

CASE REPORT

Lingual thyroid with coexisting normal thyroid (one lobe) in neck

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ABSTRACT

Ectopic thyroid tissue not located anterolaterally to the second and fourth tracheal cartilage is rare. In majority of the cases, it is located in the midline between foramen cecum and the usual location of thyroid gland in the neck. Most often, it is found in the base of the tongue. We present a case of lingual thyroid with hemi-agenesis of right lobe and colloid nodule in left lobe presenting with difficulty in breathing and swallowing with choking episodes since the last 9 months. The patient was operated upon under general anesthesia, and the lingual mass was removed intraorally leaving a minimal part and sent for histopathological examination, which ultimately confirmed the diagnosis of lingual thyroid tissue. We are presenting this case for its rarity in general practice and because of its unusual presentation.

Key words: Base of tongue, dysphagia, lingual thyroid

INTRODUCTION

A lingual thyroid is relatively rare and it represents the most common location for functioning ectopic thyroid tissue. Lingual thyroid tissue is usually associated with an absence of the normal cervical thyroid tissue. The diagnosis is usually made by the discovery of an incidental mass on the back of the tongue that may enlarge and cause dysphagia, dysphonia, dyspnea, or a sensation of choking. Hypothyroidism is often present and may cause the mass to enlarge and become symptomatic, but hyperthyroidism is very unusual. The usual treatment of this condition is thyroid hormone therapy to suppress the lingual thyroid and reduce its size. Only rarely is surgical excision necessary. Here we present a case of 16-year-old girl with mass at the base of the tongue (lingual thyroid) presenting with difficulty in breathing, which was excised surgically.

CASE HISTORY

A 16-year-old adolescent girl presented with mass at the base of the tongue and with difficulty in breathing and swallowing, with occasional choking episodes (during sleep) since the last 9 months [Figure 1]. Her father initially noticed the mass incidentally when she was 7 years of age. The mass gradually increased in size but was asymptomatic until 9 months back when the patient started having choking spells in the night.

On examination, a red, smooth-surfaced hemispherical mass at the base of the tongue with dilated blood vessels over its surface was found. The mass was moving in oropharynx with deglutition. Initially a diagnosis of vallecular cyst

was made. On palpation, the mass was found to be smooth, solid, nontender and nonfragile. On external palpation, there were no palpable neck nodes and the laryngeal framework was normal. There was no significant finding on other general, physical, or ENT examination except for labored breathing. Indirect laryngoscopy was not possible because the mass was obstructing the passage.

Plain radiograph soft tissue neck, lateral view, showed soft tissue shadow at the level of base of the tongue just above the epiglottis obstructing the airway. CT scan showed a well-defined hyperdense soft tissue mass of size $2.6 \times 2.4 \times 2.4$ cm arising in right side of vallecula, seen more in the midline at the base of the tongue [Figure 2]. The soft tissue mass was causing slight deformity of epiglottis and glossoepiglottic fold. No lymphadenopathy was seen. Rest of the nasopharyngeal and oropharyngeal airway was normal. Thyroid profile was within normal range. Ultrasonography of thyroid showed small left lobe with a single colloid nodule in it. Right lobe of thyroid was not visualized.

Radioisotope scanning for thyroid was not performed due to economic limitations. So, the patient was explained about the postoperative complications of surgical excision of the lingual mass.

The patient was taken for surgery with proper consent under general anesthesia. The mass was removed intraorally retaining a minimal part of the tissue and sent for histopathological examination. Postoperative period was uneventful. Postoperative indirect laryngoscopic examination showed adequate airway.

Histopathology showed numerous, varying sizes of thyroid follicles beneath posterior lingual mucosa and lingual lymphoid follicles [Figures 3-4]. The thyroid follicles were filled with eosinophilic colloid and lined by cuboidal to

columnar, moderately active follicular cells [Figures 5-6].

Postoperative thyroid profile performed after 3 weeks of surgery showed hypothyroid hormone status.



Figure 1: Preoperative photograph of the patient showing mass at the base of tongue, obstructing the airway

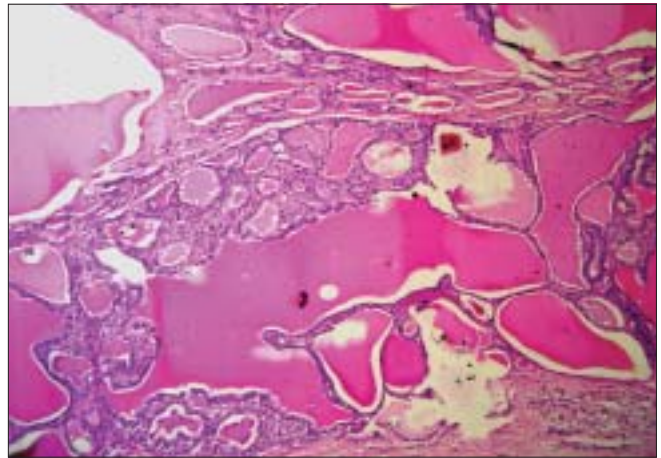


Figure 4: Varying sizes of thyroid follicles filled with eosinophilic colloid and lined by follicular cells (H and E, 10x)

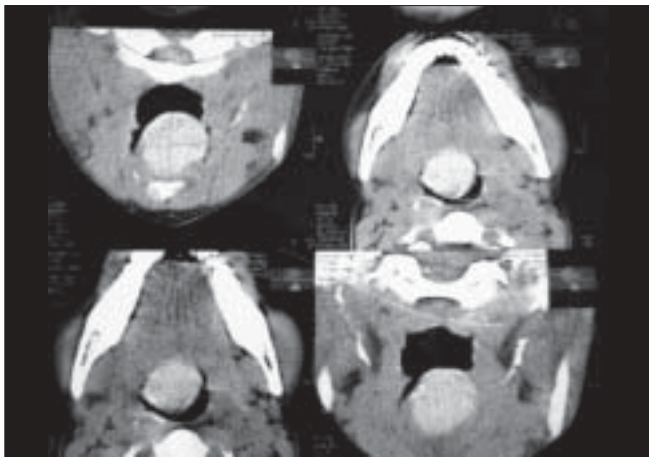


Figure 2: CT scan showing well defined hyperdense soft tissue mass in the right side of vallecula

