Case Report

# Ectopic thyroid with thyrotoxicosis: Rare presentation of lingual thyroid in child

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**Abstract**

Lingual thyroid is a rare anomaly exact pathogenesis of which is not known. It is a common presentation of ectopic thyroid. Occurs in about 1 in 100,000 populations. It's common in females, but very rare in children. Usually associated with euthyroid or hypothyroid condition. Association with thyrotoxicosis is rare. Dysphagia and dysphonia are common symptoms with which patient presents.

**Key Words:** Lingual thyroid, Thyrotoxicosis.

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## INTRODUCTION

Lingual thyroid occurs due to failure of the thyroid gland to descend to its normal position, during embryogenesis. In this condition, ectopic thyroid gland is located at the base of the tongue. Thyroid descends from foramen caecum and reaches its final position in front of the trachea at base of neck by 7th week. Ectopic thyroid tissue may occur anywhere in this tract at the time of descent. Lingual thyroid is the most common ectopic site of thyroid gland. Most of the times, it is asymptomatic. It's commonly associated with hypothyroidism. Association with thyrotoxicosis is rare, with only a few cases reported in the literature.

## CASE REPORT

A 12 year old girl presented to our general surgery department OPD with complaints of dysphagia. Associated with complaints of increased sweating, weight loss, heat intolerance and altered bowel habits. On general physical examination, the patient had an increased pulse rate of about 110 per min. Oral examination showed a fleshy mass in midline at the base of tongue with congested vessels over its surface. It was a firm, non-tender mass. It moved along with tongue movements. No neck mass was noted. Her thyroid function tests were done, which revealed, raised serum free T3 and free T4 levels but decreased levels of thyroid stimulating hormone, suggestive of thyrotoxicosis. The results were: T3 5.8 pg/ml, T4- 20 pg/ml and TSH-0.01 uIU/ml against the normal values 1.212 to 4.18, 8.9 to 17.2 and 0.3 to 4.5 respectively. Contrast enhanced computed tomography (CECT) scan of the neck showed a hyperdense lesion of 2.2x 1.9 cm, causing narrowing of oropharynx. Pyriform fossa, vocal cord normal. Thyroid fossa empty. Patient underwent $^{99m}$Tc thyroid scan, which showed increased asymmetrical tracer concentration in the midline of neck, in lingual region. Functioning of native thyroid tissue not seen in the thyroid bed. From the swelling fine needle aspiration cytology (FNAC) was done, which revealed normal thyroid follicular cells, consistent with thyroid tissue. Hence patient was diagnosed as a case of lingual thyroid with thyrotoxicosis. In view of the fact that lingual thyroid is the only thyroid tissue and considering reluctance of patients' relatives to undergo surgery, tablet carbimazole was started 20 mg once daily. It was given for six months initially. Follow-ups were done every three months. After 6 months of therapy with carbimazole, neither did patient have relief in symptoms, nor decrease in size of swelling. Hence surgical resection of the gland was planned via oral approach. Under general anesthesia via nasotracheal intubation, resection was carried out. Post operative

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period was uneventful. Patient was discharged on the sixth post operative day. Levothroxine 5mcg/kg/day was started in post operative period. Patient was reviewed at first, third month and 6 months and was symptom free. Patient is on regular follow-up.

## DISCUSSION

First lingual thyroid case was reported in 1869 by Hickmann. During embryogenesis, thyroid gland appears as an endodermal tissue proliferation. This proliferation occurs in the floor of the pharynx, between first and second branchial arches. Lingual thyroid with thyrotoxicosis is a rare entity. Even more rarer in paediatric age group/children. Management of lingual thyroid varies from medical management to surgical excision. Medical management aims at achieving euthyroid status for the patient. Surgical excision of lingual thyroid and radioactive ablation using iodine-131 are other treatment options available.

**Figure 1:** Firm, fleshy non-tender mass in midline at the base of tongue

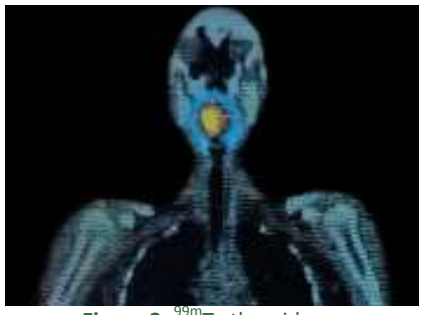

**Figure 2:** $^{99m}$Tc thyroid scan

## CONCLUSION

Lingual thyroid management still remains controversial. When the patient is asymptomatic and in euthyroid state, no treatment is required. Patient has to be educated about chances of complications and follow up. Complete surgical removal of the gland has been considered as appropriate treatment by some surgeons, considering the chance of malignancy. In patients presenting with mild clinical symptoms, elevated TSH concentration; a trial of thyroid hormone as substitutive therapy may be given. This might help in a slow reduction in size of the mass. In older patients, ablative therapy with radioiodine is recommended. But due to potential damage to gonads and other organs, this must be avoided in children. Surgery is considered the treatment of choice in symptomatic cases or in those with failure of medical therapy. Different surgical approaches for excision of the mass via external approaches like lateral pharyngotomy or trans-hyoid have been mentioned in various studies. Trans-oral ablation is another method which helps in avoidance of injury and complication. Hence it may be concluded that conservative treatment can be tried in patients with mild symptoms, while in those having symptoms, airway obstruction surgery is considered better.

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