

CASE REPORT

Incidental Lingual Thyroid: A Case Report and Review of Literature

Veerasigamani Narendrakumar¹, Geethalakshmi Sampathkumar²

ABSTRACT

The presence of the thyroid gland outside its compartment is defined as ectopic thyroid. It is an abnormal embryological development. When present in the base of the tongue, it is lingual thyroid. We report this case of incidental lingual thyroid during routine clinical examination and highlight the importance of endoscopic examination in otorhinolaryngology.

Keywords: Hypothyroidism, Lingual thyroid, Videolaryngoscopy.

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INTRODUCTION

Ectopic thyroid is characterized by the presence of thyroid tissue other than its normal position. It was first described by Hickman in 1869.¹ Its prevalence rates vary with 1 in 100,000 to 1 in 300,000 and incidence is 1:100,000. It is seven times higher in females.² Ectopic thyroid gland is due to an embryologic anomaly, which occurs in the process of thyroid migration and development. The thyroid gland is derived from an endodermal thickening in the floor of the primitive pharynx. It arises between the first and second branchial arches, which develops on the 24th day of intrauterine life. Initially, it is localized at the boundary between the body and the base of the tongue. By the 7th week of intrauterine life, the thyroid cord forms the thyroglossal duct, and it descends becoming solid tissue, localized at the height of the embryologic laryngeal-tracheal skeleton.³

CASE REPORT

A 37-year-old male came to our outpatient department with complaints of throat pain, belching, and occasional difficulty in swallowing for the past 6 months. He was diagnosed and treated for gastroesophageal reflux disease for a longer duration by a physician elsewhere. On ENT examination, ear and nose were normal and on videolaryngoscopy, showed small smooth reddish swelling of 1 cm diameter attached to the base of the tongue (Fig. 1), which was not visualized during routine throat examination. Computerized tomography scan of the neck showed lingual thyroid with no thyroid gland in the pretracheal region (Figs 2a and b). Thyroid function test showed hypothyroidism TSH—23.17 μ U/ml (0.45–4.5), T3—103.9 ng/dl (70–204), and T4—6.20 μ g/dl (4.87–11.72). He was started on levothyroxine at the dose of 100 μ g/day. After a follow-up of 3 months, he was symptomatically improved and repeat thyroid function tests were normal.

DISCUSSION

Lingual thyroids are of four groups, and they are lingual, sublingual, thyroglossal, and intralaryngeal.⁴ Pathogenesis remains unknown. Suggestions define that maternal antibodies may arrest the descent of thyroid tissue and that the incidence of this disease among family members can be higher if compared to the general population.⁵

¹Pragathi ENT Clinic, Chennai, Tamilnadu, India

²Pragathi Endocrine Clinic, Chennai, Tamilnadu, India

Corresponding Author: Veerasigamani Narendrakumar, Pragathi ENT Clinic, Chennai, Tamilnadu, India, Phone: +91 9080250830, e-mail: drnarenkapv@yahoo.com

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The mutational genes responsible for thyroid migration are Nkx 2-1, Nkx 2-5, PAX8, and Foxe1.¹ Symptoms may vary depending upon the lingual thyroid size. They are dysphagia, dysphonia, cough, and snoring.⁶ Rapid dimensional increase of ectopic tissue during hypermetabolic conditions, such as, pregnancy, infections, trauma, and menopause, is helpful in diagnosis.³ CT scan of the neck will demonstrate the lingual thyroid in axial and sagittal planes.⁷ On MRI, lingual thyroid tissue is seen as iso- or hypointense to the tongue