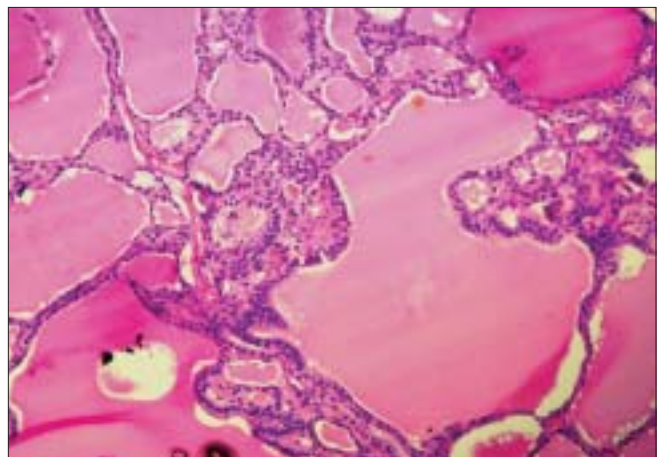


Figure 5: Thyroid follicles with eosinophilic colloid and lined by moderately active follicular cells (H and E, 20x)

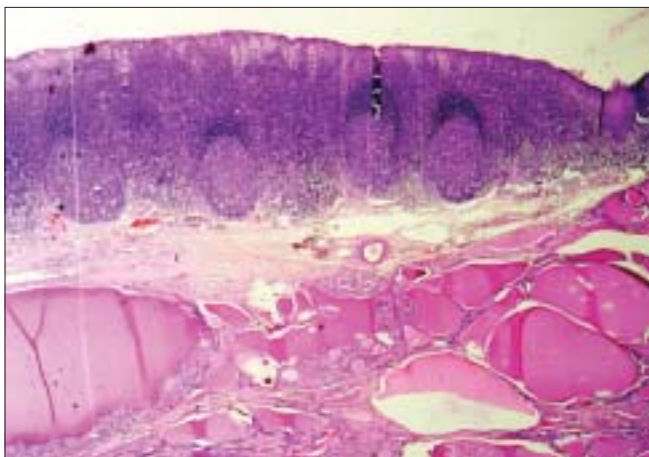


Figure 3: Photomicrograph showing lingual lymphoid follicles and thyroid follicles beneath (H and E, 4x)

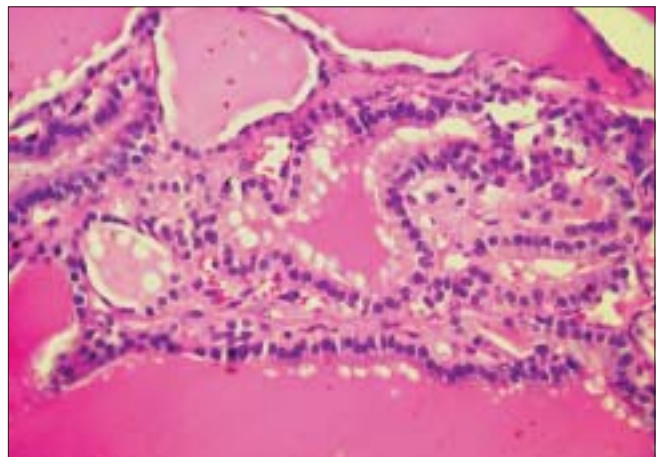


Figure 6: Thyroid follicles lined by cuboidal to columnar shaped, moderately active follicular cells (H and E, 40x)

DISCUSSION

Thyroid gland descends from posterior dorsal midline of tongue to the region in front of second to fourth tracheal ring in neck. Anomalies of descent lead to ectopic thyroid mass, which may be found anywhere between foramen cecum and its usual position in neck. Majority of the ectopic thyroids are found in lingual dorsum, where they are called lingual thyroids. The presence of ectopic thyroid tissue has also been reported at other midline locations of the neck near the hyoid bone,^[1] larynx and trachea,^[2] mediastinum,^[3] and esophagus.^[4]

The pathogenesis of this condition remains unclear. It has been postulated that maternal antithyroid immunoglobulins may arrest the descent of the thyroid and predispose the patient to poor thyroid function later in life.^[5] The incidence of lingual thyroid varies between 1:3000 and 1:100,000,^[6] and affected individuals have no other thyroid tissue in 70% of the cases.^[7,8]

The age at presentation ranged from 6 to 74 years,^[9] with marked preference toward females, the ratio ranging from 4:1 to 7:1.^[10,11] The clinical evidence of hypothyroidism is found in up to 33% of the patients.^[12] Even though most of the lingual thyroid glands contain histologically normal tissue, there are reports of carcinoma arising within a lingual thyroid.^[13] Only one third of the patients with lingual thyroid have thyroid tissue in neck, as in the present case. Male-to-female ratio is 1:4. Most of the times, it is asymptomatic with small size (less than 1 cm); but sometimes, as in the present case, it can attain larger dimensions and cause symptoms pertaining to airway obstruction. This makes the present case extremely rare because of the associated neck thyroid mass and normal preoperative thyroid hormone status.

Usual lines of management include surgery and radioiodine therapy. Since in the present case the mass was obstructing the airway, surgery was preferred.

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