Case Report

Primary Thyroid Lymphoma: Two Clinical Cases with Different Presentation

Linfoma Primário da Tiróide: Dois Casos Clínicos com Apresentação Diferente

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https://doi.org/10.34635/rpc.1091

ABSTRACT

Primary thyroid lymphoma (PTL) is a rare malignancy representing less than 5% of all thyroid cancers. It predominantly affects females and is strongly associated with Hashimoto thyroiditis, with an almost 60-fold increased risk in these patients.
In this report, the authors present two clinical cases of primary thyroid lymphoma, each with distinct clinical presentations. They highlight the diagnostic challenges and the importance of early recognition and appropriate management.

Keywords: Lymphoma; Lymphoma, B-Cell; Lymphoma, Large B-Cell, Diffuse; Thyroid Neoplasms/surgery

RESUMO

O linfoma primário da tiróide (LPT) é uma neoplasia rara que representa menos de 5% de todos os cancros da tiróide.
Afeta predominantemente mulheres e está fortemente associado à tiroidite de Hashimoto, com um risco quase 60 vezes superior nestes doentes.
Neste artigo, os autores apresentam dois casos clínicos de linfoma primário da tiróide, cada um com apresentações clínicas distintas. Destacam os desafios diagnósticos e a importância do reconhecimento precoce e da gestão adequada.

Palavras-chave: Linfoma; Linfoma de Células B; Linfoma Difuso de Grandes Células B; Neoplasias da Tiróide

Received/Recebido: 08/02/2025 **Accepted/Aceite:** 09/03/2025 **Published online/Publicado online:** 21/03/2025 **Published/Publicado:**

INTRODUCTION

Primary thyroid lymphoma (PTL) is a rare thyroid gland malignancy, which may or may not involve regional neck lymph nodes.[1] It accounts for less than 5% of all thyroid cancers and under 3% of all extranodal lymphomas. This condition is often associated with preexisting Hashimoto thyroiditis, which is characterized by lymphocytic infiltration of the thyroid and carries nearly a 60-fold increase risk. PTL primarily affects females, with a female-to-male ratio of 4:1, and the average age at diagnosis is approximately 60 years.[2] Approximately 98% of all primary thyroid lymphomas are B-cell lymphoma (DLBCL), being the most common subtype (70%), followed by extranodal marginal zone lymphoma, follicular lymphoma, and extranodal small lymphocytic lymphoma. Notably, there is no significant correlation between morphological subtype and survival.[2-4]

Clinically, PTL usually presents as a rapidly enlarging thyroid mass, often accompanied by obstructive symptoms such as hoarseness (57%), dyspnea or stridor. Symptoms such as fever, night sweats, weight loss, and indicators of hypothyroidism (36%)- like fatigue, cold intolerance, constipation, dry skin, and menstrual irregularities be observed in approximately 36% of cases.[5]

On physical examination, an enlarged, hard, and immobile thyroid gland is frequently noted, along with cervical or supraclavicular lymphadenopathy. In some cases, a large solitary nodule may be present instead of a diffuse thyroid enlargement.

Diagnosis requires a combination of laboratory tests (TSH, T3, T4, antithyroglobulin, and antithyroid peroxidase antibodies), imaging studies (ultrasound, computed tomography, positron emission tomography, and magnetic resonance imaging), and tissue biopsy-preferably performed through fine needle aspiration (FNA), core biopsy, or surgical biopsy for histological confirmation.[5]

The authors present two clinical cases of primary thyroid lymphoma, each with a distinct clinical presentation. These cases illustrate the diagnostic challenges and management strategies for this uncommon disease.

CASE REPORTS

1. CASE 1

A 69-year-old woman presented to the Emergency Department with worsening dyspnea and stridor that had progressed over three weeks, particularly intensifying the day before her admission. She also reported experiencing dysphagia. Her medical history revealed thyroiditis and hypothyroidism, which were diagnosed and treated several years ago, during which she remained asymptomatic under clinical surveillance.

Upon examination, the patient displayed audible stridor and an enlarged, firm, and fixed thyroid gland. Arterial blood gas analysis indicated respiratory alkalosis with a pH of 7.56 and a PaCO2 of 29 mmHg. Immediate intravenous corticosteroids were administered, resulting in a significant clinical improvement. Thyroid function tests revealed no abnormalities. Cervical computed tomography revealed a heterogeneous thyroid gland with edema and extension to the upper esophagus (Fig. 1). The patient was admitted for further evaluation and monitoring. During her hospitalization, she underwent an ultrasound-guided biopsy of the thyroid gland. Immunohistochemistry identified lymphocytes without atypia. Based on these findings, the case was discussed with the Hematology team, who recommended a thoracoabdominal computed tomography (CT) scan and a surgical biopsy for definitive diagnosis. The thoracoabdominal CT scan revealed no evidence of concurrent nodal disease. However, the surgical biopsy confirmed the diagnosis of high-grade large B-cell lymphoma. The patient was then referred for chemotherapy.

