

Lingual Thyroid - A Rare Clinical Entity

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Abstract

Lingual thyroid is a rare embryological aberration, consisting of thyroid tissue tumor mass located at the base of the tongue causing mostly local symptoms. Present case is a young female presented with swelling on back side of the tongue having dysphagia & foreign body sensation in throat. Oral examination showed a semispherical reddish tumor-like lesion with a vegetating surface. The diagnosis was based on the clinical features, FNAC (Fine Needle Aspiration Cytology) & radiographic imaging studies. Treatment includes surgical removal, transplantation, I-131, and thyroid replacement.

Keyword - Lingual Thyroid; NCCT; Dysphagia; ^{99m}Tc-Pertechnate Thyroid Scan.

Introduction

Lingual thyroid is a rare embryological aberration with incidence of 1:100,000. The lesion consists of a tumor mass of thyroid tissue located at the base of the tongue, in the region of the foramen caecum linguae (lingual thyroid). It appears as a mass on the base of the tongue causing mostly local symptoms often with hypothyroidism, rarely with thrive and mental retardation. The pathological findings of lingual thyroid tissue are similar to that of cervical thyroid tissue, including goitre formation. The diagnosis was based on the clinical features, fine needle aspiration biopsy, laboratory tests and radiographic imaging studies. Treatment includes surgical removal, transplantation, I-131, and thyroid replacement. Lingual thyroid identification is of great significance, since it may constitute the only functional thyroid tissue in the body.

having dysphagia, & foreign body sensation in throat since 3 years.

- ▶ No other complaints like blood stained sputum, difficulty in breathing were present.
- ▶ Patient diagnosed as hypothyroidism 6 months back taking supplement medication since then.
- ▶ On oral cavity examination showed a semispherical tumor-like lesion, reddish in colour and measured approx 2.5 cm in diameter with a vegetating surface, which on palpation revealed firm consistency without any pulsation located in the posterior midline region of the back of the tongue.
- ▶ Neck examination - Revealed neither palpable thyroid gland nor any other palpable masses.

Case Report

- ▶ A 23-year-old female presented in ENT OPD with c/o swelling on back side of the tongue

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Investigations

Ultrasonography of Neck revealed finding s/o non visualisation of thyroid gland at its normal location and a complex mass lesion in the posterior aspect of tongue region s/o lingual thyroid. NCCT Neck shows e/o well defined heterogeneous hyperdense lesion of 2.5 x 1.5 cm seen in relation to posterior part of tongue anterior to epiglottis. Normal thyroid gland parenchyma not seen anterior to trachea s/o lingual thyroid. Fine Needle Aspiration Cytology (FNAC) from the mass revealed normal thyroid tissue with few colloidal changes. Thyroid function test revealed the following concentrations: T3:- 74 ng/dl T4:- 4 µg/dl TSH:- 150 µIU/ml, s/o



Fig. 1 Photograph of oral cavity showing a semispherical tumor-like lesion.

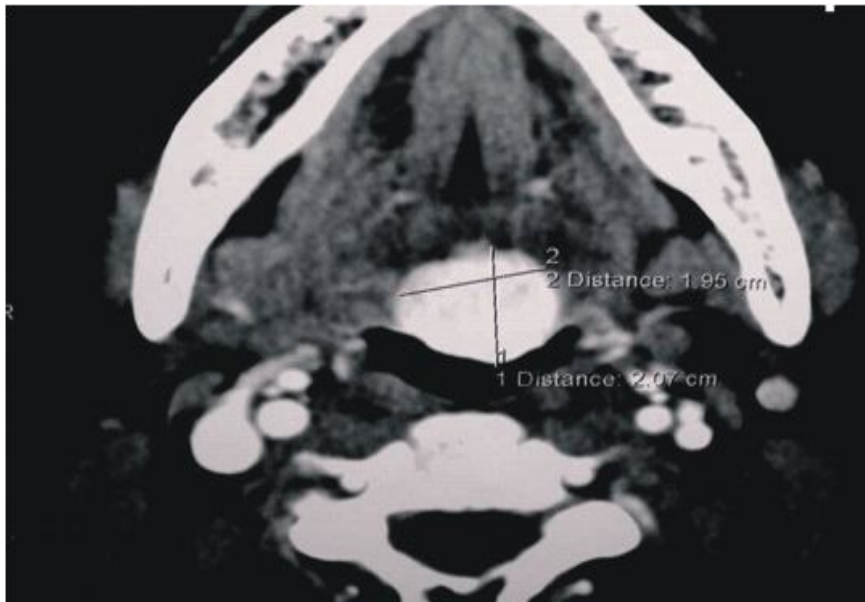


Fig. 2 Photograph of NCCT Neck showing lingual thyroid.

hypothyroid status, so supplementation treatment (levothyroxine-50 mcg/day) started and euthyroid status achieved. ^{99m}Tc -Pertechnetate Thyroid Scan: Study was completed with thyroid scintigraphy which revealed radiotracer concentration at base of tongue suggests ectopic lingual thyroid gland.

Treatment

Surgical Excision :- Patient underwent surgical excision by LASER technique under general anaesthesia by nasal intubation.

Mass excised from posterior side of tongue in total and some pieces sent for histopathological

examination and remaining parts implanted in neck under SCM on both sides.

Histopathological report : post-operative day-4 confirmed normal thyroid tissue

Differential diagnosis :-

- Lingual tonsil
- Thyroglossal duct cyst
- Malignancy
- Hemangioma
- Dermoid

Discussion

Lingual thyroid is a rare developmental thyroid anomaly, caused by the failure of the gland to descend from its anlage, early in the course of embryogenesis. It generally originates from epithelial tissue of non-obliterated thyroglossal duct[1]. Clinically, LT is relatively rare, and is identified in approximately one out of every 3000 thyroid disorders, with a 4:1 predominance in females over males[2].

Although the pathogenesis of lingual thyroid is unclear, some authors have postulated that maternal antithyroid immunoglobulins may impair gland descent during early fetal life[3].

According to some authors, patients with LT remain euthyroid, while others can suffer endocrine hypofunction(33%), with the possibility of carcinomatous transformation in 1-3% of cases[2,4]. Seventy percent (70%) of patients with LT have no thyroid tissue in its normal location[5,6]. The LT cases may present with onset of slowly progressing dysphagia and symptoms of oropharyngeal obstruction before or during puberty. This occurs as a response to the increased demand for thyroid hormone in these hypermetabolic states. Similar response is also encountered during other metabolic stress conditions like pregnancy, infections, trauma, menopause, etc.[7]

Unless emergency surgery is indicated, suppressive therapy with exogenous thyroid hormone should be tried first in order to decrease the

size of the gland. This was the case in our patient and elective surgery following the suppression therapy was planned.

Additionally, levothyroxine therapy should be initiated after surgical excision as the lingual thyroid is the only functioning thyroid tissue found in 70% of these patients[5,6].

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