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CASE IMAGE

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Ectopic thyroid gland resembling a thyroglossal duct cyst

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Key Clinical Message

This rare diagnosis highlights the importance of anatomical and embryological knowledge in the differential diagnosis of neck masses.

Abstract

A 41-year-old woman was referred to the head and neck surgery department because of a large midline neck mass at the level of the hyoid bone that was diagnostic for functioning thyroid tissue in a totally ectopic location.

KEYWORDS

ectopic thyroid gland, neck mass, thyroid cancer, thyroid gland

1 | ACCOMPANYING TEXT

A 41-year-old woman was referred to the department of head and neck surgery due to a large midline neck mass at the level of the hyoid bone involving the submental and bilateral submandibular regions. (Figure 1) The lesion was reported to be present since childhood but associated with progressive growth in the 3 months prior to referral. No other symptoms were reported, including dysphagia or dyspnea. Although suggestive of thyroglossal duct cyst (TDC), the diagnostic workup revealed ectopic location of the thyroid gland: CT scan of the neck (Figure 2) described the lack of eutopic thyroid gland, scintigraphy indicated that functional thyroid tissue was solely located in the identified neck mass, and FNAC was diagnostic for benign thyroid tissue. Thyroid function blood tests (TSH and thyroxine) were normal. The case was discussed at the multidisciplinary board of physicians, who not only took into account the patient's anxiety about having a progressively growing neck mass, but also the foreseeable difficulty in monitoring the case of a "wait-and-see" policy, due to the abnormal location of the thyroid and limited access to appropriate health facilities and exams in

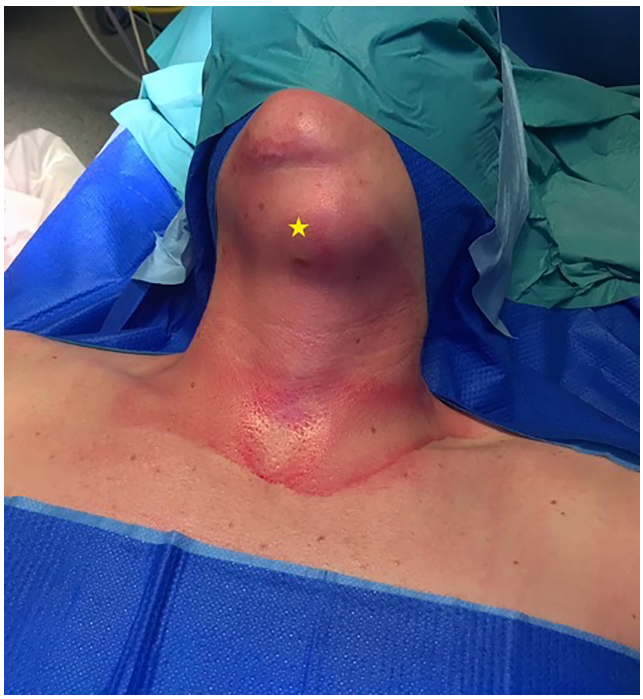

FIGURE 1 Preoperative frontal view of midline neck mass (star) resembling a thyroglossal duct cyst.

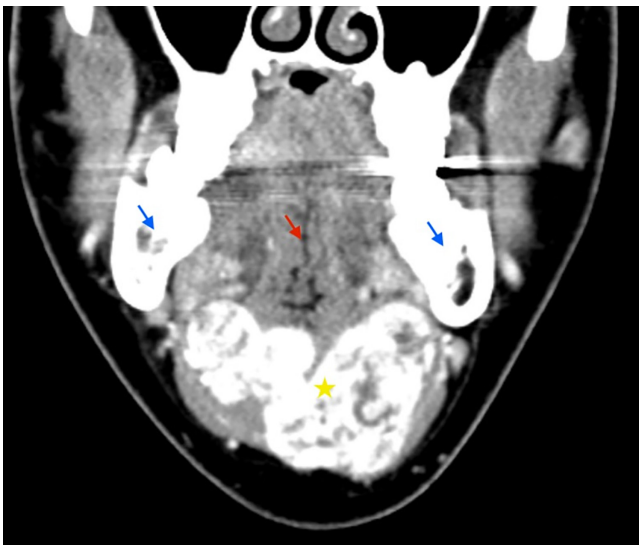

FIGURE 2 Neck CT scan with iv contrast, coronal view, with the large neck mass (star), just inferior and adjacent to tongue (red arrow) and mandible (blue arrow).

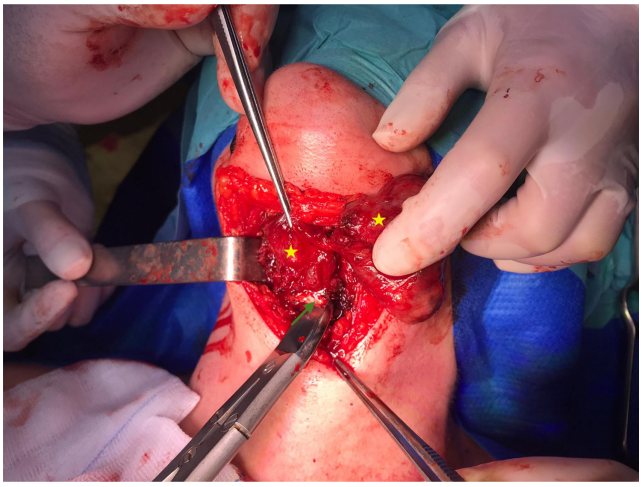

FIGURE 3 Intraoperative view of mass (stars) in relation to hyoid bone (green arrow).

