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Case Report

Lingual thyroid with absent thyroid gland in neck

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ABSTRACT

Lingual thyroid is defined as an ectopic thyroid gland tissue located in the midline of the tongue base. Patients with lingual thyroid tissue usually present with symptoms such as dysphagia, choking, haemorrhage, dyspnea and occasionally life threatening airway obstruction. Lingual thyroid is a rare anomaly with an incidence of 1 in 3000 of the thyroid cases seen, with overall prevalence of 1 in 100,000. Here we presented a case with complaint of difficulty in swallowing and foreign body sensation throat. The intraoral examination showed spherical mass with 2 cm of diameter, covered with intact mucosa, located midline at base of tongue. She was diagnosed clinically as lingual thyroid and evaluated further. By proper transdisciplinary approach correct diagnosis can be made and patient can be managed. In present case, thyroid profile, USG neck and thyroid scintigraphy helped in diagnosis. Patient was managed medically with tablet levothyroxine which relieved her symptoms. Surgical management was not considered as patient improved with levothyroxine and surgical excision would have made patient further hypothyroid as there was no thyroid gland in neck.

Keywords: Thyroid gland, Lingual thyroid, Ectopic thyroid gland, Thyroid scan

INTRODUCTION

Lingual thyroid is defined as an ectopic thyroid gland tissue located in the midline of the tongue base.[1] Lingual thyroid is a rare anomaly with an incidence of 1 in 3000 of the thyroid cases seen, with overall prevalence of 1 in 100,000. Lingual thyroid represents most common location of functioning ectopic thyroid tissue. Other sites are cervical lymph nodes, submandibular glands and trachea. Lingual thyroid is four times common in females than in males.[2] Lingual thyroid tissue is associated with an absence of the normal cervical thyroid in 70% of cases.[3] Patients with lingual thyroid tissue usually present with symptoms such as dysphagia, choking, haemorrhage and dyspnea and occasionally life threatening airway obstruction. In addition, malignant transformation of the lingual thyroid has been reported, albeit rarely.[4] For patients with obstructive symptoms, thyroxine replacement should be introduced as initial therapy, to induce glandular shrinkage. If conservative treatment fails, then surgical removal is necessary.[5]

CASE REPORT

A 27 year old female came to ENT OPD at GGSMC hospital, Faridkot with complaint of difficulty in swallowing and foreign body sensation throat which was increasing from last 3 months. Patient was already managed as a case of lingual tonsil hypertrophy by some registered medical practitioner. A physical examination of the patient showed satisfactory mouth opening and free and palpable condyles, without changes. The intraoral examination showed spherical mass with 2 cm of diameter, covered with intact mucosa, located midline at base of tongue. She was diagnosed clinically as lingual thyroid and evaluated further. Thyroid function test, USG neck and thyroid scan were performed. Thyroid function test showed elevated TSH 9.5 IU/ml (reference value 0.30-5.5 IU/ml) and borderline low free thyroxine 0.50

ng/dl and free tri-iodothyronine 1.2 pg/ml. A thyroid scan was carried out using 99 m technetium pertechnetate in which no evidence of functioning thyroid tissue in normal thyroid bed and focal increase in tracer concentration noted in midline in posterior tongue region (uptake-0.95%] likely ectopic lingual thyroid tissue was found. USG neck showed no thyroid tissue at normal anatomical location (thyroid bed) in neck. She was diagnosed as a case of lingual thyroid with hypothyroidism and placed on tablet levothroxine 75 ug OD. During the follow up, the patient showed significant improvement in symptom and shrinkage of the lingual thyroid.

