectomy at the age of 25. Under haemodialysis since then (with a renal transplant from 1998 to 2006 rejected afterwards).

IV. Medication: omeprazol 20mg, sodium polystyrene sulfonate 454g, Pregabalin 75mg 2id; Alprazolam 0,5mg. Intra-haemodialysis: Alfacalcidol 0,25mg; cinacalcet 30mg, Darbopoietin; vitamin B

V. Case report: In the follow-up of Grawitz tumour he made a Thoracic-abdominal-pelvic CT which revealed "the existence of iliac lytic bone lesions". PET made to exclude secondary lesions which revealed "suggestive of brown tumors, eventually secondary to hyperparathyroidism " and "local metabolic enhancement, suggestive of functioning parathyroid adenoma" (Fig. 1).
In this context he was referred to our consultation in June 2014. Analytical study suggestive of hyperparathyroidism with calcium levels controlled under cinacalcet. Thyroid ultrasound: Nodular thyroid disease with "2 nodules" (Figure 2) with benign cytology with thyroid function preserved. Parathyroid Scintigraphy with hyperfunction in the inferior right lobe (Fig 3). Bone Densitometry with osteoporosis of the radio's extremity. Considering Tertiary Hyperparathyroidism at presence of brown tumors we referred to surgery for total parathyroidectomy.

Exams

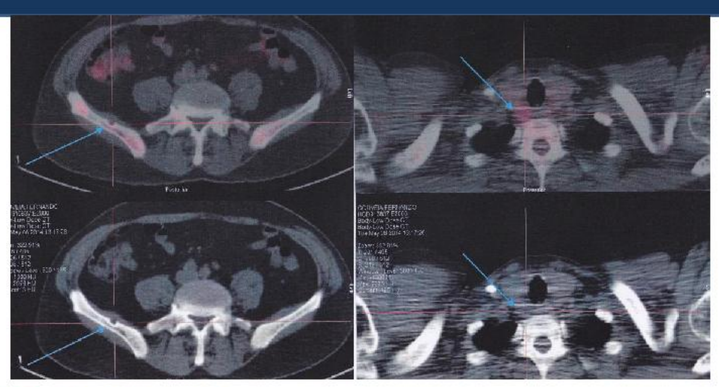

Fig 1: PET-TC

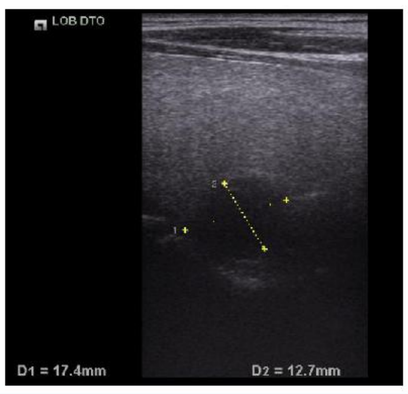

Fig 2: Thyroid Ultra-Sound: Nodule in the right lobe with 13mm and nodule in the left lobe with 15mm.
No reference to parathyroid glands.

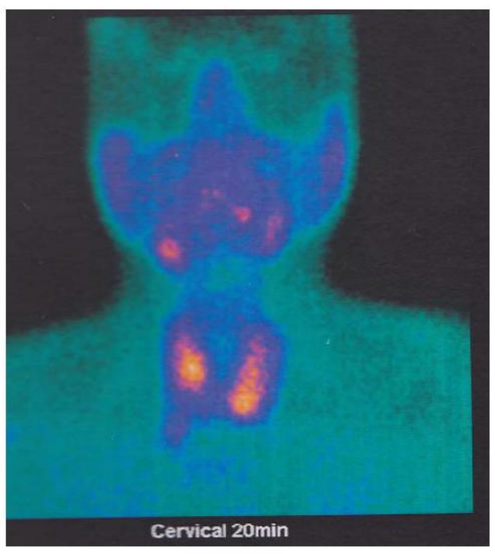

Fig 3: Parathyroid Scintigraphy: Hyperfunction in the inferior right lobe

Bone Densitometry	T Score	Z Score
Femur	-1,4	-0,6
Lombar Spine	-0,6	0,8
Radius	-2,6	-2,5

ANALYSES	Dec13	Jan14	Reference
Calcium	9,6	9,0	8,5-10,1 mg/dL
PTHi	1604	1299	12-65 pg/mL
Phosphorus	5,9	3,9	2,5-4,9 mg/dL

Surgery and follow-up

Histology:

Macroscopic:
1 - "Superior left": nodule with 1cm
2 - "Superior right": nodule with 1,8cm
3 - "Inferior right": nodule with 1,7cm
4 - "Inferior left": nodule with 0,9cm
5 - "Inferior left" nodule with 2cm

Microscopic:
1,2,3,5 – Parathyroid parenchyma with nodular architecture, made of principal and oxyphilic cels
4 – thyroid parenchyma without injury and a focus of parathyroid identical with those described above

Medication 3 months after surgery:
- Calcium carbonate 1g (3+3+3);
- calcitriol 0,25mcg (1+0+1)

ANALYSES	Oct 2014
Calcium	8,2 mg/dL(8,5-10,1)
PTHi	56 pg/mL(12-65)
Phosphorus	2,6 mg/dL(2,5-4,9)

Discussion/Conclusion

In this patient despite scintigraphy suspicion of a functioning parathyroid adenoma, since it is a tertiary hyperparathyroidism, we choosed surgical exploration with resection of all parathyroid glands. It was found a fifth focus of parathyroid tissue within an ectopic thyroid tissue. This case presents the association of three relatively rare situations: supernumerary parathyroid gland, in thyroid tissue in an ectopic location.

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Calcium, vitamin D and bone
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