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Goiter with NIFTP Lesion Associated with An Accessory Thyroid as An Uncommon Anatomical Variant: Insights from A Case and Review of The Literature

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ABSTRACT

Thyroidectomy is a usual surgery done by surgeons around the world, its difficulty remains in the anatomical variation of the cervical region and the multiple aspect of the thyroid pathology. In this optic we report a rare multinodular goiter with an accessory thyroid associated with a NIFTP lesion. This unique association make a double challenge firstly in surgery and secondly in the fellow up. We present the experience of our department and a review of the literature to draw attention of surgeons and pathologists about these variant of embryology and pathology.

INTRODUCTION

The accessory thyroid is a rare embryological variant defined by the presence of an accessory thyroid tissue outside of the thyroid loge and with the presence of the thyroid in its normal position. We report a case of a patient operated for a multinodular goiter with incidental per-operative discovery of an accessory thyroid in the neck outside the thyroid loge.

THE CASE

We report here the case of a 65-year-old woman without any pathological antecedent, who presented an anterior cervical tumefaction without the sign of dysthyroid.

The clinical examination noticed a hypertrophied thyroid without the palpation of nodules, cervical ultrasonography found a hypertrophied multinodular thyroid whom the most pejorative nodule was classified TIRADS-5, TSH was 2.2 UI/L (0.5<N<5).

A thyroidectomy was planned, after the the cervical incision, and the opening of the linea alba cervicalis, the sternohyoid and sternothyroid muscles were lateralized. A meticulous dissection of the thyroid was realized starting from the superior pole of the right thyroid and after the ligature and section of the right superior thyroid pedicle, we discovered the presence of an accessory thyroid of 4 cm independent from the rest of the thyroid (figure 1).

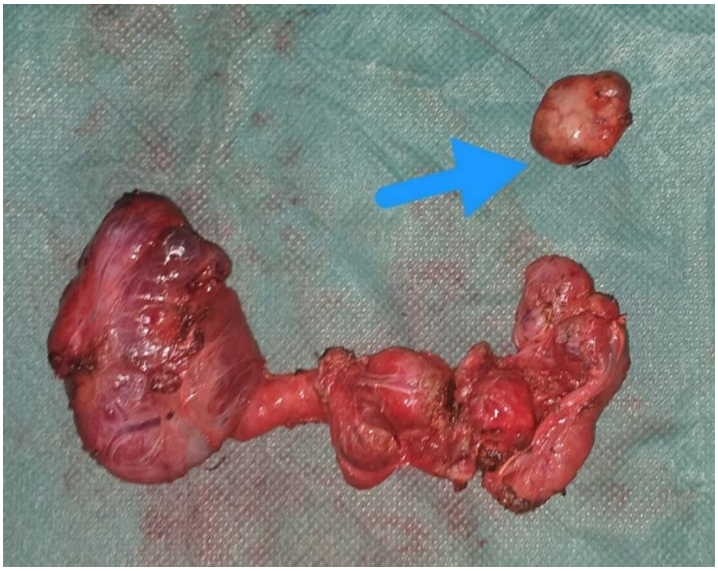

Figure 1: Specimens of the thyroid and the accessory thyroid (blue arrow)

The postoperative follow-up was simple, in particular no dysphonia or dyspnea nor clinical signs of hypocalcemia, the patient was discharged on D2 postoperatively. The histopathological examination of the excision piece found a multinodular goiter with NIFTP lesion and a ovoid structure corresponding to an accessory thyroid, the patient was put on oral levothyroxine 100 µg per day. The patient is currently still being followed up with a 2-month follow-up with regular normal TSH and Thyroglobulin serum test and cervical ultrasonography.

DISCUSSION

Accessory Thyroid

An accessory thyroid gland is determined as the presence of the thyroidal parenchyma with a normal functional thyroid in its normal pretracheal area [1].

The incidence of accessory thyroid varies between 1 to 2 %. In a study about 58 cadavers by Braun and his team discovered one accessory thyroid on the thyroid cartilage. Radkowski et al performed thyroid ultrasonography on 230 cases of the thyroglossal duct cyst and detected four cases (4/230) with the accessory thyroid tissue and three (3/230) with the ectopic thyroid

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gland. In a multicenter study about 2200 CT scan realized in Korea, 44 patients (2%) had an accessory thyroid [1,2,3].

This variation is asymptomatic and is often detected fortuitously during thyroid imaging conducted for a thyroid pathology. Bhatnagar and his team [4] suggested that an accessory thyroid gland is formed from a developmental anomaly of the compartmentalized portion of the primordium of the thyroidal lobe, resulting in an independent segment of the thyroid.

An important differential diagnosis of an accessory thyroid is an ectopic thyroid. An ectopic thyroid result from an abnormal migration of the thyroid primordium and is typically defined as the presence of secreting thyroid tissue located outside its usual pre-tracheal position, following the embryological descending line. In 70% to 80% of cases the ectopic thyroid tissue is the only secreting thyroid tissue. The most common form of ectopic thyroid is the lingual position, which accounts for 90% of cases. About 70% of patients with this condition will experience subclinical hypothyroidism. Additionally, a malignant transformation of the ectopic thyroid tissue is possible. [5]

NIFTP Lesion

Noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) is the new nomenclature for encapsulated non-invasive follicular variant papillary thyroid carcinoma (EFVPTC).It's a borderline neoplasm which is encapsulated or clearly delimited and noninvasive with a follicular growth pattern containing nuclear features of papillary thyroid carcinoma , but without well-formed papillae or psammoma bodies and without typical findings of the aggressive subtypes of papillary thyroid carcinoma or poorly differentiated carcinoma.[7][8] Large difference in prevalence of NIFTP of all PTC cases have been reported in the world, It's vary from 0.5% to 2.4 in Asia and from 2.1% to 27.5% in North America and Europe. [9,10,11,12]

There is currently no consensus regarding the monitoring of patients with NIFTP. According to the American Thyroid Association a monitoring with serum thyroglobulin and neck ultrasound can be considered [13].

CONCLUSION

In conclusion, understanding the thyroid anatomy, along with its variations and anomalies, through education and training is crucial for handling such cases. This knowledge will help raise awareness and improve outcomes for patients.

Consent

As per international standards or university standards, patient(s) written consent has been collected and preserved by the authors.

Ethical Approval

Authors declare that the ethical approval has been exempted by my establishment

Conflict of Interest

The authors declare no conflict of interest.

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