

Case Report

Pedicated cervical transposition of lingual thyroid: a novel surgical technique

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ABSTRACT

Lingual Thyroid is a rare developmental anomaly. It is the most common benign mass found at the junction of the anterior two third and the posterior one third of the tongue. It requires to be excised if it becomes symptomatic by becoming a goiter. It is usually treated medically by thyroxin suppression therapy. However, in cases where the response to medical treatment is poor, it can be excised or transposed. We present a case report of a 28-year-old female with Lingual thyroid who underwent a novel surgical cervical transposition procedure with good result.

Keywords: Lingual thyroid, Pedicated cervical transposition

INTRODUCTION

Lingual Thyroid is a rare developmental anomaly. It is the most common benign mass found at the junction of the anterior two third and the posterior one third of the tongue.¹ It results due to failure of migration of thyroid tissue along the path from floor of the pharynx to its normal location and sequestration within the substance of the tongue.² It is seven times higher in females.¹ It requires to be excised if it becomes symptomatic by becoming a goiter. It can be excised in a number of approaches. We present a case report of a 28-year-old female with Lingual thyroid who underwent a novel surgical procedure with good result.

CASE REPORT

A 28-year-old female patient presented with chief complaints of difficulty in swallowing for the past 2 years. She gave history of feeling of lump in the throat on swallowing both solids and liquids. There was no history of nausea, vomiting, any retrosternal burning or pain in the neck or difficulty in breathing. She gave history of

having been treated with thyroxin suppression therapy for the past one year with no relief of symptoms. On intraoral examination, there was a 3.2 x 2.4 cm midline swelling seen on the dorsal aspect of the tongue just posterior to the circumvallate papillae. The mass was smooth, brownish red in color, soft and non-tender palpation (Figure 1). On examination of the neck, there was no palpable thyroid tissue in the normal pre-tracheal position. There was no evidence of clinical hypo or hyperthyroidism. CT scan showed a lump at the junction of the anterior 2/3rd and the posterior 1/3rd of the substance of the tongue (Figure 2). Thyroid function tests revealed a euthyroid status. FNAC showed normal thyroid follicles from the lump. 99Tc thyroid scan confirmed the absence of cervical thyroid gland and presence of only functioning thyroid tissue in the tongue. No cervical thyroid gland (Figure 3).

As the patient had obstructive symptoms and had not responded adequately to thyroid suppression therapy, it was planned to take up the patient for a surgical procedure to relieve her symptoms. Under GA, a supra-hyoid transverse neck incision was given. Sub-platysmal skin flaps were raised. The digastric and mylohyoid

muscles were exposed. The mylohyoid muscle was split in the midline. The lingual thyroid gland was exposed. The feeding blood supply to the mass was dissected and was found to arise from the collateral branches of the lingual artery on both sides. The superior thyroid arteries were found to be absent from the external carotid artery on both the sides. The branches of the lingual artery supplying the tongue on the right side were ligated and divided preserving the main lingual artery with the supplying vessel to the lingual thyroid. The collateral branches of the lingual artery on the left side were ligated and divided to release the gland from the tongue muscles. The lingual thyroid along with its vascular pedicle consisting of the right lingual artery was mobilized and brought down to the neck and transposed under the right sternocleidomastoid muscle. The right sternocleidomastoid muscle was sutured to the other strap muscles. Patient was given postoperative antibiotics for 7 days. Postoperatively, the patient has been followed up for 18 months and there has been no further increase in the size the thyroid at the transposed site. Further, the thyroxine & calcium levels remained unchanged after 06 & 18 months.



Figure 1: Intra oral examination shows a globular swelling at the junction of Ant 2/3 and posterior 1/3 of tongue.

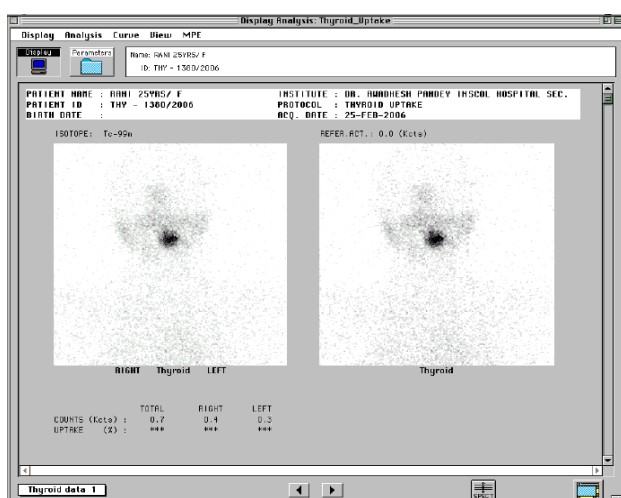


Figure 2: 99 m Tc scan shows absence of the cervical thyroid gland.



Figure 3: Shows pedicled cervical transposition of the lingual thyroid by suprahyoid approach.

DISCUSSION

Of all the ectopic thyroids, 90% are found in the lingual dorsum, where they are referred to as the lingual thyroid. About 33% of the patients show hypothyroidism findings.³ Other than dysphagia, patients can also present with features of dysphonia, pain, bleeding and feeling of lump in the throat. There is no age predisposition and can occur at any age. Clinically, these patients present mainly in two age groups. The first group consists of infants and children, who can be picked up during routine screening. The second group of patients, present with dysphagia and oropharyngeal obstructive symptoms during or before puberty, when physiological hypertrophy of the thyroid can occur. Other conditions, which can result in metabolic stress are pregnancy, infections, trauma, menopause etc.³

In about 70% of lingual thyroid patients, there is absence of the normal cervical thyroid gland.⁴ If surgical removal of the mass is planned, scintigraphic and radiological examinations together with laboratory tests are essential to reveal the only functional thyroid tissue.

Radiological imaging studies for confirmation of the clinical diagnosis and for determining the size of the gland. Thyroid scan obviates the need for a diagnostic biopsy, which carries the risks of intractable hemorrhage.⁵

Management of lingual thyroid remains rather controversial due the paucity of data in literature.⁶ The best guide is the presence or absence of symptoms and the use of TSH suppressive therapy.

Surgical intervention is necessary for selected patients, who either become symptomatic or have worsening of symptoms, while being on suppressive therapy, or have sudden gland enlargement either due to hemorrhage,

inflammation or malignant change.⁵ The surgery can be performed using a trans-oral approach, a trans-hyoid approach, a lateral pharyngotomy approach, or a combination of these methods. The technique choice is influenced by patient age and sex, symptoms, dimensions, the localization of the mass, and above all, by the ability to control bleeding.⁷

Studies on cadavers have identified anomalies of the thyroid arteries: the superior is often absent, while the inferior, if present, appears hypoplastic, and the lingual thyroid is vascularized by lingual or facial arteries.⁸

As our case had the lingual thyroid as the only functional thyroid tissue, a novel surgical approach planned was supra-hyoid removal of lingual thyroid along with its vascular pedicle of the lingual artery and cervical transposition of the gland in the neck. This resulted in retaining the gland close to its natural embryological destination and obviated the patient being on lifelong thyroxin supplementation. This novel surgical approach does not find any mention in the world literature before.

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