Type of article : *Review article*

Lingual Thyroid- A Review

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Abstract

Lingual thyroid as the name suggests it is an ectopic positioning of thyroid gland which is a rare developmental anomaly. Thyroid gland is usually located in the same level as that of cricoids cartilage in human body. Ectopic occurrence of thyroid gland can be seen anywhere from tongue to diaphragm though in ninety percent of reported cases it is generally seen in base of tongue. Lingual thyroid mainly seen as a result of the inability of thyroid gland to descend to its normal anatomical position during embryogenesis. Generally it takes its origin from the epithelial tissues of non-obliterated thyroglossal duct. From infancy to adulthood mostly faced problems by the patients are dysphagia, dysphonia, upper respiratory tract obstruction. So this review is entirely about the pathophysiology, clinical manifestation and diagnostic criteria along with treatment modalities for a better understanding of the dental professionals.

Key Words: *Thyroid gland, Ectopic thyroid tissue, Dysphagia, Dysphonia.*

Introduction

Dr. Hickman in 1869 first described lingual thyroid as any thyroid tissue which is not found in their usual topography. The clinical prevalence varies between 1:3000 and 1:100000. Female sex predilection is seen in this ectopic thyroid gland occurrence with an incidence of 4:1:00 for men. It is considered to be one of the main reason for hypothyroidism in children constituting 52% of dysgenesis thyroid disorder [1,2]. Lingual thyroid mainly seen as a result of the inability of thyroid gland to descend to its normal anatomical position during embryogenesis [3,4].

Pathophysiology:

In Third and seventh week in utero embryonic development of thyroid gland starts. It develops from the floor of pharynx and migrates inferiorly till it reaches the final anatomical area that is in medial and anterior neck immediately below the cricoids cartilage. Thus ectopic thyroid occurs when there is complete or incomplete failure in the descent of thyroid gland in the normal anatomical site in the neck and so it can occur at any part within blind foramen and caudal part of neck [5].

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Clinical Presentation:

Clinically lingual thyroid could be divided into two groups depending on their onset of symptoms i.e in infants and young children. In these both groups lingual thyroid is detected during routine screening procedures and can be seen suffering from respiratory distress and mental retardation often leading to medical emergency [7.8]. Symptoms like dysphagia and oropharyngeal obstruction are commonly seen during puberty. Reason for this can be thought to be the rise in demand of thyroid hormone during these stages of hyper metabolism also in certain conditions like pregnancy, infection, trauma, menopause, etc same response are detected [9]. Smooth texture of the lesion describes it clinically with increased vascularity. In normal medical examination palpation of base of the tongue along with the neck is very crucial so as to check the availability of thyroid gland in its normal anatomical position. Common investigations that are routinely done to check the function of thyroid gland is Thyroid function tests whereas special technique like

Technetium scan used as a confirmatory test in detection of lingual presence of thyroid [10].

Diagnostic Criterias:

Computed tomography and magnetic resonance imaging are complementary essential methods useful in determining the size of the gland and in surgical planning. Sagittal reconstruction will be important in the case of large volume, assessing the depth within the language and air permeability [11]. The ultrasound would differentiate cystic changes and have low cost, but still has a bad role set forth in this pathology, no studies to support its use. The FNA can also confirm the diagnosis and preoperative examination is the only that can differentiate benign from malignant lesions. However, we cannot rule out malignancy in the absence of malignancy puncturing. The definitive diagnosis often is only possible with the ectopic tissue excision [12-15].

TREATMENT: Surgery should be used as an emergency treatment modality. Most of the time first line of treatment modality should be started with suppressive therapy in adjunct with exogenous hormone in order to reduce the size of the gland present ectopically. If lingual thyroid is happened to be the only functioning thyroid gland in the patient as it is seen in 70% of the cases [10] surgical excision of the ectopic gland along with Levothyroxine therapy is recommended. If surgery is to be considered to be the only choice of treatment in certain cases then one of the different types of approaches namely trans-hyoid pathways, supra-hyoid, and cervical faringotomy can be followed. But complication including functional, esthetical and prolonged recovery period are disadvantageous consequences post surgery [6]. Surgery has high morbidity and these are generally non invasive procedures.

Conclusion

Lingual thyroid is a rare anomaly representing faulty migration of normal thyroid gland. The exact pathogenesis of this ectopic is not known. It is 7 times higher in females [16]. Dysphagia and dysphonia are common presenting symptoms [17]. Thorough and careful head and neck examination with special attention to base of tongue is essential. Investigation includes thyroid function tests, neck ultrasound scan, Technetium scanning and C.T scan. FNAC is not preferred by some authors as it would cause unnecessary bleeding [18]. Although different types of surgical access have been described, the transoral approach provides good exposure and is less traumatic for the patient, with better postoperative recovery [7].

Ethical Clearance – Not required since it is a review article

Source of Funding – Nil

Conflict of Interest – Nil

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