

Case Report

Lingual Thyroiditis – An unusual cause for sore throat

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Abstract

The presence of an ectopic thyroid at the base of the tongue (midline) is a rare embryological malformation in the descending process of the thyroid gland and is termed as Lingual thyroid. These aberrant thyroid tissue are commonly found in the base of the tongue and it is subjected to the same diseases as the thyroid gland. A 22-year-old male patient presented to our ward with the chief complaint of sore throat for three days duration with no other symptoms. On fiberoptic nasolaryngoscopic examination (FNE) a well-defined, circumscribed swelling with a rich blood supply was detected at the posterior aspect of the tongue. Tc^{99m} scanning showed increased tracer activity was noted in the sublingual region suggestive of a Lingual thyroid with thyroiditis whilst thyroid function tests confirmed Hypothyroidism. The patient was treated conservatively with steroids and thyroxine. Surgery was not offered due to the lack of obstructive features. His symptoms have since improved and is followed up at our clinic.

Keywords: Lingual thyroids, Thyroiditis, Technetium Tc 99m

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Introduction

The presence of an ectopic thyroid in the base of the tongue in midline is a rare embryological malformation in the descending process of the thyroid gland and termed as Lingual thyroid. Whereas the term ectopic thyroid can be used when the site of thyroid tissue collection is placed in any other part of the body except the tongue.

In the development of the neck during embryogenesis the thyroid gland appears as an epithelial proliferation in the floor of the pharynx and subsequently the collection of the thyroid tissue fails to descend in front of the hyoid bone and the laryngeal cartilages. These aberrant thyroid tissue are commonly found in the base of the tongue and it is subjected to the same diseases as the thyroid gland².

Literature signifies that 70% of patients with lingual thyroid present with hypothyroidism. However histologically they could resemble a normal thyroid parenchyma.

Case Report

A 22-year-old male patient presented to our ward with the chief complaint of dysphagia and sore throat for three days duration with no other symptoms. He was not on any medication and the rest of the history was insignificant. On clinical examination he was euthyroid, BMI was 19.2 Kg/m², and all vitals of the patient appeared to be normal. No abnormality was seen except on oral examination there was a swelling in the posterior aspect of the tongue along the midline. During palpation of the thyroid in the neck the clinical absence of the thyroid arose the suspicion of a possibility of a lingual thyroid. All other systemic examinations were unremarkable.

On Flexible nasolaryngoscopic examination (FNE) a well-defined, circumscribe swelling with a rich blood supply was detected at the posterior aspect of the tongue. The rest of the pharynx, base of the tongue and tonsils were not inflamed. Meanwhile the USS of the neck confirmed a congenital absence of the thyroid gland with no other focal lesions. A Tc^{99m} weighted scan along with an MRI was done and increased tracer activity was noted in the sublingual region also suggestive of a Lingual thyroid with inflammation.

Blood investigations such as Full blood count (FBC), Liver function tests (LFT) and Renal Function Tests (RFT) were normal. However, the patients Erythrocyte Sedimentation Rate (ESR) and C-reactive protein (CRP) were elevated. The patients Thyroid function test showed markedly elevated levels of TSH and reduced levels of FT₃ and FT₄ confirming a state of Hypothyroidism biochemically. Thyroid antibody studies were also negative.

The proposed treatment was conservative management for the lingual thyroiditis with hypothyroidism and the patient was started on thyroxin, IV prednisolone, Aspirin (NSAID) and IV Antibiotics. A Throat gargle with H₂O₂ (10:1 dilution) mouth wash was also prescribed. No surgical intervention was planned as there were no significant obstructive features. The patient was however monitored inward for airway obstructive features.

Within 3 days the patients ESR and CRP reduced significantly and within a period of three weeks the dysphagia improved with an improvement of thyroid function tests as well. The mild air way obstruction improved and a reduction in the swelling of the gland was noted on repeat FNE.

The patient continues to be followed up at our clinic with 3 monthly TSH and T4 assessments. He is currently on 100 Micrograms of T4. If significant obstructive features are to develop surgical intervention in the form of a lingual thyroidectomy have been planned.

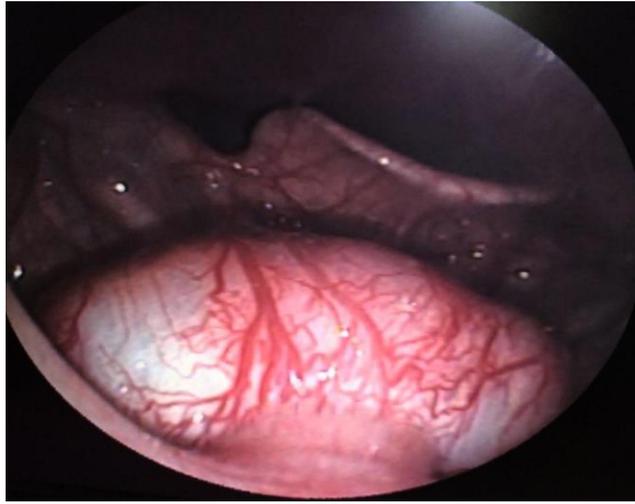


Image 3 – Endoscopic view of lingual thyroid

Discussion

The first case of a lingual thyroid was reported in 1869 by Hickmen⁶. Literature suggests that the reported incidence of this condition has been 1 in 100,000 cases with a peak incidence of occurrence in the third decade of life having a male to female ratio of 1:7 in documented cases³. Lingual thyroiditis however is extremely rare⁹ and in the reported cases present with relatively common symptoms as dysphagia and dyspnoea. A high degree of suspicion is required to detect them.

