CASE REPORT

Lingual thyroid: can we 'wait and see'?

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SUMMARY

A 42-year-old Caucasian woman presented with a sensation of fullness in the throat and dry cough of 1-month duration. Physical examination showed a mass located in the midline of the tongue base. Cervical ultrasound confirmed the absence of thyroid gland tissue in the normal position. MRI of the neck showed a mass suggestive of lingual thyroid and scintigraphy confirmed the diagnosis. Thyroid function was normal. Despite normal thyroid function, to decrease the size of the mass and perhaps solve the problem, we decided to start levothyroxine suppression therapy. The patient had palpitations and one episode of angina pectoris as a side effect, resulting in the medication being interrupted. After 3 years of follow-up, she remains in clinical surveillance and without symptoms.

BACKGROUND

The authors' aim is to create awareness of this rare entity and also revise it briefly.

CASE PRESENTATION

A 42-year-old Caucasian woman presented with a sensation of fullness in the throat and dry cough of 1-month duration.

On physical examination, she had a mass 2.5 cm in diameter in the midline of the base of the tongue ([figure 1](#)).

INVESTIGATIONS

Cervical ultrasound ([figure 2](#)) confirmed the absence of thyroid gland tissue in the normal position. Scintigraphy with Tc-99m showed a mass at the lingual base suggestive of functioning thyroid tissue of ectopic location ([figure 3](#)). MRI of the neck revealed a well-defined mass at the base of the tongue and T1-weighted and T2-weighted images

showed increased signal intensity in the lesion ([figure 4](#)). Thyroid function was normal. We made the diagnosis of lingual thyroid with euthyroid levels.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis included other benign or malignant masses of the middle line of the oropharynx (lymphangioma, haemangioma, fibroma, lipoma, salivary gland tumours), hypertrophy of the tonsil, mucous retention cyst or even thyroid carcinoma metastases.

The lingual thyroid is the most common benign mass in this location. The most important examination is scintigraphy with Tc-99m, which confirms the diagnosis and avoids biopsy of the mass. The imaging studies are important tools for the surgical approach, as well as for characterisation of the mass and for the differential diagnosis, if lingual thyroid is not confirmed on scintigraphy.

TREATMENT

Despite normal thyroid function, to decrease the size of the mass, and perhaps solve the problem, the authors tried levothyroxine suppression therapy. During treatment, the patient had palpitations and suspicion of one episode of angina pectoris, so her medication was interrupted.

OUTCOME AND FOLLOW-UP

After 3 years of follow-up, the patient remained in clinical surveillance and without symptoms.

DISCUSSION

Failure of descent of the medial anlage of the thyroid and incomplete obliteration of its vertical tract lead to midline or near midline ectopias such as lingual thyroid and thyroglossal cysts.¹

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Figure 1 Photograph showing lingual thyroid.

Figure 2 Cervical ultrasound examination confirming the absence of cervical thyroid.

Figure 3 Tc-99m scintigraphy showing isotope uptake at the base of the tongue, confirming the diagnosis of lingual thyroid, and no uptake in the cervical region.

Although the pathogenesis of an ectopic thyroid remains unknown in most cases, it has been reported that genetic causes that are important for thyroid morphogenesis and differentiation, may be involved in abnormal migration of the thyroid bud.²

It is generally accepted that lingual thyroid is the most frequent ectopic location² and, in most cases, the only thyroid gland tissue.

The clinical presentations are varied, and depend on the size of the mass and the thyroid function. Most of these presentations are related to oropharyngeal obstruction, and may include dysphagia, dyspnoea, dysphonia, fullness in the throat, sleep apnoea and stridor.³

The malignant transformation of lingual thyroid is extremely rare and should be suspected if the patient has new symptoms, rapid increase of the mass and ulceration or bleeding of the mass.⁴

A complete head and neck examination is essential.

The diagnosis is clinical and confirmed by scintigraphy. Cervical ultrasound has shown that, in most cases, there is an absence of cervical thyroid and the patients have hypothyroidism or normal thyroid function. MRI is more important when a surgical approach is necessary.

The treatment options for lingual thyroid include: clinical surveillance, levothyroxine suppressive therapy, radioactive iodine

Figure 4 Neck MRI showing lingual thyroid.

Figure 5 Proposal for management of patients with lingual thyroid.

ablation and surgery. Because of the paucity of data, there is no real consensus about the proper management of ectopic thyroid.² Observation is the best approach for asymptomatic patients. For those who have light to no symptoms with normal thyroid function, suppressive therapy with thyroid hormone can be an option in order to reduce the size of the gland; it prevents progressive growth of the mass and possible malignant transformation.⁵ Also, it can prevent a state of hypothyroidism, which eventually develops in most patients.⁶

Radioactive iodine ablation is an alternative for patients who are symptomatic or unresponsive to medical treatment, but the decrease in size of the mass is unpredictable. So, this therapy can be reserved for patients who refuse or are not candidates for surgery. Surgical excision of ectopic thyroid can be performed in cases with a large thyroid gland causing pressure symptoms, such as dyspnoea, swallowing difficulty, dysphonia and bleeding, or in cases of malignant histology in the ectopic thyroid.²

The authors propose a treatment algorithm for patients with lingual thyroid (figure 5).

In our case, we tried levothyroxine as suppressive therapy in a patient with normal function, for reducing the mass, but with palpitations and the suspicion of one episode of angina pectoris, the treatment was interrupted. Given the clinical picture: no worsening of symptoms and no increase in the size of the mass or suspicion of malignant transformation, we decided to carry out clinical surveillance. Currently, the patient is in her third year of follow-up and without complications.

Learning points

- ▶ This anomaly, although rare, is the most common benign mass in this location.
- ▶ Lingual thyroid should be considered during the evaluation of oral and oropharyngeal masses.
- ▶ Lingual thyroid may increase in size and cause obstructive symptoms, and functional decompensation or even malignant transformation may occur.
- ▶ These patients require a long-term follow-up.
- ▶ Levothyroxine therapy is important in reducing the volume of lingual thyroid mass, reserving surgery for cases with severe symptoms, complications or suspected malignant transformation.

In conclusion, this entity, although rare, is the most common benign mass in this location and should be considered during the evaluation of oral and oropharyngeal masses. It may result from a finding or be the cause of obstructive symptoms, the thyroid function can be normal or result in functional decompensation, but, regardless, a long-term follow-up of these patients is necessary. And if the patient has light to no symptoms, normal thyroid hormone levels and there is no suspicion of malignant transformation, it is possible to wait and see, maintaining long-term follow-up.

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