Interesting image

Recurrence of Hyperthyroidism in a Female Patient With Thyroidectomized Grave's Disease Diagnosed 15 Years Earlier

Recidiva de hipertiroidismo en una paciente con la enfermedad de Graves tiroidectomizada hace 15 años

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A 40-year-old woman diagnosed 15 years before with Graves disease requiring total thyroidectomy for poor disease control is presented. Following surgery she developed hypothyroidism for which she received treatment with l-thyroxine with a varying dose based on thyroid function up to a maximum dose of 175 micrograms per day.

At the beginning of this year the patient presented manifestations of anxiety, weight loss, irritability and intolerance to heat and went to her general physician who requested blood analysis which showed hyperthyroidism with TSH values (thyrotropin) of 0.05 mIU/l (VN: 0.35–4.94), T4L: 1.83 ng/dl (0.7–1.78), T3Total: 1.72 ng/ml (0.58–1.60) and antiperoxidase antibodies: 836 IU/ml (0.05–6). In addition, the patient reported the appearance of a midline cervical mass (Fig. 1). The l-thyroxine was withdrawn, despite a posterior control demonstrating continued hyperthyroidism, and the patient was administered treatment with one tablet of metimazole per day.

The patient was referred to the Department of Nuclear Medicine for study. Thyroid scintigraphy was performed using a pinhole collimator (image not shown) and a parallel pinhole collimator after the administration of 6 mCi (222 MBq) of 99mTc-pertechnetate which showed (Fig. 2) an area of activity in the caudal cranial direction extending to the base of the tongue, coinciding with the palpable mass in the cervical region.

This finding was compatible with recurrence of autoimmune hyperthyroidism at the expense of the residual tissue of the thyroglossal duct (pyramidal lobe). The patient underwent surgery and the histological study confirmed the presence of thyroid tissue in the surgical specimen.

Each thyroid lobe is composed of one medial and one lateral portion. The medial portion begins at the bottom of the first pharyngeal bursa in the fourth week of embryonic development descending caudally from the mid-line. The lateral portion also descends to join the medial portion from the fourth pharyngeal bursa. This pathway of descent of these two portions constitutes the thyroglossal duct which is normally complete at the tenth week of fetal development.1

Any alteration in the normal descent of the thyroid gland leads to ectopy. Depending on the anatomical situation, thyroid ectopia may be classified as lingual (at the base of the tongue), sublingual (under the tongue), prelaryngeal (in front of the larynx) or substernal (in the mediastinum). The prevalence of ectopic thyroid tissue is low, being reported in 1/100,000 patients, with the lingual thyroid form of presentation being the most common (90%).2,3

From a functional point of view, most of the cases of lingual thyroids described show clinical manifestations of hypothyroidism or euthyroidism,1 although some cases have reported hyperthyroidism associated with Graves disease2 or secondary to a hot nodule at the lingual thyroid level.
Fig. 2. Thyroid scintigraphy with $^{99m}$Tc-pertechnetate (anterior projection). An increase in tracer uptake is observed in the infrahyoid region (arrow) with no evidence of activity in the thyroid bed.

Diagnosis is usually achieved with imaging tests such as scintigraphy, but, on occasions, a definitive diagnosis is not made until histological study of the surgical piece.

References