Cases of ectopic thyroid also have been reported in rare sites such as submandibular, prelaryngeal, tracheal, laterocervical, and esophageal sites whereas the most frequent sites are lingual, sublingual, thyroglossal, laryngotracheal and lateral cervical. Amongst thyroids the lingual incidence is 1 in 3000⁴.

Although there have been reports of patients being asymptomatic⁴, clinical symptoms could vary subjectively and most of the patients present with dysphagia, dysphonia, sore throat, epistaxis, and upper airway obstruction. About 70% of patients with this condition are hypothyroid, as in our case, and a further 10% had been reported with cretinism⁴.

The detection of a lingual thyroid in most of the reported cases have been documented in the late adolescence of the patient because they remain asymptomatic till then. The size of the gland and the ongoing acute process of it plays a major role on giving the above mentioned clinical picture and also on deciding the treatment plan for a better prognosis.

A few differential diagnoses for the rare clinical entity of lingual thyroid includes vascular tumours, benign or malignancy at the base of the tongue. Though radio nucleotide Tc^{99m} (technetium-99) scintigraphy is an investigation of choice in confirming an ectopic thyroid although it can also have false positive results⁹.

Treatment options for a lingual thyroid vary according to the severity of the patients signs and symptoms. An unobstructed patient can be managed conservatively with hormone replacement in the case of a hypothyroid patient. For patients presenting with obstructive features or malignant change, surgery remains the recommended option¹.

However, as in our case, the degree of discomfort was tolerable and there were no obstructive symptoms which would necessitate surgery¹. Thus he was managed conservatively with medication and close observation.

If surgical excision is contemplated, there can be a number of approaches to consider. The options include transoral, transhyoid and lateral pharyngotomy approaches⁷. The additional investigation of an angiography is extremely helpful if

transoral excision is considered. This helps visualize the main supply branch for the gland in case emergency ligation is required for excessive intra operative bleeding. If extensive vascularization is seen embolization of the branches of the lingual artery can be done intraoperatively to minimize bleeding as well⁸.

In reported cases of lingual thyroiditis however, the patients were managed with antibiotics and anti-inflammatory medication. And surgical excision was not considered⁹. In these instances, the patient responded dramatically to treatment with reduction in symptoms within an average of 4 days. This was also seen in our case as well.

Long term follow-up of these patients is recommended as there have been reports of malignant transformation, although this is rare¹⁰.

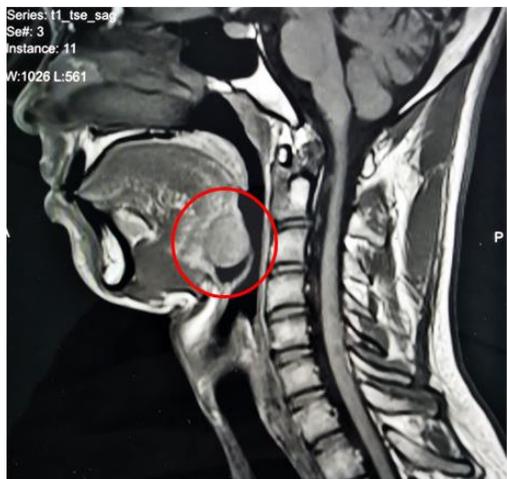


Image 1 - MRI Saggital view Neck

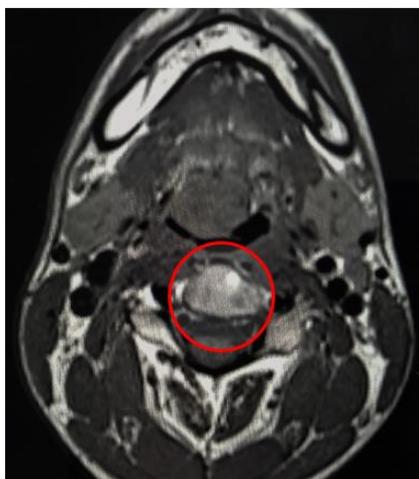


Image 2 - MRI Axial view Neck

Conclusion

In conclusion, a high degree of suspicion is required to detect these cases. However once detected, if there are no obstructive features or suspicion of malignancy they can be managed successfully with conservative management. The author recommends longterm follow-up of these patients as there is a chance for malignant transformation.

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