Cervical thyroid remnant consistent with papillary carcinoma as an incidental finding in a patient with benign total thyroidectomy ten years prior

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ABSTRACT:

Background: Differential diagnosis of a cervical lesion corresponding with papillary thyroid carcinoma (PTC) after benign total thyroidectomy can be a real challenge.

Methods: A cervical thyroid remnant compatible with papillary carcinoma was incidentally found ten years after total thyroidectomy for a non-functional multinodular goitre. Histological analysis of fine needle puncture aspiration (FNPA) was highly suggestive for PTC. Surgical excision of the cervical lesion was performed. Specimen study demonstrated a classic variant of PTC contacting a peripheral margin, subjected to ablative treatment with radioactive iodine postoperatively.

Results: The patient did not present signs of recurrence during follow-up. Small thyroid remnants after benign thyroidectomy are often left behind, although the risk of malignancy is extremely low.

Conclusions: It is important to individualize the therapeutic approach when facing this rare entity. We decided to treat the patient by removing the lesion and introducing ablation therapy with successful results.

KEYWORDS: benign thyroidectomy, cervical thyroid remnant, papillary thyroid carcinoma

LIST OF ABBREVIATIONS

PTC – papillary thyroid carcinoma
FNPA – fine needle puncture aspiration

INTRODUCTION

Papillary thyroid carcinoma (PTC) represents up to 80% of malignant tumours of the thyroid gland, associated with cervical metastasis in 30–90% of patients at the time of diagnosis [1]. When a thyroid tumour is not detected in the gland by usual diagnostic methods, appearing primarily as a cervical metastatic lymphadenopathy, it is usually referred to as an “occult thyroid carcinoma”. This form of presentation includes 10–26% of cases of PTC [2]. However, the differential diagnosis of a cervical lesion consistent with PTC, appearing years after benign thyroidectomy, can be a real challenge for both the clinician and the pathologist.

CASE REPORT

We present an exceptional case of a 54-year-old woman with a cervical thyroid remnant compatible with papillary carcinoma incidentally found ten years after total thyroidectomy for a non-functional multinodular goitre. The anatomopathological analysis of the specimen back then demonstrated a multinodular colloid goitre. During follow-up, a normocalcemic vitamin D deficiency was observed. Following an episode of renal lithiasis, a cervical ultrasound was performed in order to assess the parathyroid glands, which appeared to be within normal size limits, with some mild post-operative changes in the region of the previous surgery. Likewise, an incidental finding revealed a hypoechoic lesion of approximately 7 mm located in the middle third of the left internal jugular lymph node chain (Fig. 1.). Thyroglobulin levels were within normal range in the analytical controls.

In view of these findings, a fine needle puncture aspiration (FNPA) was performed, showing cytological samples consistent with epithelial elements corresponding to thyroid tissue, positive to thyroglobulin and without clear atypical features. Due to the limited conclusions drawn from this FNPA, it was further repeated and resulted in abundant material corresponding to thyroid tissue, strongly positive to thyroglobulin, with focal papillary arrangement, cytoplasmic membrane pseudoinclusions and nuclear grooves, i.e. key histological characteristics of PTC.

Consequently, an ultrasound-guided surgical excision of the cervical lesion was carried out. The nodule, which was partially adhered to the internal jugular vein, was removed without intra-operative incidents. The histopathological study showed a classic variant of PTC in contact with one of the peripheral margins, in the absence of vascular or lymphatic embolization, or benign thyroid remnants (Fig. 2.). Considering these findings, the patient began ablative treatment with radioactive iodine, presenting no signs of recurrence so far.

DISCUSSION

The term “occult thyroid carcinoma” was used for the first time in the middle of the last century, being considered by some authors as a synonym for papillary thyroid microcarcinoma (PTMC) [3]. Few cases have been published regarding cervical metastases of occult PTC, some of them presenting as a cystic lesion, which is extremely rare and requires differential diagnosis with oronasopharyngeal carcinomas [1]. PTMC is a specific type of papillary thyroid carcinoma, defined according to the World Health Organization.
The possibility of a cervical mass being compatible with a metastasis of a primary PTC would be extremely unusual so many years afterwards. The second possibility described in the literature, although unlikely, would be the development of a papillary carcinoma on thyroid epithelial inclusions inside the cervical lymph nodes [2]. The involvement of these lymph nodes alone, i.e. in the absence of a demonstrable primary tumour, points to the possibility of development of a primary PTC in the mentioned lymph node. However, in such a case, the lesion would be macroscopically larger and the definitive anatomopathological analysis would typically show remains of lymph node tissue.

Ectopic thyroid tissue appears in 7% of the population, with the lingual location being the most frequent, i.e. in 90% of patients. The laterocervical location is estimated to occur in 1–3% of all registered cases [6]. This tissue may be subject to the same pathological changes as the normal thyroid tissue, with unique cases of primary PTC being published in the literature. Accurate data regarding the incidence of ectopic laterocervical thyroid carcinoma is not available, as it is often difficult to distinguish it from a laterocervical lymph node metastasis of an occult PTC. Unlike in our patient, a lateral cervical mass is usually palpated in this setting, being mostly associated with an atrophic, or even absent, thyroid gland [7].

Finally, the existence of small thyroid remnants after total thyroidectomy is well known. Numerous studies have shown these remnants to be detectable, with foci of minimal residual uptake, in a considerable number of patients after radioiodine administration. The information concerning their anatomical location is limited, although they have been described more frequently within the upper thyroid poles. Their clinical importance seems minimal, and even though the malignancy risk of these remnants after benign thyroidectomy has been described as possible, to our knowledge, no cases regarding this rare condition have been published to date in the literature [8, 9]. Given the histopathological characteristics of the excised lesion in our patient, the possibility of a cervical thyroid remnant going through a tumorigenesis process over the years, although remarkable, seems to be the most reasonable.

There is no consensus regarding the most appropriate treatment of this entity. Involvement of one of the peripheral margins with PTC in a different setting would be an indication for ablative therapy with radioiodine, although this recommendation is based on a very limited number of patients and its efficacy remains controversial [7]. According to recommendations concerning cervical lymph node metastasis from PTC, elective surgical treatment of the homolateral cervical lymph node chain in this case is also arguable. Nevertheless, there is not enough evidence nowadays favouring prophylactic cervical excisions in the absence of cervical involvement [1, 6].

**CONCLUSIONS**

Given the rarity of the case, we recommend individualizing the therapeutic approach to each patient. Therefore, we chose to treat the patient by removing the lesion and introducing ablation therapy (showing successful results despite its questionable indication), as well as by performing periodic follow-up ultrasound assessments of the cervical lymph node chains.
REFERENCES


