

Lingual Thyroid in Its Normal Position: Report of Two Cases

Normal Pozisyonuyla Lingual Tiroid: İki Olgunun Sunumu

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ABSTRACT Lingual thyroid is a congenital anomaly caused by failure of migration of the thyroid gland in early embryogenesis. It may be asymptomatic or present with local symptoms. We present two cases with lingual thyroid, first one being in a 28-year-old female and the other in a 25-year-old male who had 20x15 mm and 33x30 mm masses respectively detected by magnetic resonance imaging. The diagnoses of lingual thyroid were confirmed by ^{99m}Tc pertechnetate scintigraphy. Thyroid function tests revealed hypothyroidism in both cases. Since most of the patients present with hypothyroidism, the diagnosis of lingual thyroid should be suspected especially in a case with local complaints. In routine examination of hypothyroid patients, palpation of the thyroid gland and ultrasonography must be included. A detailed examination of the neck and the base of the tongue must be performed in terms of lingual thyroid in patients with hypothyroidism and hypoplastic thyroid gland.

Key Words: Lingual thyroid; hypothyroidism

ÖZET Lingual tiroid, tiroid bezinin erken embriyogenezdeki yetersiz migrasyonundan kaynaklanan konjenital bir anomalidir. Asemptomatik olabilir veya lokal semptomlar sergileyebilir. Biz ilki 28 yaşında kadın, diğeri 25 yaşında erkek olan iki lingual tiroid olgusu sunmaktayız. Sırasıyla 20x15 mm ve 33x30 mm olan kitleler manyetik rezonans görüntüleme ile saptandı ve lingual tiroid tanılarını ^{99m}Tc pertechnetate sintigrafisi ile doğrulandı. Her iki olguda tiroid fonksiyon testleri hipotiroidizmi açığa çıkardı. Hastaların çoğuna hipotiroidizm eşlik ettiğinden, özellikle lokal hipotiroidizm şikayetleri olan olguda lingual tiroid tanısından şüphelenilmelidir. Hipotiroid hastaların rutin muayenesinde tiroid bezinin palpasyonu ve ultrasonografi dahil edilmelidir. Hipotiroidizimli ve hipoplastik tiroid bezi bulguları olan hastalarda lingual tiroid açısından boynun ve dil kökünün ayrıntılı muayenesi yapılmalıdır.

Anahtar Kelimeler: Lingual tiroid; hipotiroidizm

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A lingual thyroid gland, a rare congenital abnormality, is an ectopic thyroid tissue located in the midline of the base of the tongue which occurs as a defect of thyroid tissue migration from the foramen caecum to its final prelaryngeal position. 90% of all ectopic thyroids are found in the tongue.¹⁻³

It can be seen in all ages, usually most cases are diagnosed in childhood.⁴ Lingual thyroid may present with dysphagia, dysphonia, dyspnea and sensation of foreign body in the throat or may be asymptomatic.^{3,5}

We present two cases of lingual thyroid with hypothyroidism and local symptoms.

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CASE REPORTS

CASE 1

A 28-year-old female patient presented with a history of fatigue, snoring and sensation of foreign body in the throat. During physical examination of the patient, a reddish mass appearance at the base of her tongue was noted and the thyroid gland was non-palpable (Figure 1A). Hypothyroidism was detected on biochemical tests [fT3; 2.23 pg/mL (Normal; 1.82-4.62), fT4; 0.739 ng/dL (Normal; 0.932-1.71), TSH; 58.97 mIU/mL (Normal; 0.27-4.20)]. A 20 x 15 mm homogeneously enlarged mass arising from the base of tongue which leads to contraction in air column was detected on magnetic resonance imaging (MRI) (Figure 2). Ultrasonography (USG) examination showed a hypoplastic thyroid gland with hypoechoic appearance in the anterior neck region. A diagnosis of lingual thyroid was confirmed by ^{99m}Tc pertechnetate scintigraphy (Figure 3A).

CASE 2

A 25-year-old male patient presented with weight loss and fatigue. On physical examination there was a mass appearance at the base of his tongue. Thyroid gland was non-palpable and an externally visible mass which is mobile, nearly 30 mm in di-



FIGURE 1: Photographs showing; A) the reddish swelling in the posterior aspect of the tongue, B) the anterior neck mass located at the submental region. (See for colored from <http://tipbilimleri.turkiyeklinikleri.com/>)

ameter, showing a medium degree of firmness and located in the submental region was detected (Figure 4). Biochemical tests revealed hypothyroidism [fT3; 2.75 pg/mL (Normal; 1.82-4.62), fT4; 0.867 ng/dL (Normal; 0.932-1.71), TSH; 14.5 mIU/mL (Normal; 0.27-4.20)]. MRI showed a 33 x 30 mm, homogeneous mass arising from the base of tongue which leads to contraction in air column (Figure 2B). Hypoplastic and hypoechoic thyroid gland was detected in the anterior neck region by USG examination. A diagnosis of sublingual thyroid was confirmed by ^{99m}Tc pertechnetate scintigraphy (Figure 3B).

