MULTINODULAR GOITER PRESENTING AS A RETROPHARYNGEAL MASS: A CASE REPORT

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SUMMARY
Multinodular goiter not uncommonly grows substernally causing symptoms related to compression of the trachea and/or esophagus. However, cephalad extension of a goitrous thyroid gland is rare, and retropharyngeal thyroid tissue has been reported only scarcely in the literature. We describe radiographic and computed tomographic findings in an elderly patient presenting with dysphonia and dysphagia due to a large retropharyngeal goiter compressing the larynx and hypopharynx. This rare condition must be considered in the differential diagnostic list of retropharyngeal masses.

Key Words: Thyroid Gland - Goiter - Computed Tomography

ÖZET
Multinodüler Guatır

Anahtar Kelimeler: Tiroid Bezi-Guatır-Bilgisayarlı Tomografi

Goitrous enlargement of the thyroid gland usually presents as a non-tender anterior neck mass. Asymptomatic patients may be treated medically, which often reduces the size of the gland or avoids progression of the disease. Neglected or ineffectively treated cases may grow beyond the confines of the gland, which primarily occurs caudally into the mediastinum. Cranial extension of the goiter into the retropharyngeal space is a very rare phenomenon, which, to our knowledge, has been described in only five patients previously (1-4). In this paper, we present a patient with multinodular goiter with a large retropharyngeal component.

Case Report:
A 78-year-old male patient living in a moderately iodine-deficient environment (5) presented with dysphagia, a change in the quality of voice, and a swelling in the neck. Physical examination revealed a large mass in the right anterior cervical triangle extending down to the supraclavicular region, which was soft, mobile, nontender and nonpulsatile on palpation. Endoscopic examination showed a smooth submucosal mass which protruded into the lumen of the oropharynx and obliterated the right piriform sinus. Lateral radiography of the nasopharynx demonstrated prevertebral soft tissue swelling causing marked anterior displacement of the larynx and trachea (Figure 1). Computed tomography (CT) showed a diffusely enlarged thyroid gland with a heterogenous contrast enhancement. The right lobe of the gland extended medially to the left of the midline behind the oropharynx, remarkably narrowing the right

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The gland showed minimal intrathoracic extension. Sagittal reformations displayed the compromise of the airway lumen by the retropharyngeal thyroid tissue to a better advantage (Figure 3). Thyroid function tests showed the patient to be euthyroid. At surgery the thyroidal mass could easily be removed. The pathological examination revealed multinodular colloidal goiter. The postoperative course was uneventful. The preoperative symptoms were relieved after surgery. Postoperatively the patient became hypothyroid and was placed on thyroid replacement therapy.

**Discussion:**

When sufficiently large, goitrous thyroid glands usually grow down into the mediastinum or retroesophageal space. Extension cranially into the retropharyngeal region is extremely uncommon (1-4). Though most of the reported retropharyngeal goiters were due to direct extension, an occasional case was caused by ectopic thyroid tissue in this region (1). The patient presented herein also exemplifies direct cephalic growth of the thyroid gland into the retropharyngeal space.

The thyroid gland is normally situated in the pretracheal space, which is continuous inferiorly with the mediastinum and posteriorly with the retrovisceral space located behind the pharynx and esophagus. An enlarged thyroid gland may grow in either of these two directions. Extension caudally into the mediastinum forms the well-known substernal goiter, causing symptoms related to compression of the airway and/or esophagus. In a minority of the patients, mediastinal extension is followed by growth superiorly behind the oro-hypopharynx, which may produce dysphagia and dysphonia. In our patient the goitrous thyroid grew predominantly cephalad markedly narrowing the hypopharynx and larynx, with only minimal intrathoracic extension. His symptoms were presumably caused by the large retropharyngeal component.

Most of the retropharyngeal thyroid glands are histologically multinodular goiters (2-4), as in our patient. Only one patient had Hashimoto thyroiditis (1). The condition generally affects the

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**Figure 1.** Lateral neck radiography shows prevertebral soft tissue swelling causing anterior displacement of the larynx and trachea.

**Figure 2.** Contrast enhanced axial CT section at the level of the hyoid bone shows medial extension of the right lobe of the thyroid gland partially obliterating the right piriform sinus and laryngeal vestibule.

**Figure 3.** Sagittal reformatted CT image demonstrates the contrast enhanced thyroidal tissue in the prevertebral space with the displaced and narrowed laryngeal lumen.
elderly, probably because the goitrous enlargement has to be neglected for a long period of time to attain a sufficient size. The formerly reported three patients were euthyroid (2,4). One of the remaining two was hypothyroid and the other was hyperthyroid (1,3). This patient was also an elderly with normal thyroid function tests.

Retropharyngeal goiters are generally treated surgically. In only one of the reported patients thyroid suppression therapy was used and resulted in symptomatic improvement (4). Because of the enormous size of the retropharyngeal component, our patient was also referred for surgery and the thyroid tissue could easily be extirpated with relief of symptoms.

In summary, the possibility of retropharyngeal as well as mediastinal extension of the thyroid gland must also be considered in elderly goitrous patients living in iodine deficient environment with symptoms suggesting compression of the airway or esophagus. Indeed, the principal cause of the symptoms may be due to the retropharyngeal component rather than the substernal part, as was the case in this patient. CT examination, which in this context must cover both the neck and upper mediastinum, can easily confirm the thyroidal nature of the retropharyngeal mass due to its characteristic density and contrast enhancement properties.
REFERENCES