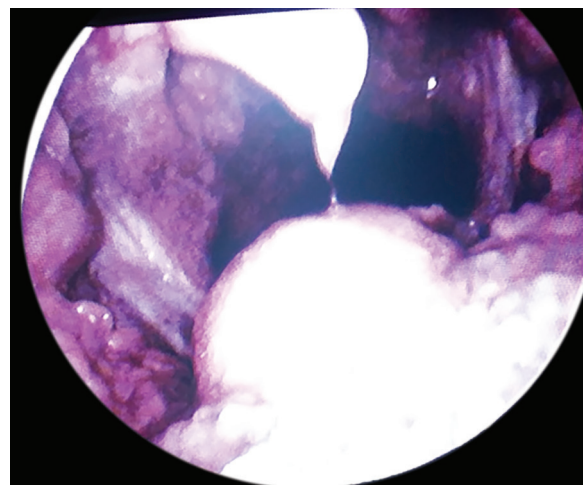


Fig. 1: Videolaryngoscopy picture showing lingual thyroid

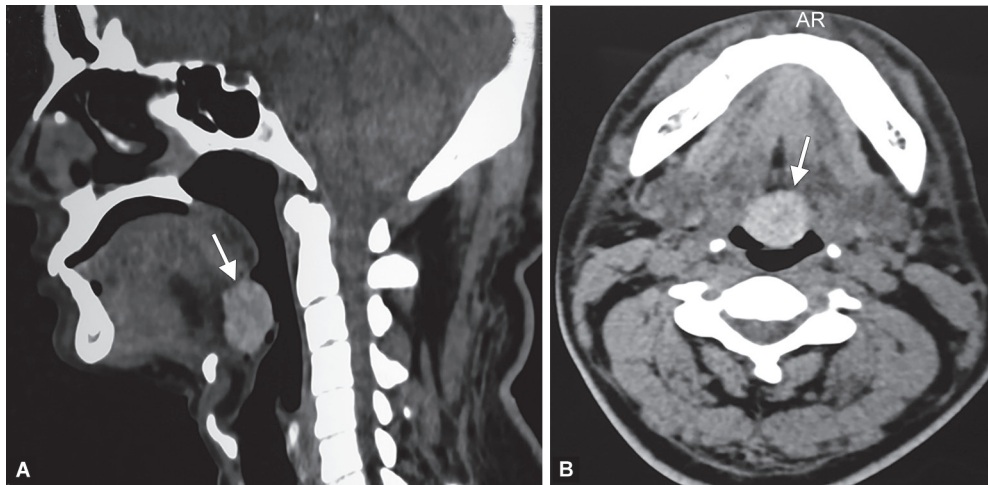


Fig. 2: (a) CT scan of the neck—sagittal cut (b) CT scan of the neck—axial cut showing lingual thyroid

muscles in T1-weighted sequences and more hyperintense than the tongue muscles in T2.⁸

Branchial cleft cysts, lingual thyroglossal cyst, metastatic thyroid carcinoma, lymphatic malformations, dermoid cysts and epidermoid cysts, lingual abscesses, and squamous cell carcinoma of the base of the tongue are few differential diagnosis.³ The case highlights the importance of presurgical evaluation of the broader medical history and the role of multidisciplinary communication.⁹

Medical treatment is hormone replacement therapy with thyroxine, which aims both to restore thyroid function and to avoid the development of ectopic tissue to prevent surgery.¹⁰ Surgical excision is the treatment for lingual thyroid, but it should be attempted until radioactive isotope scan has determined that there is an adequate thyroid tissue in the neck. In patients lacking thyroid tissue in the neck, lingual thyroid can be excised and autotransplanted to the muscles of the neck.¹¹

Many surgical approaches are described, such as, transoral route, transhyoid route, suprahyoid, and lateral pharyngotomy, in which transoral route is the preferred approach avoiding deeper structures complications, such as, lingual nerve injury and deep cervical infections.¹²

Lingual thyroid presence should be considered in all patients with a midline area of radioiodine uptake at the level of the chin, especially if it is approx resistant to radioiodine ablation.¹³

CONCLUSION

In general, ectopic lingual thyroid must be taken into consideration as a differential diagnosis when a mass lesion is observed in the tongue base even incidentally, and it must be verified using ultrasonography, scintigraphy, and CT and MRI scans. Treatment protocol depends upon the symptomatology.⁸ This case is reported due to the advantage of endoscopy and treatment of incidental lingual thyroid.

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