

Ectopic thyroid gland - a differential diagnosis of a submandibular mass

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Abstract

A 41-year-old female patient was referred to the head and neck surgery department because of a large midline submandibular mass that was diagnostic for functioning thyroid tissue in a totally ectopic location.

TITLE PAGE – CASE IMAGES

Ectopic thyroid gland – a differential diagnosis of a submandibular mass

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Ethical Statement

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

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.

Conflict of Interest

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

Abbreviations: CT, computerized tomography; FNAC, fine needle aspiration cytology; TSH, thyroid stimulating hormone.

ABSTRACT

A 41-year-old female patient was referred to the head and neck surgery department because of a large midline submandibular mass that was diagnostic for functioning thyroid tissue in a totally ectopic location.

KEY CLINICAL MESSAGE

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

ACCOMPANYING TEXT

A 41-year-old female patient was referred to the department of head and neck surgery due to a large submandibular midline mass that had been present since childhood but had progressively increased in the three months prior to referral. **[Image 1]** CT scan of the neck **[Image 2]** described the lack of eutopic location of the thyroid gland, scintigraphy indicated that functional thyroid tissue was located only in the submandibular mass, and FNAC was diagnostic for benign thyroid tissue. Thyroid function blood tests (TSH and thyroxine) were normal. A multidisciplinary team of physicians decided for surgical resection, which included the hyoid bone and adjacent muscles due to the proximity of the submandibular mass. **[Images 3 and 4]** The anatomopathological evaluation confirmed thyroid tissue without any malignant characteristics present.

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]

Submandibular neck masses present a broad differential diagnosis, with emphasis on neck 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]

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LEGENDS

[Figure 1] Pre-operative frontal view of midline submandibular neck mass.

[Figure 2] Neck CT scan with iv contrast, coronal view, with the large neck mass, just inferior and adjacent to tongue and mandible.

[Figure 3] Intraoperative view of mass in relation to hyoid bone.

[Figure 4] Operative specimen with ectopic thyroid and hyoid bone.