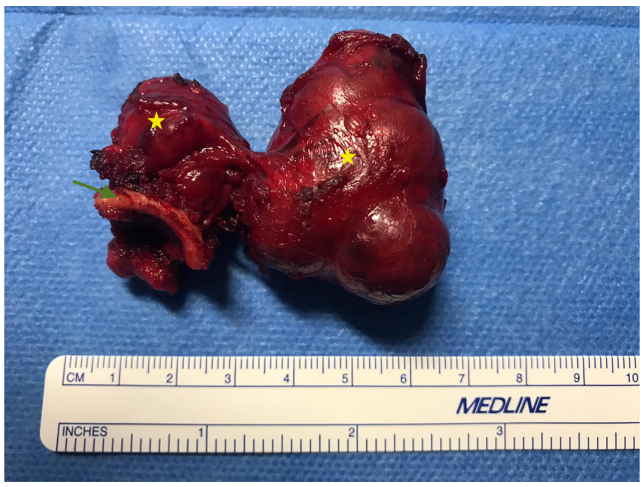

FIGURE 4 Operative specimen with ectopic thyroid with characteristic left and right lobes (stars) and hyoid bone (green arrow).

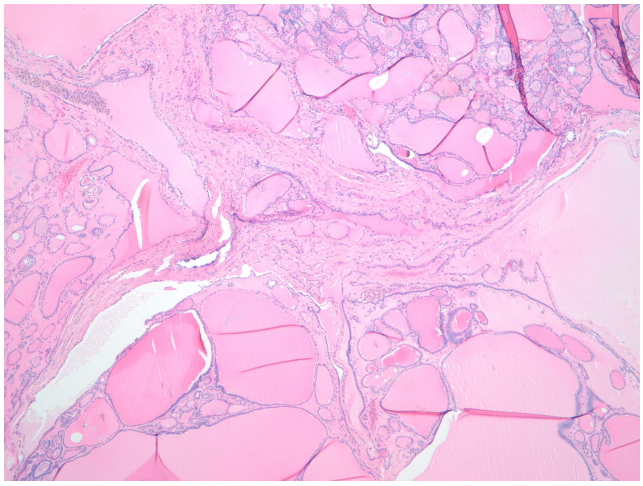

FIGURE 5 (H&E, low power): Multinodular goiter/hyperplasia of the thyroid gland, with variable sized nodules, composed of follicles with diverse dimensions.

the patient's hometown (who lived on a remote island). Thus, it was proposed surgical resection, which the patient understood and accepted. The procedure included a transcervical approach and excision of the lesion (thyroidectomy) *en bloc* with hyoid bone and adjacent muscles (Systrunk procedure). (Figures 3 and 4) The patient was discharged from hospital on the second postoperative day, with no complications reported and with supplements of thyroxine prescribed. The anatomopathological evaluation confirmed the presence of thyroid tissue without any malignant characteristics. (Figure 5) At 20 months of follow-up, the patient reported no complications or any interference in her daily activities, regular follow-up at the endocrinologist and only medicated with 100 mg of thyroxine per day.

Ectopic location of the thyroid gland is a rare event, with a reported prevalence of 1:100,000 to 1:300,000 in the general population.[1] This anomaly is due to the embryological development of the thyroid gland from the base of the tongue to its normal eutopic location in the lower third of the neck, just anterior to the trachea.[1] Ectopic location in the trachea, thorax, and abdomen has also been reported.[2]

Neck masses present a broad differential diagnosis, with emphasis on malignant disease that must be excluded.[2] Although malignancy is rare in ectopic thyroid tissue, this diagnosis should be kept in mind whenever a patient presents with a neck mass.[1–3] Also, as it is the case in more frequent midline neck masses, such as in thyroglossal duct cysts, it is important in the diagnostic workup to exclude the presence of ectopic thyroid tissue, which may represent the patient's only functioning thyroid.[3]

AUTHOR CONTRIBUTIONS

Henrique Messias: Conceptualization; funding acquisition; validation; writing – original draft; writing – review and editing. **Maria Luisa Sequeira:** Conceptualization; data curation; investigation; writing – original draft. **Miguel Vilares:** Data curation; supervision; visualization. **Sandra Bitoque:** Formal analysis; supervision; validation. **Miguel Rito:** Validation; visualization; writing – review and editing. **Pedro Gomes:** Supervision; validation; visualization.

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CONFLICT OF INTEREST STATEMENT

The authors declare to have no conflicts of interest in connection with this scientific work.

DATA AVAILABILITY STATEMENT

The authors declare that all data supporting the findings of this study are available within the article and its supplementary information files.

CONSENT STATEMENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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