

# Primary Posterior Mediastinal Goiter: A rare cause of dyspnea

## Primer Posterior Mediastinal Guatr: Nadir Bir Dispne Sebebi

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### Abstract

Abstract Ectopic intrathoracic thyroid is a rare presentation of thyroid disease and comprises about 1% of all mediastinal tumors. Although, it is occult on chest radiographs, intrathoracic thyroid masses are evident as anterior mediastinal masses. We present a patient with primary ectopic left posterior mediastinal goiter, caused by dyspnea due to tracheal compression. Left postero lateral thoracotomy was performed to remove the mass, resulting in a favorable outcome.

Key Words: **Ectopic goiter; Posterior mediastinum; Surgery.**

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### Özet

Ektopik intratorasik tiroid nadirdir ve tüm mediastinal kitlelerin yaklaşık %1'ini oluşturur. İntratorasik tiroidlerin çoğu anterior mediastinal kitle olarak röntgenogramla tesbit edilebilir. Biz, trakeaya bası yaparak dispneye sebep olan sol posteriyor mediastinal yerleşimli primer ektopik guatrılı olgumuzu sunuyoruz. Sol posterolateral torakotomi ile kitle başarılı bir şekilde çıkarılmıştır.

Anahtar kelimeler: **Ektopik guatr; Posteriyor mediasten; Cerrahi.**

### Introduction:

Primary mediastinal ectopic goiters are very rare and comprise about 1% of all mediastinal tumors. Enlarged mediastinal thyroid tissue may result from extension of a cervical goiter into the chest and is then called secondary or may develop from ectopic thyroid tissue located in the mediastinum and is then called primary (1). Blood supply of primary mediastinal goiter comes from local intrathoracic vessels. Compressing symptoms, diagnostic uncertainty, and the risk of malignancy support surgical excision.

### Case report

The patient is a 74-year-old man with a 2-month history of progressive dyspnea. Chest x-ray showed the left superior mediastinal mass was compressing the trachea. A computed tomography (CT) scan confirmed a posterior mediastinal (retrotracheal visceral mediastinum) mass with no cervical connections. (Fig. 1) The physical examination revealed no abnormalities but stridor. Hematological and chemistry panels were normal. A left posterolateral thoracotomy was performed. The mass was, behind the arcus aorta, left carotid and subclavian arteries. Although the mass was pushing the trachea through the right hemithorax, there was no invasion. On the other hand, the esophagus was compressed to the right and posterior aspect of the thorax. In addition, there was a 10cm contact between the columna vertebrales and the mass. Mobilization of the mass encountered no communication with the cervical thyroid, and all blood supply to the mass was intrathoracic. The specimen was solid, and measured 12 × 7 × 5 cm. Histological examination was representative of multinodular goiter.



**Picture 1.** CT scan showing a big posterior mediastinal goiter.

### Discussion

Ectopic intrathoracic thyroid is a rare presentation of thyroid disease and comprises about 1% of all mediastinal tumors (2). The left posterior mediastinal location of thyroid gland is rare. The anterior mediastinum makes up 75% to 94% of intrathoracic goiters. The posterior mediastinal masses constitute 10% to 15%. The right posterior mediastinum is the most common location, in which the aortic arch development blocks descent to the left (3).

Foregut endoderm is the embryonic origin of thyroid gland, which migrates ventrocaudally with the great vessels into the chest, and aberrant tissue can occur with continued migration. The "true" aberrant thyroid is distinguished from a substernal goiter or thyroid tissue by its lack of connection to the primary gland (4). However, aberrant, benign ectopic thyroid tissue may occur, and it is most commonly found as a part of the evaluation of endocrine dysfunction and rarely presents as a primary mass (5).

Symptoms at presentation vary and range from minimal to disabling. These include cough, pain, neck swelling, dysphagia, superior vena cava syndrome, or dysfunction of the recurrent laryngeal nerve (2, 6). Our patient has admitted to our clinic with progressive dyspnea and stridor. The diagnostic procedures include standard X-ray and CT scan imaging, eventually combined with radionuclide scintigraphy. Once the diagnosis of an intrathoracic goiter is obtained the treatment is surgical because of unknown dignity, risk of compression or other symptoms (7). Primary posterior mediastinal goiters are best operated by thoracotomy as troublesome mediastinal bleeding may occur which is difficult to control from a cervical collar incision. The approach of choice is a posterolateral thoracotomy in case of a posterior location. Arcus aorta and its branches may cause difficulties to approach superior posterior mediastinum on the left side.

**In conclusion,** primary posterior mediastinal masses are rarely thyroid gland and the treatment is surgical if the mass causes symptoms due to compression.

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