

전면 영상에서 하나로 오인된 두개의 설갑상선종

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Dual Lingual Thyroid Mimicking Mono-ectopic Thyroid in the Anterior View of Tc-99m Sodium Pertechnetate Thyroid Scan

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Ectopic thyroid is not common disease and double ectopic thyroid is rare. Until January of 2008, dual ectopic thyroid has been reported only 23 cases in international literatures. Tc-99m sodium pertechnetate scan is playing an important role in the diagnosis of ectopic thyroid. In most of the cases, dual lingual thyroid tissues could be detected as two radiotracer uptake foci. We report a case of dual lingual thyroid mimicking mono-lingual thyroid in the anterior view of thyroid scan. Lateral view helped in this case to detect the dual lingual thyroid. With lateral view, the anatomical position and relationship could be examined in more detail. (Nucl Med Mol Imaging 2008;42(6):485-487)

Key Words: Ectopic thyroid, dual lingual thyroid, Tc-99m sodium pertechnetate scan

Introduction

Ectopic thyroid results from the failure of the migration from embryologic position of thyroid tissue at the base of the tongue to the lower neck.^{1,2)} They can be classified anatomically as lingual, sublingual, prelaryngeal and other rare sites.¹⁾ The lingual thyroid is the most common ectopic site and the prevalence is one per 10,000²⁾ to 100,000 persons.³⁾

Tc-99m pertechnetate scan can confirm the presence of ectopic thyroid tissue and establish the location. The dual ectopic thyroid is less common. Only 23 cases were reported in international literatures until January of 2008. We here report a case of dual lingual thyroid mimicking mono-lingual thyroid in the anterior view of thyroid scan. Lateral view helped in this case to detect the dual lingual thyroid.

Case report

A 37-year-old woman has had throat discomfort for three years. In the private clinic, a mass like lesion was detected in the tongue base. Because the symptom subsided spontaneously, she did not undergo further evaluation. Because she felt throat discomfort again, she visited hospital again. Clinical impression of the sublingual mass was lingual thyroid, so she underwent Tc-99m sodium pertechnetate thyroid scan. Anterior view of thyroid scan revealed a lingual thyroid tissue without normal thyroid gland in the pretracheal region. When the lateral view of thyroid scan was taken, another radiotracer uptake was detected just below the previous one (Fig. 1).

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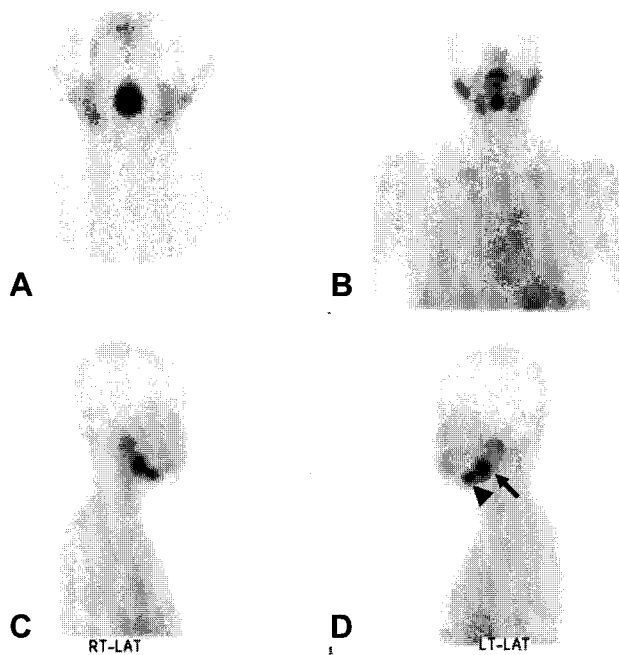


Figure 1. Pin-hole and anterior view of Tc-99m sodium pertechnetate thyroid scan (A, B) shows a focal, hot uptake between the submandibular glands. Normal thyroid uptake in the pretracheal area of the lower neck is not shown. Both lateral views (C, D) reveals two foci of radiotracer uptake in tongue base (arrow and arrow head), suggesting dual lingual thyroid glands. Dual lingual thyroid gland mimicking one lingual thyroid could be distinguished by the lateral view.

Enhanced neck computed tomography revealed two masses in tongue base and intralingual area (Fig. 2). The symptom was mild and thyroid function test revealed euthyroid state, therefore the regular follow-up was planned without any treatment.

