

Ectopic Intrathoracic Thyroid:

Case Report

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Abstract

We present a patient with ectopic intrathoracic thyroid that was removed through a right lateral thoracotomy. Ectopic intrathoracic thyroid is a rare presentation of thyroid disease and comprises about 1% of all mediastinal tumors. Its removal usually necessitates thoracotomy or sternotomy. The relevant literature is briefly reviewed.

Key Words: Goiter, thyroidectomy, retrosternal goiter, ectopic intrathoracic goiter.

Introduction

ECTOPIC INTRATHORACIC THYROID is a very rare presentation of thyroid disease, comprising 1–3% of retrosternal goiters and about 1% of mediastinal tumors (1). Thoracotomy or sternotomy is usually required for resection of the ectopic thyroid tissue. We present a case of ectopic intrathoracic thyroid in a patient with multinodular goiter. The relevant literature is briefly reviewed.

Case Report

A 40-year-old patient presented to our department for surgical management of a multinodular goiter. Preoperative evaluation, which included chest radiography, scintigraphy (I^{131}), and chest computed tomography, revealed intrathoracic ectopic thyroid tissue at the right side of the posterior mediastinum, behind the great vessels, extending to the level of the bifurcation of the trachea (Figs. 1–3). The intrathoracic thyroid tissue could not be removed through the cervical incision, and a right lateral thoracotomy was performed (Fig. 4). The intrathoracic thyroid was not



Fig. 1. Chest X-ray showing a mass (arrow) in the superior mediastinum with deviation of the trachea.

connected to the cervical thyroid. Blood was supplied from intrathoracic vessels, thereby establishing the diagnosis of an ectopic intrathoracic thyroid. The ectopic thyroid was easily removed through the thoracotomy. The postoperative course was uneventful. Histology showed colloid multinodular goiter in both the cervical and ectopic thyroids.

Discussion

Retrosternal goiter is the result of progressive enlargement of the thyroid parenchyma, which

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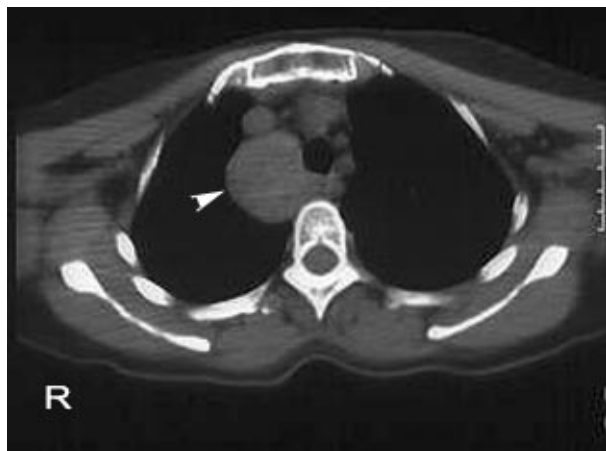


Fig. 2. Chest computed tomography. Ectopic thyroid tissue (arrow), behind the great vessels, at the right side of the posterior mediastinum.



Fig. 3. Scintigraphy (I^{131}) showing the presence of intrathoracic thyroid tissue.



Fig. 4. Operative findings; the ectopic intrathoracic thyroid.

extends behind the upper part of the sternum within the superior mediastinum (anterior part). Also called “secondary intrathoracic goiter,” it is not uncommon in patients with thyroid disease (1–6%) (2). Blood supply of secondary intrathoracic (or retrosternal) goiter is from the superior and inferior thyroid arteries. The presence of ectopic intrathoracic thyroid tissue in the mediastinum is a very rare entity, called “primary intrathoracic goiter” (3, 4). What distinguishes ectopic intrathoracic thyroid from the much more common retrosternal goiter is that the former receives its blood supply from vessels of the mediastinum (rather than the neck) and it is not otherwise connected to the cervical thyroid except for a thin band of connective tissue. When present, symptoms in patients with primary intrathoracic goiter (ectopic intrathoracic thyroid) are due to the presence of the mass (pressure on adjacent tissues/organs) (Table 1) (1, 3, 4). Differential diagnosis includes a variety of diseases (Table 2) (5). Chest radiography is usually diagnostic for most patients (up to 90%) (6). Chest computed tomography provides important information, with high sensitivity (98%), about the location of the ectopic thyroid tissue and its relation with the great vessels and other structures in the mediastinum (4, 6, 7). Since uptake of the I^{131} is not always observed in ectopic intrathoracic thyroid tissue, scintigraphy (using I^{131}) is not always diagnostic (7). However, it may be useful when

TABLE 1

*Symptoms of Patients with Ectopic Intrathoracic Thyroid (Primary Intrathoracic Goiter)**

- Respiratory symptoms (cough, wheezing, dyspnea, hemoptysis, recurrent pneumonias, etc.) (the most common symptoms)
- Dysphagia (rare)
- Weight loss (in malignant lesions) (rare)
- Superior vena cava obstruction (in very large lesions)
- Chest pain (very rare)

* About one-third of patients are asymptomatic.

TABLE 2

Differential Diagnosis of Mass Lesions in the Posterior Mediastinum

- Lymph node lesions
- Bronchogenic cysts
- Aneurysms
- Neurogenic tumors
- Pheochromocytoma
- Ectopic thyroid
- Spinal lesions
- Hiatal hernia

positive. Ectopic intrathoracic thyroid should be removed to rule out malignancy (1, 3, 6). Excision of this tissue is usually not possible through the cervical incision, and so a thoracotomy or sternotomy is required. This is a safe procedure with a very low mortality rate (0–2%) (1, 3, 4) and an acceptable morbidity. Prognosis is excellent following a successful excision (7).

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