

**CYTOLOGICAL DIAGNOSIS OF LINGUAL THYROID IN A YOUNG BOY –  
A RARE CASE REPORT**

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**ABSTRACT**

The aim of the article is to present a rare case of lingual thyroid in a young boy by fine needle aspiration cytology. Lingual thyroid is a rare anomaly with a reported overall prevalence of 1 in 100,000 and is seven times more common in females than in males. The diagnosis of lingual thyroid is usually made clinically, fine needle aspiration cytology and radionuclide scanning is used to confirm the diagnosis. Even though most of the lingual thyroid glands contain histologically normal tissue, there are reports of carcinoma arising within a lingual thyroid. So, early diagnosis and treatment of lingual thyroid is essential with regular follow up.

**Keywords:** Fine needle aspiration cytology, Lingual thyroid, Young boy

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**1. Introduction:**

Lingual thyroid is a rare anomaly with an overall prevalence of 1 in 100,000. Other sites of local thyroid deposition include the cervical lymph nodes, sub mandibular glands and the trachea.<sup>1</sup> It is 7 times more common in females compared to males.<sup>2</sup> Hypothyroidism appears in 33% of cases in various degrees, especially in the young patients.<sup>3</sup> Even though most of the lingual thyroid glands contain histologically normal tissue; there are reports of carcinoma arising within a lingual thyroid.<sup>4</sup> The diagnosis is based on the clinical features, fine needle aspiration biopsy, laboratory tests and radiographic imaging studies.<sup>5</sup>

The rarity of the condition in males and the paucity of publications in the literature regarding diagnosis by fine needle aspiration cytology interested us to publish this case.

**2. Case Presentation:**

We present a case of 10-year-old young boy who presented with complaints of progressive dysphagia since 6 months to our ENT outpatient department. His past medical history was not significant. Her mother denied receiving any medications during pregnancy. On physical examination a smooth, rubbery and reddish mass measuring 2 cm x 3 cm was noted at the base of the tongue (Fig 1). Neck examination revealed neither palpable thyroid gland nor any other palpable masses e.g. lymph nodes. Thyroid function tests revealed euthyroid levels. Other laboratory tests were within normal limits. Thyroid ultrasound scan revealed the absence of thyroid gland in the neck region. Technetium (Tc99m) thyroid scan, revealed isotope uptake at

the base of the tongue and no uptake in the normal thyroid location.

The diagnosis of lingual thyroid was confirmed on fine needle aspiration cytology which revealed normal thyroid tissue with admixed squamous cells and occasional cyst macrophages (Fig 2).

Suppression therapy with thyroid hormone is being given from last three weeks and he is under follow up and keeping fine with reduction in size of swelling.

**3. Discussion:**

Hickmann recorded the first case of lingual thyroid in 1869. Montgomery stressed that for a condition to be branded as lingual thyroid, thyroid follicles should be demonstrated histologically in tissues sampled from the lesion.<sup>2</sup> Lingual thyroid (LT) is a rare developmental thyroid anomaly usually affecting females. In our case it was a male patient. It is usually located in the midline and in base of the tongue. Although the exact pathogenesis of this ectopic, accessory thyroid tissue is not known, it generally originates from epithelial tissue of non-obiterated thyroglossal ductus.<sup>6</sup>

Dysphagia, dysphonia, pain, bleeding and “fullness in the throat” are included among the presenting symptoms. There is no age predisposition and can be seen in every age.<sup>6</sup> The clinical presentation of LT could be classified into two groups according to the appearance of the symptoms. The first group consists of infants and children who had the abnormality found during routine screening. Second group consists of patients with dysphagia and oropharyngeal obstructive symptoms during or before the

puberty; our patient belonged to this group. As a response to the increased demand for thyroid hormone during puberty, hypertrophy of the gland is seen. A similar response is also encountered during other metabolic stress conditions like pregnancy, infections, trauma, and menopause etc.<sup>7</sup>

In about 70% of the patients with LT there is an absence of normal thyroid gland. For that reason if surgical removal of the mass is planned, scintigraphic and radiological examinations together with laboratory tests like fine needle aspiration cytology should be performed to reveal ectopic thyroid tissue.<sup>6</sup> There was no normal thyroid gland on scintigraphic and radiological examinations in our case.

Unless emergency surgery is indicated, suppressive therapy with exogenous thyroid hormone should be tried first in order to decrease the size of the gland.<sup>2</sup> In our case suppression therapy was planned.

#### Conclusion:

To conclude, although lingual thyroid is an uncommon lesion, it should be considered in the differential diagnosis of masses in the oropharynx and ultrasonography and fine needle aspiration cytology should be employed for early diagnosis and treatment.

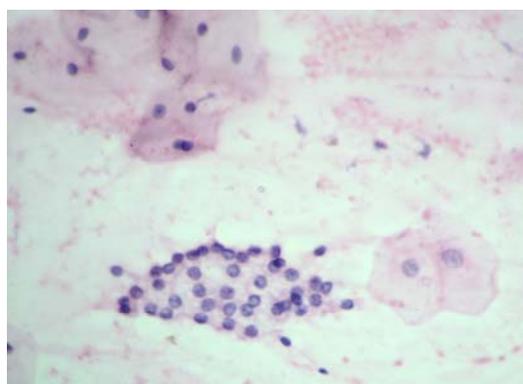
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**Figure 1: Photograph showing mass at the base of the tongue.**



**Figure 2: Photomicrograph showing cluster of thyroid follicular cells with squamous cells.**



(Fine needle aspiration cytology smear – H & E stain 40X).