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Case Report

Huge Lingual Thyroid

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Abstract

Lingual thyroid (LT) is a rare developmental thyroid anomaly usually affecting. Although the exact pathogenesis of this ectopic, accessory thyroid tissue is not known, it generally originates from epithelial tissue of non-obliterated thyroglossal ductus. In this report, a case of lingual thyroid in a 45- year old male patient with difficulty in breathing and swallowing complaints for five years is presented and the role of ultrasound (US) is emphasized.

Keywords: Lingual thyroid; Huge; Ultrasound

Introduction

Lingual thyroid (LT) is a rare developmental thyroid anomaly usually affecting females. It is usually located in the midline and in the base of the tongue¹. Studies revealed that approximately 1/18000 to 1/100000 live births were associated with ectopic thyroid tissue involving the tongue. Although the exact pathogenesis of this ectopic, accessory thyroid tissue are not known, it generally originates from epithelial tissue of non-obliterated thyroglossal ductus¹⁻². In this report, a case of lingual thyroid in a 45- year old male patient with difficulty in breathing and swallowing complaints for 5 years is presented and the role of ultrasound (US) is emphasized.

Case report

A 45-year old male had suffered from a lump in the throat sensation, dysphagia, body weight loss, and “hot potato” voice for a long time. There was no evidence of hoarseness. A laryngoscopic examination revealed a huge mass 6 ×6 cm, over the midline base of the tongue above the epiglottis (Fig1). It had a smooth surface with engorged vessels, and the lesion could be seen directly when the tongue was pulled forward. No other abnormalities were noted in the physical examination. A technetium Tc 99 m thyroid scanning demonstrated no indication of functioning thyroid tissue in the bilateral thyroid beds, and there was no abnormal focal area of increased uptake of radioactivity in the oral cavity. The patient received iodine 131 (131I) thyroid scanning, and a lingual thyroid gland was diagnosed. The results of thyroid function tests revealed mild hypothyroidism. The patient was referred to the endocrinology department and received thyroxine suppression therapy. A computed

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tomography of the neck with enhancement revealed a 6-cm mass at the tongue base (Fig 1). A pathological examination revealed a tumor nodule, 6.5 × 5.0 × 3.0 cm, which appeared grayish brown and was rubbery with focal central retrogressive changes and a well-developed capsule. Microscopically, the tumor was composed of

columns of small-to-moderate, closely packed thyroid cells embedded in a small amount of fibrous stroma. The follicle formation was focally evident, and they were small and rarely contained colloid. The cells and nuclei were of a uniform size with rare mitotic figures.

