LINGUAL THYROID IN CHILDREN

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INTRODUCTION: Lingual thyroid is a rare embryological anomaly, the incidence being 1/100000 population, that originates from failure of the thyroid gland to descend from the foramen caecum to its normal prelaryngeal site. The ectopic gland, located at the base of the tongue is often asymptomatic, but may cause local symptoms such as dysphagia, dysphonia, stomatologia, upper airway obstruction and haemorrhage, often with hypothyroidism. This infrequent congenital anomaly is often asymptomatic, until a pathologic stress such as systemic disease or physiologic stress such as puberty causes enlargement of ectopic tissue, leading to dysphagia, dysphonia stomatologia. A six year old girl child presented with complaints of mass over the base of tongue, noticed since six months, with no other symptoms in this case report the presentation, diagnosis and management of this condition are highlighted.

CASE REPORT: A six year old female child presented with the complaints of swelling over the base of the tongue, with no other complaints/difficulties such as dysphagia, dysphonia, stomatologia or difficulty in breathing. The swelling was noticed by the parents six months back. The swelling is of the same size since then. There was insignificant medical history and no history of dysphagia, dysphonia, stomatologia, delayed developmental milestones and mental retardation. She weighed 16 kgs and her height was 90 cms. Physical examination revealed a solid pink spherical mass covered with intact mucosa, located at the base of the tongue measuring 1.8cms X1.4cmsX 2cms, obstructing the visualization of larynx, which was nontender, fixed and firm in consistency (figure-1)

The clinical examination revealed no palpable thyroid gland, in the normal pretrecheal position and no cervical lymphadenopathy. Ultrasonic scan of the neck showed nonvisualsation of thyroid in its normal position. X-ray of the chest was normal. CT(computerized tomography) of the neck revealed hyperdense area of 110-130 HU ,measuring about 1.8X1.4 cms noted at the base of the tongue in midline. Normal thyroid tissue was not made out in the neck region. Thyroid function tests revealed thyronormalcy, other laboratory tests also were within normal range. FNAC of the swelling under general anesthesia was done. Smear prepared showed colloid

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and follicular epithelial cells, arranged in small clusters and in follicular pattern. Numerous pigment laden histiocytes and occasional multi nucleated histiocytes were noted. No malignant cells were seen. Pathologist gave an opinion that cytological features were suggestive of lingual thyroid. She was diagnosed as a case of ectopic lingual thyroid with euthyroid state. As the lingual thyroid was causing no difficulty of whatever sort, to the child and being in euthyroid state, parents were assured that no intervention was presently required .Parents were also emphasized about the need for regular follow up in due course.

DISCUSSION: Embryologically, the thyroid gland develops as the first pharyngeal derivative by an endodermal diverticulum, in the midline of the ventral pharynx between the first and second pharyngeal pouches. A diverticulum descends caudally into the loose prepharyngeal connective tissue and passes anterior to the developing hyoid bone and forms most of the thyroid parenchyma. However, parafollicular C-cells reach the thyroid by ultimobranchial bodies, which are the product of the fourth and fifth branchial pouches and form 1-30% of the thyroid weight. [1] Failure of descent of either the medial anlage of the thyroid, or the ultimobranchial bodies, and the incomplete obliteration of its vertical tract, lead to ectopic thyroid development. The ectopic thyroids are usually located in the midline from the base of tongue to the diaphragm, but can be also be present laterally. Lingual thyroid is not a very common lesion; carcinomatous change in it is very rare. The majority of carcinomas observed in the lingual thyroid are reported to be follicular. [2] Lingual thyroid is the most frequent ectopic location of the thyroid gland, although its prevalence varies between 1: 100 000 and 1 : 300 000 and its clinical incidence is reported to range from 1 : 4000 to 1 : 10000.

Ectopic thyroid tissue can also occur between the geniohyoid and mylohyoid muscles (sublingual thyroid), above the hyoid bone (prelaryngeal thyroid) and in other rare sites such as the mediastinum, precardial sac, heart, breast, pharynx, oesophagus, trachea, lung, duodenum, and mesentery of the small intestine, adrenal gland. [3] CT (computerized tomography) or MR (magnetic resonance) scans show a midline mass extending from the midline mucosal surface of the tongue base into the medial sublingual space that can resemble a thyroglossal cyst. However, nuclear scans are better to demonstrate the location of ectopic glands. [4] Thyroid scan can also reveal whether there are other sites of thyroid tissue; in approximately 75% of patients the ectopic tissue is the only functioning thyroid tissue in the body. [5] Management of lingual thyroid is still controversial. No treatment is required when the lingual thyroid is asymptomatic and the patient is in a euthyroid state; the patient has to be followed to be aware of development of complications. Malignant transformation has been described [1],[2] and, for this reason, some authors consider complete surgical removal of the gland as an appropriate treatment. [6], [7] For patients with no or only mild clinical symptoms and elevated TSH concentration, substitutive therapy with thyroid hormone may be successful, producing a slow reduction of the mass. Ablative radioiodine therapy is an alternative approach recommended in older patients or patients who are deemed unfit for surgery. This treatment should be avoided in children and young adults since the systemic doses required have potentially damaging effects on the gonads or other organs. [8] Surgical excision or radioiodine therapies are effective treatments for lingual thyroid, but no treatment should be attempted until a radioisotope scan has determined that there is adequate thyroid tissue in the neck. In patients, those with lacking thyroid tissue in the neck, the lingual thyroid can be excised and autotransplanted to the muscles of the neck. If emergency surgery is not necessary, suppression therapy should be tried first in order to decrease the dimensions of the mass. The general conditions of the patient, the

size of the lesion, and presence of local symptoms or complications, such as hemorrhage, cystic degeneration, or malignancies, are the most important conditions for planning the choice of treatment.^[9]

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Figure 1