Posterior mediastinal ectopic goiter

Posterior mediastinal ektopik guatr

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Özet

Ektopik guatr, posterior mediastende oldukça nadiren görülmektedir. On yıl önce total tiroidektomi yapıldığı öğrenilen 53 yaşındaki kadın hastada posterior mediastende 7 cm çapında kitle tespit edildi. Çıkarılan kitlenin patolojik incelemesi nodüler kolloidal guatr olduğunu gösteriyordu. Literatürde nadiren bildirilmiş olan posterior mediastende ektopik guatr olgusunu sunuyoruz.

Anahtar sözcükler: retrosternal guatr, posterior mediasten, ektopik guatr

Abstract

Ectopic mediastinal goiters are rarely encountered in the posterior mediastinum. A posterior mediastinal tumor measuring 7 cm in diameter was successfully removed in a 53 year-old female patient who had undergone total thyroidectomy ten years previously. The pathology report showed the mass to be a nodular colloidal goiter. The patient was diagnosed as a case of mediastinal ectopic goiter and reported due to its rarity.

Keywords: retrosternal goiter, posterior mediastinum, ectopic goiter

Introduction

Ectopic mediastinal goiters, which are also referred to as primary intrathoracic or aberrant goitera, arise as a result of an abnormal embryologic migration of thyroid anlage closely associated with the aortic sac.[1] Such goiters account for 1% of all mediastinal tumors.[2]

Case report

A 53 year old female was admitted to the Thoracic Surgery Department following detection of a mass in the course of a routine examination performed in preparation for surgery for an umbilical hernia. The patient had undergone a total thyroidectomy ten years ago. Her chest roentgenogram and laboratory tests at follow-up were reported to be normal and indicated that the patient was asymptomatic and in an euthyroid state at the time.

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A chest roentgenogram showed enlargement of the superior right mediastinum and surgical clips were observed in relation to the previous cervical total thyroidectomy (Figure 1). Chest computed tomography and magnetic resonance imaging showed a well circumscribed heterogeneous mass showing punctate calcification posterior to the trachea and oesophagus. The mass measured 7 cm in diameter, was located at the right posterio-superior mediastinum and resembled a neurogenic tumor (Figure 2).

For the intervention, the chest was opened via the fifth intercostal space by thoracotomy and the mass was observed at the superior border of the vena azygos, filling the posterior mediastinum. As the mediastinal pleura was opened, a heterogeneous, nodular, encapsulated mass, posteriorly adjacent to the trachea and the oesophagus and extending to the vertebral body was detected (Figure 3). Its blood supply was observed to originate from vascular branches of intrathoracic vessels. The mass was totally removed by blunt and sharp meticulous dissection avoiding injury to neighboring vital organs. Macroscopically, the mass was capsulated, solid, nodular and measuring nearly 7 cm in diameter. The cut surface was nodular and heterogenous. Pathologic diagnosis was stated as a nodular colloidal goiter with a follicular structure separated into nodules, with cubic epithelium; the lumens of which were filled with colloid

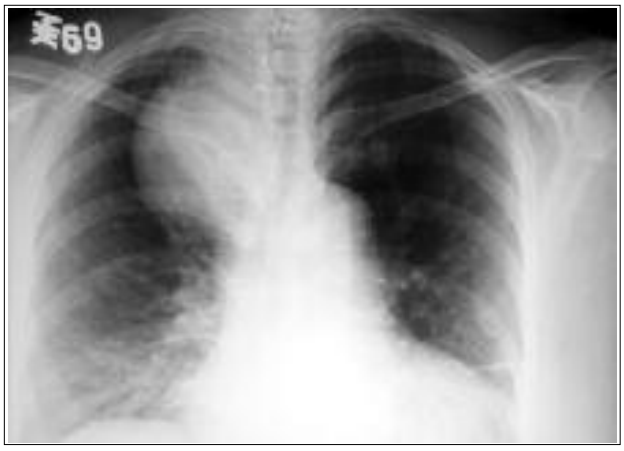

Figure 1. A large well-defined homogeneous opacity in the right paratracheal region and clips were dedected belonging to previous operation.