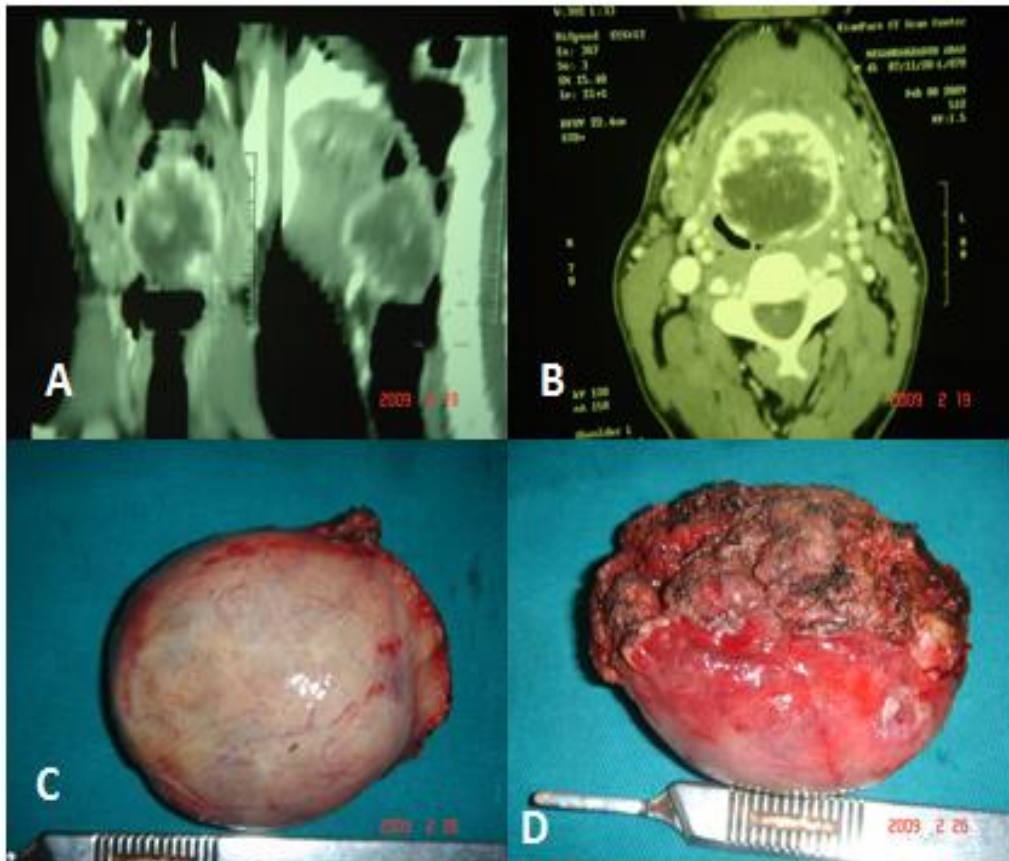


Figure 1. A 45 years old male had suffered from a lump-in-the-throat sensation, dysphagia, body weight loss, A, B: CT scan of the lingual thyroid, C, D: Excised mass

Discussion

The pathogenesis of the lingual thyroid remains unclear. Ninety percent of undescended thyroid tissue occurs at the base of the tongue known as the lingual thyroid³. Lingual thyroid tissue may be present as a painless, midline, non-tender, and reddish swelling at the base of the tongue with a surface that may be smooth or irregular with or without prominent blood vessels. An ectopic thyroid gland may have large blood vessels on its surface, so that massive hemorrhaging is possible⁴⁻⁶. Large masses can be life-threatening because of airway obstruction, and they increase the possibility of massive bleeding. In our case, massive bleeding from the lingual thyroid was noted two months ago. The possible cause may be the result of an increased blood flow and relative

insufficiency of hormone or a neoplastic change during the time. The lingual thyroid then became larger and carried more blood vessels over its surface. Even a small ulceration could have induced devastating bleeding. The diagnosis of a lingual thyroid is not difficult. It can be confirmed by scanning either with ¹³¹I or Technetium Tc 99m or with an unenhanced computed tomographic scan. Radionuclide scanning confirms the diagnosis and avoids the need of a diagnostic biopsy. Histologic confirmation is usually not necessary unless computed tomographic scanning is negative or unless malignancy is suspected⁶.

Approximately 70% of patients will have various degrees of hypothyroidism, and between two thirds and three quarters of patients with symptomatic lingual thyroids have no other functional thyroid tissues⁴⁻⁵. In our case computed tomography of the neck and thyroid

scan indicated that the lingual thyroid was the only functioning thyroid, and a thyroid function test demonstrated mild hypothyroidism; therefore, the patient received thyroxine suppression therapy. The ectopic thyroid tissue is usually unable to handle changes in metabolic demand; consequently, it can enlarge and may exhibit goitrous changes. After the operation we rechecked the patient's serum calcium level, and the results were within the reference range. This result proved that the parathyroid was not affected in this lingual thyroid patient. Treatment of the lingual thyroid depends on its size, the presence or absence of symptoms, and complicating factors such as ulceration, hemorrhage, malignancy, or airway obstruction. All patients should have lifelong thyroxine suppression even those who are asymptomatic and who initially have only a small lingual thyroid because such therapy will prevent subsequent enlargement of the lingual thyroid, diminish the risk of malignancy, and prevent the onset of hypothyroidism⁶, although the size of the ectopic tissue is rather slowly diminished. Patients with airway obstruction, dysphagia, suspected malignancy, ulceration, and hemorrhaging or those who fail thyroxine suppression therapy should undergo ¹³¹I ablation or surgical excision of the thyroid tissue with or without auto-transplantation. But for a patient exhibiting lingual thyroid during pregnancy, surgical treatment is the first choice. After the lingual thyroid had been diagnosed, this 46-year-old man received a regular thyroxine supply in the endocrinology department to prevent hypothyroidism. But the size of the lingual thyroid in this patient became larger, and ulceration over its surface was noted. Massive bleeding in the ectopic lingual thyroid is an indication for surgical intervention. Embolizing the main feeding artery to the lingual thyroid before the operation is a mandatory step for hemostasis and reducing the bleeding in the surgical field. Ectopic thyroid should be considered during the evaluation of a midline neck mass or hypothyroidism. Careful clinical examination, thyroid function tests, and radionuclide imaging help establish the diagnosis and localize ectopic thyroid. Appropriate treatment should be decided on an individual basis.

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