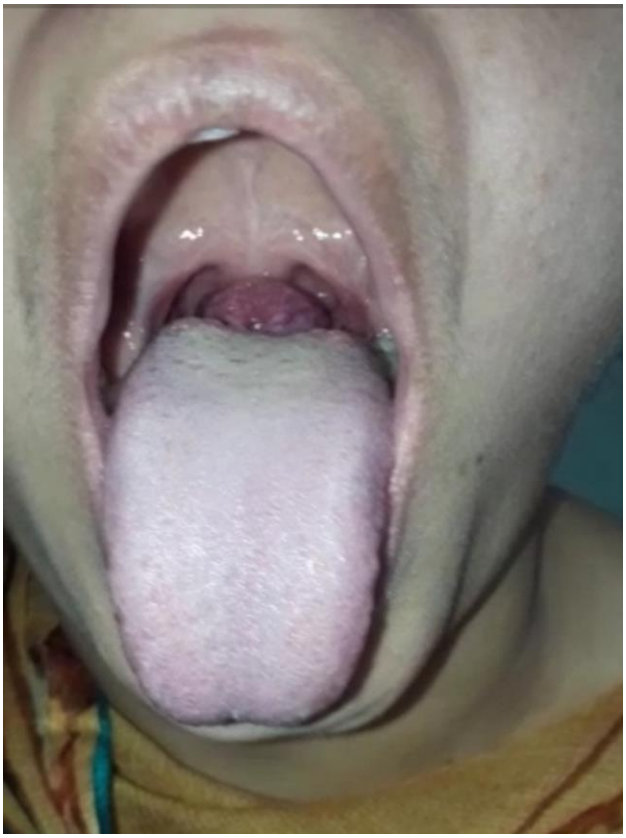

Figure 1: Mass with 2 cm of diameter located midline at base of tongue.

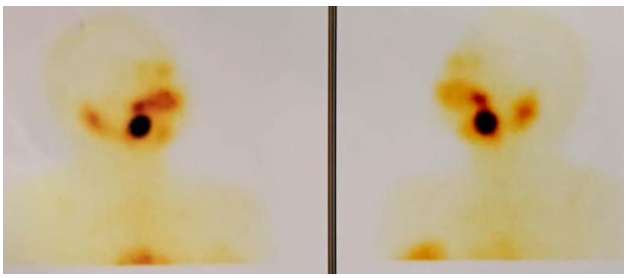

Figure 2: Thyroid scan; focal increase in tracer concentration noted in midline in posterior tongue region (uptake-0.95%) likely ectopic lingual thyroid tissue.

DISCUSSION

Lingual thyroid is a mass of ectopic thyroid tissue, located at the base of tongue, caused by a developmental anomaly of the descent of thyroid gland. The thyroid gland developed as an endodermal diverticulum between the first and second pharyngeal pouches. At the 7th week of gestation, the thyroid gland was an endodermal pouch in the foramen cecum, which was the remnant of thyroglossal tract. Normally thyroid gland descended along a path from foramen cecum in the tongue to final position in front of trachea. The failure of the migration of thyroid tissue along the path from ventral floor of the pharynx to its normal location and sequestration within the tongue substance led to the development of lingual thyroid. Most patients were asymptomatic. The mass may enlarge and cause dysphagia, dyspnea or sensation of choking. Up to 70% of the patients with lingual thyroid have hypothyroidism and 10% suffer from cretinism.

Initial evaluation included a thorough head and neck examination. Palpation and ultrasound scanning of the neck were performed to check for the presence of thyroid tissue in normal position. Thyroid function tests often demonstrated normal (euthyroid) to underactive (hypothyroid) gland function with normal to decreased levels of thyroxine (T4) and triiodothyronine (T3) and raised levels of thyroid-stimulating hormone (TSH). The uptake by thyroid of a low dose of radiolabelled technetium (99 m Tc) was diagnostic of lingual thyroid, typically showing radionuclide activity at the tongue base with no or little activity in the normal position in the neck.[6]

Treatment for lingual thyroid included non-surgical and surgical methods. Nonsurgical treatment included hormonal therapy and radioactive ablation. Using levothyroxine to suppress TSH was the mainstay of conservative treatment, aiming to correct hypothyroidism and to control gland size and local symptoms. Surgical treatment included excision alone or excision with auto transplantation into muscle. Approach for excision was oral, transhyoid and lateral pharyngotomy.[7]

Clinical significance

A lingual thyroid is a rare anomaly with incidence of 1 in 3000. We reported a case of 27 year old female who presented to us with history of dysphagia and foreign body sensation in throat. The clinical, biochemical, USG neck and thyroid scanning confirms the diagnosis of lingual thyroid with hypothyroidism. Patient was managed medically with tablet levothyroxine which relieved her symptoms. Surgical management was not considered as patient improved with levothyroxine and surgical excision would have made patient further hypothyroid as there was no thyroid gland in neck.

CONCLUSION

Lingual thyroid is a rare condition which makes its diagnosis difficult. Many medical practitioner can confuse this with other pathologies. By proper transdisciplinary approach correct diagnosis can be made and patient can be managed. In present case, thyroid profile, USG neck and thyroid scan helped in diagnosis and conservative management with levothyroxine alone relieved symptoms of the patient without any need for surgical intervention.

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