

# Primary thyroid lymphoma

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## ABSTRACT

Primary thyroid lymphoma represents a challenging, multi-disciplinary condition that it may be found in addition to positive antibodies against thyroid. Early recognition is essential for an adequate management. A thyroid nodule but usually the entire goiter may rapidly progress to a voluminous mass causing local compressive symptoms. Most of the patients with primary thyroid lymphoma had a history of Hashimoto thyroiditis. Epidemiologically, primary thyroid lymphoma represents an exceptional entities opposite to papillary or follicular cancer. The first tool of evaluation is ultrasound; in order to appreciate the local and distance invasion, computed tomography is useful. Fine needle aspiration and cell block analysis or biopsy and immunohistochemistry report are essential for adequate diagnostic in order to avoid unnecessary surgery. Diffuse large B-cell lymphoma is the most frequent histological type. Chemotherapy and local radiation represents the elective management. Considering this unusual condition, awareness is the key operative word for different practitioners.

**Keywords:** thyroiditis, lymphoma, thyroid, anti-thyroid antibody, tumor

## INTRODUCTION

Primary thyroid lymphoma represents a challenging, multi-disciplinary condition that may be found in addition to positive antibodies against thyroid (1,2). Early recognition is essential for an adequate management (3,4). Some studies showed an association between Hashimoto thyroiditis and primary thyroid malignancies, including lymphoma, even the relationship is not universally approved (5).

## METHOD

We introduce practical aspects on a rapidly progressive mass at anterior cervical level that underlines a

primary thyroid lymphoma. This a brief update of literature from an endocrine perspective. The information is sustained by a case data from authors' daily practice.

## PRESENTATION

A thyroid nodule or entire goiter may rapidly progress to a voluminous mass causing local compressive symptoms (6,7). Delay of presentation correlates with a more aggressive profile at first diagnostic (8) (Figure 1). Females are at higher risk of primary thyroid lymphoma (6,7,8).

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**FIGURE 1.** This is the ultrasound on a 76-year old female diagnosed with primary thyroid lymphoma in association with a prior diagnostic of autoimmune hypothyroidism

### RELATIONSHIP WITH AUTOIMMUNE THYROID BACKGROUND

Most of the patients with primary thyroid lymphoma had a history of Hashimoto thyroiditis or they may be known with goiter (9). Most of the cases are reported in adult population and exceptionally in children (10).

### IMAGING FINDINGS

The large goiter may mimic a thyroid cancer as seen in differentiated/undifferentiated carcinomas deriving from follicular cells or medullary thyroid cancer (11). Some cases are first referred to thyroidectomy, and then the diagnostic of primary thyroid lymphoma is established based on post-operative pathological report (12). Epidemiologically, primary thyroid lymphoma represents an exceptional entities opposite to papillary or follicular cancer (13). The first tool of evaluation is ultrasound; in order to appreciate the local and distance invasion computed tomography is useful (14) (Figure 2).

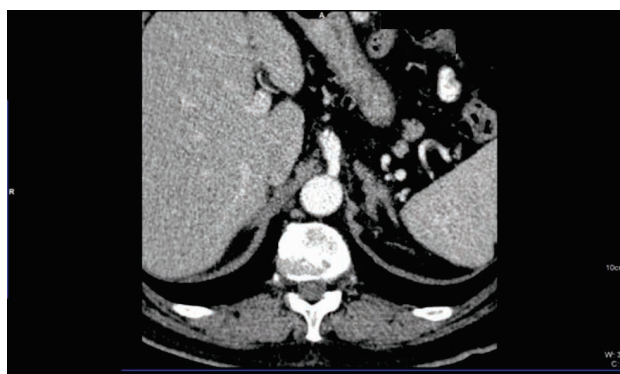
We can observe in Figure 2 bulky space-replacing process, left thyroid lobe, anterior and left lateral prominent, posteriorly extending to the bony plane of adjacent vertebral bodies, extending to the right, beyond the midline, sleeves the vertebral bodies and comes in contact with the right carotid artery; associated mass effect on the midline structures, deviation of trachea and esophagus to the right; possible infiltration of the posterior wall of the trachea; the tumor incorporates the left carotid artery; tumor extension at the level of the superior mediastinum up to the level of the arterial brachiocephalic trunk and the aortic club, in right lateral intimate contact with the left lateral wall of the esophagus, against which the demarcation line cannot be specified and in intimate caudal contact with the left subclavian artery. Diameters are: 6.56 cm (transverse) by 2 cm (antero-posterior) on the midline



A1



A2



B

**FIGURE 2.** Computed tomography aspects: primary thyroid lymphoma on a 76-year old female with rapidly enlarging cervical mass . A. Transverse plane (A1+A2); B. Coronal plan

by 6.06 cm (antero-posterior) and at mediastinal level of 5.89 cm (transverse) by 6.44 cm (antero-posterior).

Coronal diameters (reconstruction) are of 8.14 cm (transverse) by 8.63 cm (cranio-caudal), with moderately spontaneous heterogeneous structure, iodophil and heterogeneous post-administration intravenous contrast.

## MANAGEMENT

Fine needle aspiration and cell block analysis or biopsy and immunohistochemistry report are essential for adequate diagnostic in order to avoid unnecessary surgery (15,16). Diffuse large B-cell lymphoma is the most frequent histological type (17,18). Chemotherapy and local radiation represents the elective management (19,20).

## DISCUSSION

The main controversies are related to the point when a patient is admitted for a large neck mass of thyroid origin with a cancer-like pattern and surgery is considered as first step of approach without fine needle aspiration and/or core biopsy – based information. Sometimes, when cytological report is not conclusive, the patient is referred for thyroidectomy which, in case with a primary thyroid lymphoma confirmation, does not represent the essential line of treatment.

## CONCLUSION

Considering this unusual condition, awareness is the key operative word for different practitioners.

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