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CASE REPORT

Persistent cough in a lethargic child: Watch out for lingual thyroid!

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Summary Lingual thyroid presenting as persistent cough and subclinical hypothyroidism is a rare presentation but recognition is nevertheless important. We present one such case and its successful management.

1. Introduction

Lingual thyroid is a rare anomaly resulting from migration defect. It has been identified in 10% of the tongues examined in some autopsy series [1]. An ectopic thyroid may become symptomatic when it develops goitorous enlargement due to physiological needs or any other cause. Although clinical examination is often sufficient, imaging is often required. While the role of CT and MRI is well documented, high resolution ultrasound remains the ideal initial investigation of choice, particularly in children as it does not involve ionizing radiation or sedation, is readily available, inexpensive and provides the surgeon with the necessary preoperative information [2].

2. Case report

A 12-year-old-female child presented to our outpatient clinic with complaints of cough for the last 1 month. There was no history of lethargy, loss of appetite or excessive weight gain. Further enquiry revealed that there is presence of a slowly increasing mass at the base of tongue for past 1 month. Careful oropharyngeal examination revealed a smooth pinkish mass of size 2 cm × 2 cm fixed at base of tongue and covered with normal mucosa (Fig. 1). There was no palpable swelling in the neck. The results of her routine investigations were normal but thyroid function tests showed marginally low levels of tri-iodothyronine (T3) and thyroxine (T4) and significantly raised values of thyroid stimulating hormone (TSH). High frequency ultrasound examination showed a well-defined hypoechoic solid mass at the base of tongue of size 2.0 cm × 2.6 cm and absence of thyroid tissue in the neck region. On color Doppler examination, blood flow was seen in the mass at the base of

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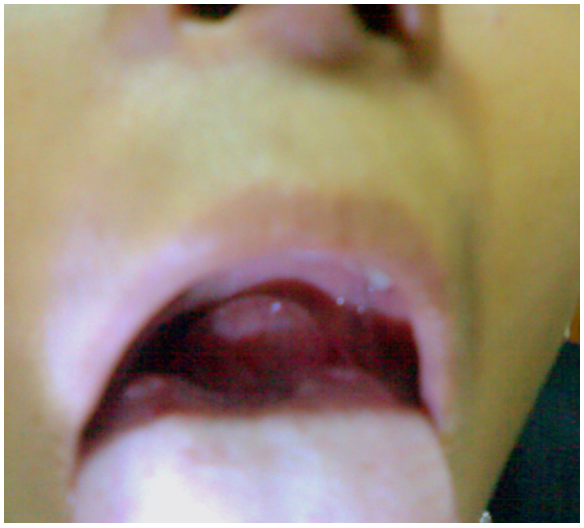

Fig. 1 Clinical photograph showing smooth rounded swelling at the base of the tongue.

tongue (Fig. 2). Thyroid technetium scan revealed a focal area of increased tracer uptake corresponding to the clinically visible swelling (Fig. 3). There was no tracer uptake in the area of normal thyroid gland. The child was put on replacement therapy without any surgical intervention. After 4 weeks of follow up, symptoms disappear and the mass gradually became smaller in size.

3. Discussion

Embryologically, the thyroid gland develops as an epithelial outgrowth of the pharyngeal floor at the level of future foramen cecum. It begins to grow downward as the thyroid diverticulum, passing ventral to the developing hyoid bone and cartilages

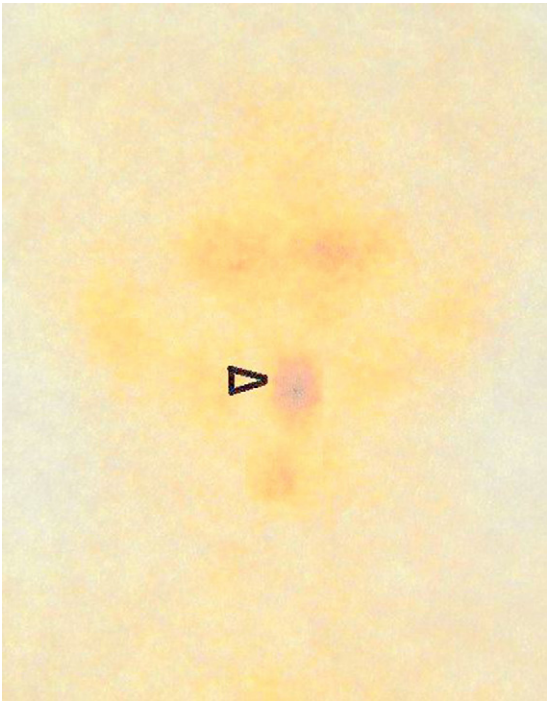

Fig. 3 Nuclear scan of the neck depicting the uptake of tracer corresponding to the area of swelling.

and ultimately lies in front of the second tracheal cartilage ring [3]. The failure of migration of thyroid tissue along the path from ventral floor of pharynx to its normal location and sequestration within the tongue substance leads to the development of lingual thyroid [4]. It occurs in one in 100,000—300,000 persons [5]. Other common sites for ectopic thyroid tissue are sublingual, submandibular, prelaryngeal, tracheal, laterocervical, esophageal and substernal [6,7]. Most of the cases are asymptomatic and the condition may remain

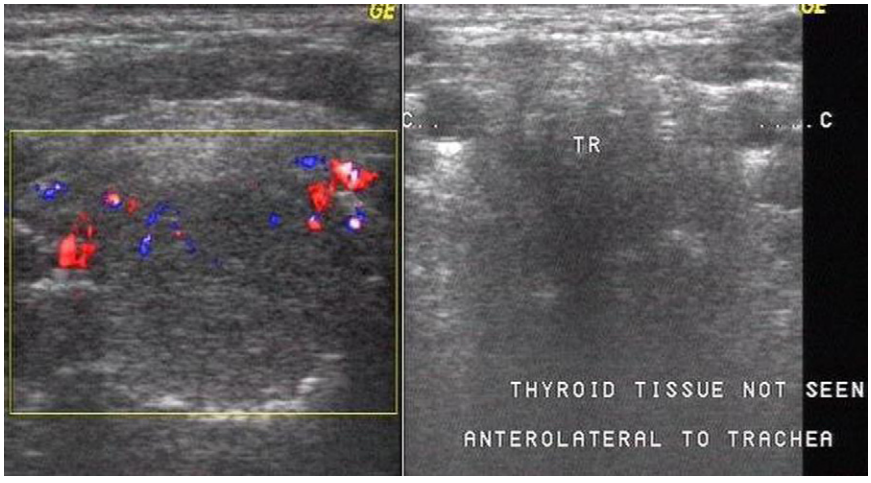

Fig. 2 Color Doppler of the patient showing a well-defined hypoechoic structure at the base of tongue with blood flow and at the same time absence of normally located thyroid gland in the neck.