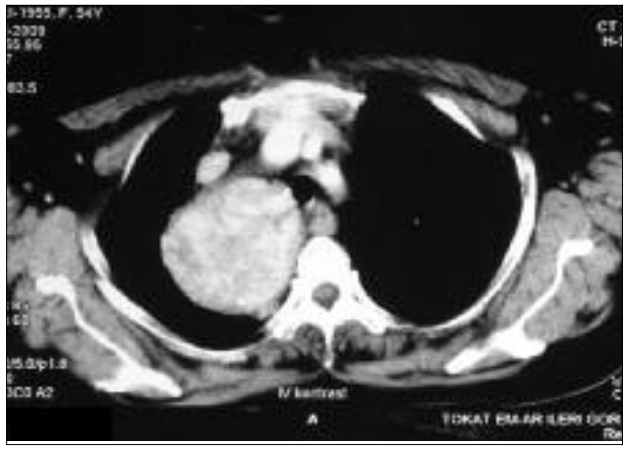

Figure 2. Contrast enhanced computed tomography scan of the chest showing a nonhomogeneous posterior mediastinal mass on the right side with well-defined margins.

with no evidence of neoplasia (Figure 4). The patient was discharged in good condition on the sixth day following the operation.

Discussion

True posterior mediastinal goiter is described as a mass which descends into the posterior part of the superior mediastinum below the transverse line between the lower end of manubrium sterni and the body of the 4th thoracic vertebra and the plane of the azygos vein. Our findings during the surgical exploration of our patient are compatible with this definition. A goiter completely confined to the true posterior mediastinum is an extremely rare occurrence. Thoracotomy or sternotomy are preferred for mediastinal ectopic goiters due to the blood supply arising from intrathoracic vessels. The origin of the aberrant thyroid is explained as the failure of fusion of the ultimobranchial bodies with the isthmus near the posterior pericardium in the 7th embryonic week, leaving thyroid tissue in the developing posterior mediastinum.[3] Aberrant, benign thyroid tissue is most commonly found as a part of endocrine dysfunction and it rarely may present as a primary mass.[4] Mediastinal goiters may arise from remaining or distant ectopic tissues due to increased TSH production following cervical total thyroidectomy. A previous cervical operation may also cause problems if an intrathoracic segment of the goiter is missed or not recognized during the first cervical operation. However, after a thyroid operation, fewer than 20% of patients have been found to retain a significant intrathoracic component, which generally develops in the anterior and middle mediastinum with a blood supply from the cervical region

Figure 3. Capsulated mass after mediastinal pleura opened and dissected.

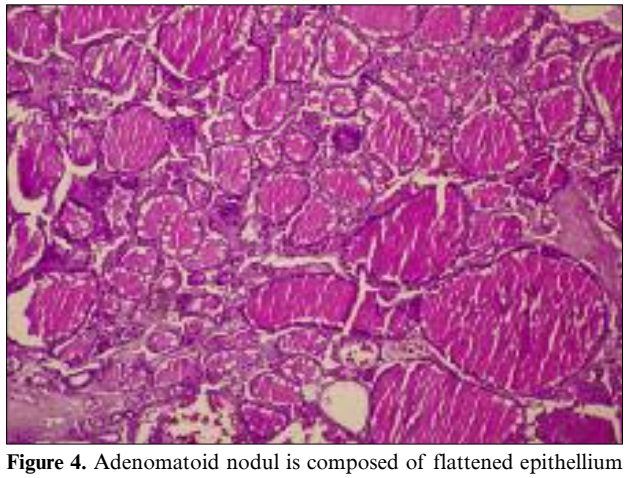

Figure 4. Adenomatoid nodul is composed of flattened epithellium and distented large follucules filled with colloid (H&E x 100).

rather than the posterior compartment.[5-7] Despite a history of a previous total thyroidectomy, peroperative evidence of blood supply and lack of any connection to the cervical region confirms the diagnosis of an ectopic goiter in our patient. The majority of patients with this diagnosis are women in their 6th decade.[5] Symptoms may vary depending on the extent of the enlargement of the tumor and its compressing the adjacent vital structures, a situation which may necessitate and urgent surgery.

As also the case with our patient, ectopic mediastinal goiters are most frequently diagnosed incidentally. Nevertheless, such masses should be resected due to the possibility of their pressure effects on adjacent vital structures such as the trachea, oesophagus and the vena cava superior, leading to life threatening respiratory failure, and to exclude the possibility of malignancy.[8]

In conclusion, although posterior mediastinal ectopic goiter is a rare entity, it must be considered in the differential diagnosis of posterior mediastinal tumors.

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