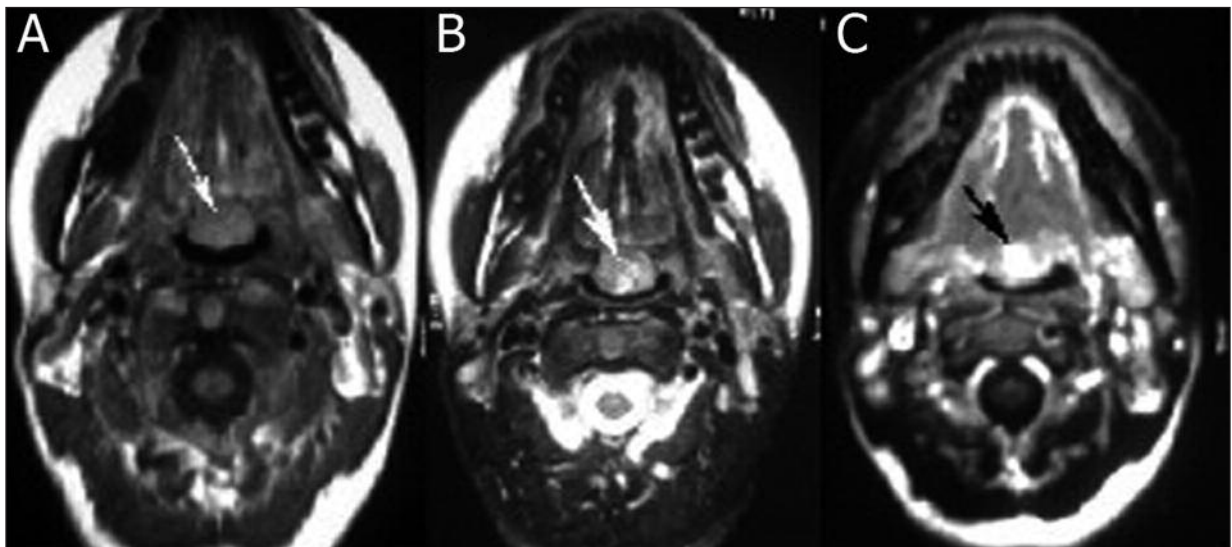


FIGURE 2: Axial T1 (A), contrast enhanced T1 (B) and T2-weighted magnetic resonance imaging showing the mass at the base of the tongue.

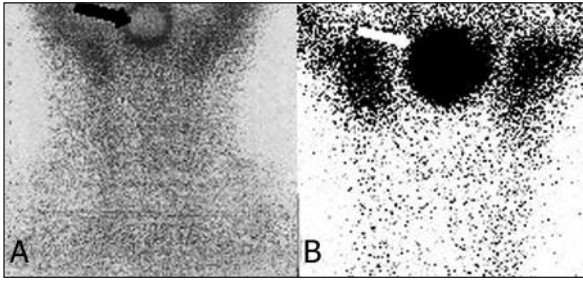


FIGURE 3: Thyroid scans with technetium (A and B) showing the presence of functioning thyroid tissues at the base of the tongue with absence of thyroid glands in the normal locations.

DISCUSSION

Thyroid gland originates from endodermal epithelial cells and this tissue descends from foramen cecum to the normal prelaryngeal position in early embryogenesis. The tissue can be located at any point on the road due to a failure of this migration; the most common location is the base of the tongue which entitles as lingual thyroid. The true prevalence of this abnormality is unknown since many patients are asymptomatic, however is estimated as 1/200.000.^{3,6} Lingual thyroid is seen more frequently in females with a female-to-male ratio of 4:1 to 7:1.¹ Thirty percent of the patients present with thyroid tissue in its normal region.⁶ Different symptoms may be seen depending on mass effect of ectopic gland. Up to one-third of all patients have hypothyroidism.^{1,2} Our two patients had also hypoplastic thyroid tissue in normal position and hypothyroidism. One of them complained of snoring and sensation of foreign body in the throat which thought to be related to mass effect of ectopic thyroid.

Generally, diagnosis of lingual thyroid should be kept in mind when a midline tongue mass with little or no palpable thyroid tissue in the anterior neck region is seen. A smooth and round mass at the tongue base can be seen in general head and neck examination. Thyroid function tests must be evaluated in laboratory examination since lingual thyroid usually occurs with hypothyroidism although hyperthyroidism has also been reported in the literature.^{6,7} Technetium scanning confirms the diagnosis of ectopic thyroid.⁸ Computerized tomography and MRI are used in the definition of size and localization of the mass. USG is less useful in the diagnosis and may be used to follow-up the ectopic gland in terms of enlargement and to evaluate the thyroid gland in its normal position.^{1,2} In our cases, midline masses in the base of tongue were seen. Furthermore, an externally visible mass at submental localization was detected with palpation in our male patient. We demonstrated the ectopic thyroid glands in MRI and ^{99m}Tc pertechnetate scintigraphy confirmed our diagnoses. Furthermore hypoplastic thyroid glands were detected in normal position with USG.

Size and presence of symptoms influence the treatment strategy of lingual thyroid. For example, small and asymptomatic lesions can be followed-up (also for the possible though uncommon occurrence of thyroid carcinoma in ectopic thyroid); however lesions with severe and repeated hemorrhage, dysphagia preventing adequate oral intake and significant airway obstruction should be treated by surgery.^{1,2}



FIGURE 4: Axial T1 (A), contrast enhanced T1 (B) and T2-weighted magnetic resonance imaging showing well-circumscribed mass at the tongue.

CONCLUSION

Since most of the patients present with hypothyroidism, the diagnosis of lingual thyroid should be suspected especially in a case with local complaints. In routine examination of hypothyroid patients,

palpation of thyroid gland and USG must be included. Possibility of lingual thyroid should be considered in the patients with little or no palpable thyroid tissue in normal thyroid region. In these patients, detailed examination of neck and tongue base must be performed.

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