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Ectopic Thyroid Tissue and Management Approach: Surgical vs Conservative

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Abstract

From embryology it well known that thyroid gland is the first endocrine gland to develop in the body, starting by the end of third week post conception. The thyroid gland originates from primitive pharynx and the neural crests. Surgeons should have a complete understanding of embryonic development of thyroid and parathyroid gland, as well as knowledge of possible congenital abnormalities of thyroid dysgenesis that is characterized by thyroid ectopia, as may impact medical assessment and the surgical procedures approach and prevention of possible complications. Surgical vs conservative management approach should be well evaluated and proper professional decision upon patient case should be taken, upon patient consensus. Thyroid ectopia is a rare disease, and according to most studies and respective database it is estimated with prevalence about 1 per 100000–300000 people, rising to 1 per 4000–8000 patients with thyroid disease. This paper focuses on surgical approach of lingual ectopic tissue of thyroid of a 32 years old women.

Keywords: Thyroid, endocrine, location, embryology, ectopic, surgeon

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Introduction

Ectopic thyroid tissue is a rare abnormality involving abnormal embryogenesis of thyroid gland during its passage from the floor of the primitive foregut to its final pre-tracheal position, and according to recent publications and respective database it is estimated with prevalence about 1 per 100000–300000 people, rising to 1 per 4000–8000 patients with thyroid disease.[1, 2, 3, 4, 7]

Ectopic thyroid tissues have frequently found around the passage of thyroglossal duct or laterally in the neck, as well as in distant places such as mediastinum and even abdominal and pelvic organs as well.[1-7]

From embryological perspective, an endodermal diverticulum from median plate of the floor of the pharyngeal gut is formed, during third or fourth week of gestation.[5] This diverticulum descends in the midline, from the foramen cecum, located between the posterior third and anterior two-thirds of the tongue, to the final location of the gland, anteriorly to the pre-trachea and larynx.[5, 6]

Results and Discussion

Lingual thyroid ectopy, especially located at the base of the tongue is most common type of ectopic thyroid tissue, while sublingual types are less frequently encountered; other locations involved in the head and neck regions include trachea, submandibular gland, lateral cervical regions, maxilla, palatine tonsils, carotid bifurcation, iris of the eye, and pituitary gland. Also been found in cardiac tissue, ascending aorta, thymus, esophagus, duodenum, gallbladder, stomach bed, pancreas, mesentery of the small intestine, porta hepatis, adrenal gland, ovary, Fallopian tubes, uterus and vagina.[1-7]

Clinical presentation of ectopic thyroid tissue; Lingual thyroid ectopy, and surgical vs conservative management approach

32 years old women, nulligravida, was assessed after complaining for bothersome dysphagia and sensation of foreign object, and during thorough assessment there was gathered more clinical information, as was noticed

dysphonia and stomatolalia. In her medical history there was stated problems with snoring and even sleep apnea as well. Illustrated in figure 1 a, b, c. Patient eventually was evaluated by a multidisciplinary team; surgeon, ENT, endocrinologist, gastroenterologist, and radiologist – imagery specialist.

Thyroid function tests were performed and euthyroid results were found, and other laboratory tests were within normal limits. Neck ultrasound examination was performed, Thyroid US scan revealed presence of orthotopic thyroid gland. MRI was performed as well, following thyroid scintigraphy scan that revealed isotope uptake at the base of the tongue and in the normal thyroid location as well. Fine needle aspiration biopsy from the base of the tongue mass revealed normal thyroid tissue with few colloidal variations.

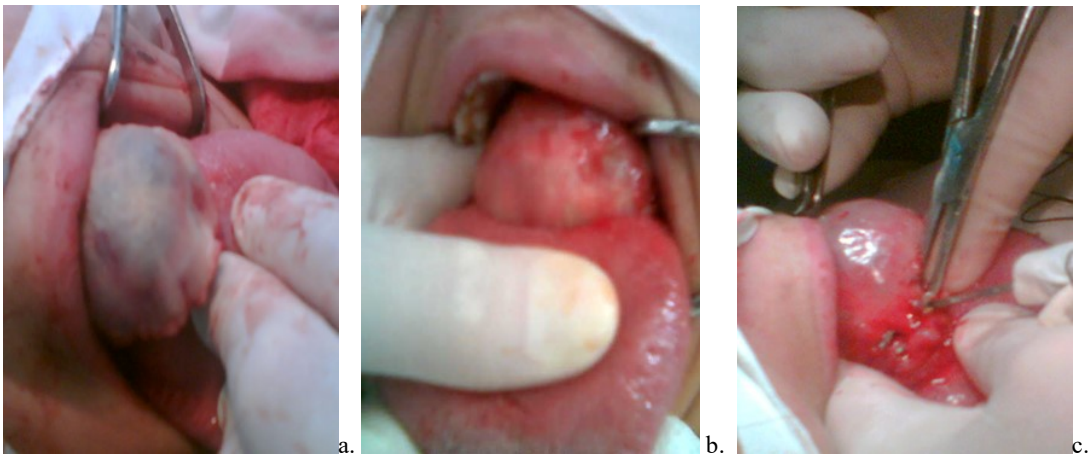
a. b. c.

Figure 1. a, b, c – illustration of ectopic thyroid gland at the base of the tongue

Patient was assessed in multi-disciplinary level, and having the advantage of this case of euthyroid function with orthotopic thyroid gland present, surgical management approach was chosen.

The furthermost effective treatment is determined by patient's age, ectopy location, local symptoms, surgery and anaesthesia risk management, and thyroid functioning status as well.[8]

Conclusions

Surgical enucleation of ectopic thyroid nodule was performed as management approach, post operation with no present complication, no dysphonia and tetany phenomena.
Patients who are asymptomatic or euthyroid should be monitored on a frequent basis.
The therapy of the lingual thyroid is still controversial. Surgery may be recommended if the lingual swelling is causing considerable problems. There are two approaches for gaining access to the lesion and performing surgery: transoral and external. Transoral method yields a good cosmetic result because there is no external scar on the neck. It does not necessitate dissection of neck tissue, and risk of postoperative infection is minimal. This strategy, on the other hand, gives insufficient exposure to large groups. The lingual arteries can cause significant and difficult-to-control bleeding. The transoral procedure is less complicated, less expensive, and requires a shorter hospital stay as well.

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