Discussion

The thyroid gland develops during embryogenesis from the median bud of pharynx (thyroglossal duct) and makes a descent to anterior neck. If it fail to migrate from its anlage, ectopic thyroid tissue can be found anywhere along the path of descent of the developing thyroid primordium.⁴⁾

Most ectopic thyroid glands are asymptomatic.⁴⁾ Therefore an accurate prevalence cannot be estimated. The symptoms of lingual thyroid are variable from no symptom, swallowing difficulty, dysphonia, and dyspnea. Cough and hemoptysis are also reported.⁵⁾ Hypothyroidism is found up to 33% of cases.¹⁾ Ectopic thyroid is usually detected during puberty or pregnancy because the increased demand for thyroid hormone elevates the thyrotropin levels. This is supposed to increase the size of the ectopic thyroid tissue developing the

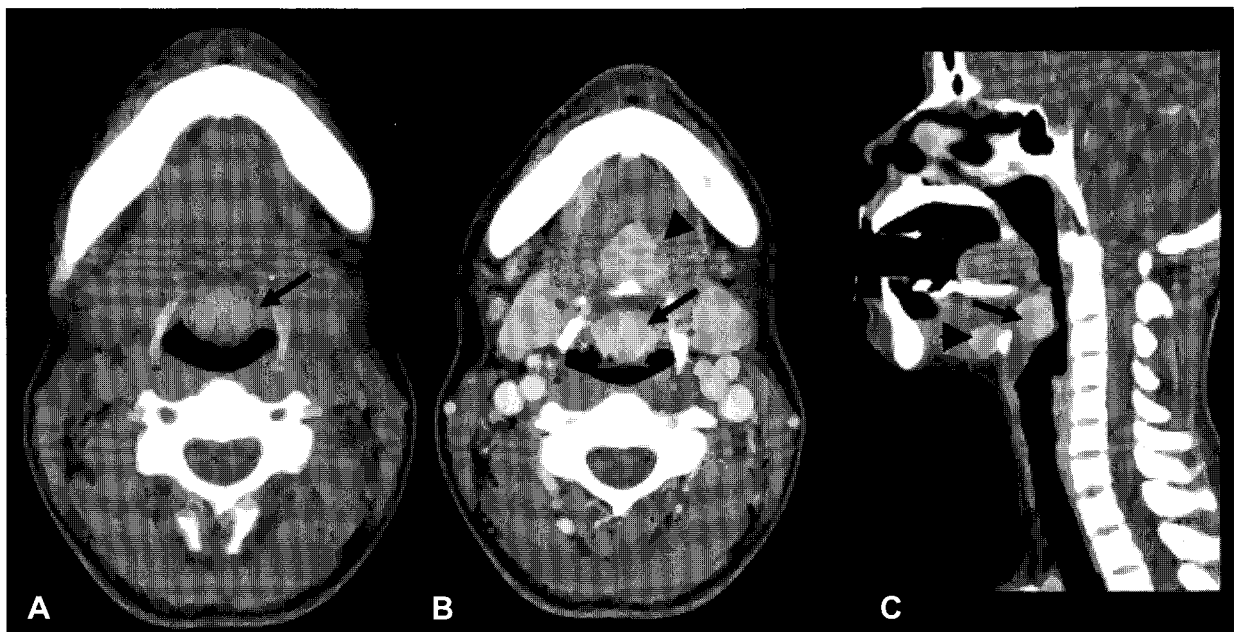


Figure 2. About 2 cm (in tongue base, arrow) and 1.8 cm (intralingual area, arrow head) masses are noted on neck CT. (A) On pre-enhanced CT, they are well circumscribed and show homogeneously high density. (B) On contrast-enhanced CT of slightly lower level (A), they show homogenous enhancement. There is no visible thyroid gland in the thyroid bed. (C) Sagittal view well describes the location of the masses.

obstructive symptoms.⁶⁾

In this case, we reported that the patient's symptom subsided spontaneously, but she felt throat discomfort again three years later. The thyroid hormone level of this patient was within normal limit at the time of diagnosis. Although the exact reason remained unclear, the thyrotropin level and the demand of thyroid hormone might have a role in fluctuation the symptom in this case.

In addition to mild symptoms, malignant transformation has been reported in 1~3% of the cases.⁷⁾ If there is a risk of hemorrhage or malignant transformation, biopsy should be done.⁸⁾ Moreover, ectopic lingual thyroid might make the intubation difficult in some cases.⁹⁾ Therefore, the investigation of anatomical position and multiplicity of ectopic thyroid tissue would be important. Although ectopic thyroid tissues are easily diagnosed by Tc-99m sodium pertechnetate thyroid scan, only the anterior view of the thyroid scan may miss existing another ectopic thyroid tissue. In this case, the unintended angle of head and neck results in only one focus of radiotracer uptake in the anterior view. The inspection and the clinical examination couldn't offer a hint of dual lingual thyroid. Without lateral view of thyroid scan, another ectopic thyroid could be missed unless she underwent computed tomography.

In conclusion, in the evaluation of ectopic thyroid tissue, the

lateral view of thyroid scan is helpful not only in determination of its anatomical position but also in detection of the multiple ectopic thyroid tissues.

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