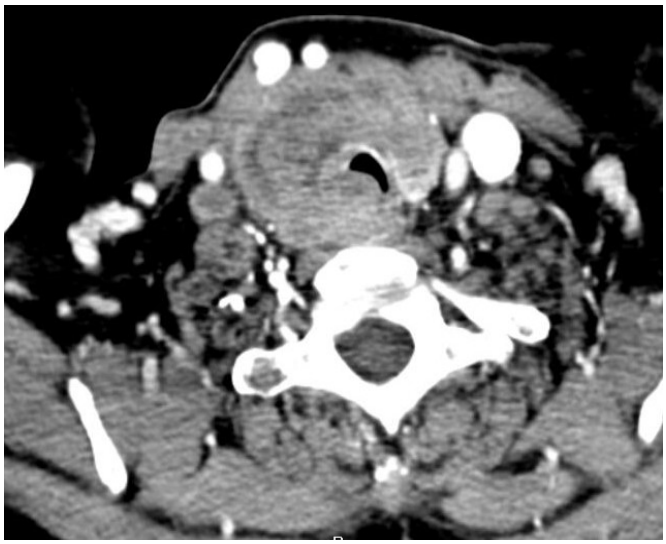

Figure 1: Axial view of the thyroid gland.

2. CASE 2

A 68-year-old man was referred to a General Surgery appointment due to a suspected thyroid tumor with bilateral cervical adenopathy. His medical history included a multinodular goiter and thyroiditis. During the clinical

examination, the patient exhibited dysphagia and dysphonia, and was admitted for further investigation and monitoring. A fine needle biopsy was initially performed but was inconclusive. Cervical and thoracic computed tomography (CT) revealed a solid mass involving the entire left thyroid lobe and isthmus, extending into the superior mediastinum. The mass compressed both the left subclavian and external jugular veins, which were thrombosed. Posteriorly, it compressed and deviated the esophagus to the right. Anteriorly, there was a bilateral extracapsular invasion of the sternocleidomastoid and sternohyoid muscles (Fig. 2). Multiple lymph nodes were identified around the tumor, especially in the central cervical compartment (levels VI and VII), along the jugular-carotid chains, and in the upper mediastinum. The largest lymph node measured 22 mm and was next to the brachiocephalic vein. Two suspicious nodules were also noted in the right lung. The patient underwent a surgical biopsy, which was inconclusive. Due to the worsening dysphagia, a percutaneous endoscopic gastrostomy (PEG) was performed to ensure adequate nutrition. A second surgical biopsy was then conducted, and the histopathological examination revealed large B-cell lymphoma, T-cell rich subtype. The patient was subsequently referred for chemotherapy.

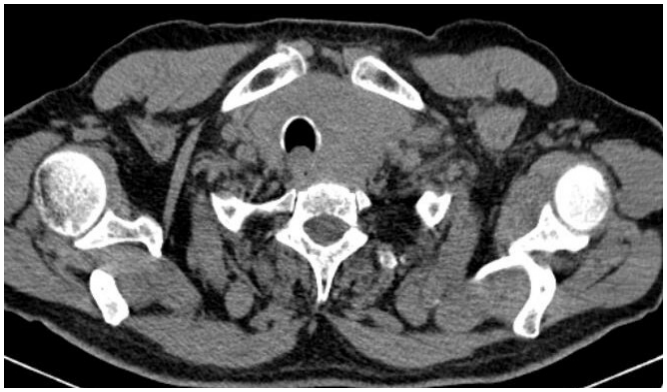

Figure 2. Axial view of thyroid gland.

DISCUSSION

Most patients (76%) with primary thyroid lymphoma present with localized disease (stages I-II), while approximately 24% have disseminated lymphoma (stages III-IV). The primary differential diagnosis is anaplastic thyroid carcinoma, which has a similar clinical presentation. Ultrasound and computed tomography (CT) should be the initial diagnostic tools; however, histopathological examination remains the gold standard for a definitive diagnosis. Fine-needle aspiration cytology (FNAC) is often performed, but it may yield inconclusive results. Immunohistochemistry (IHC) enhances diagnostic accuracy by distinguishing between lymphoma and other thyroid malignancies. The prognostic significance of specific immunohistochemical markers, such as MIB-1, p53 and BCL2, remains unclear, and further multicentric studies are needed to clarify their roles.[1-3]

Staging follows the Lugano staging system, with FDG PET/CT recommended for FDG-avid lymphomas and CT for FDG non-avid subtypes. The histological subtype and tumor stage determine treatment. For limited-stage diffuse large B-cell lymphoma, combined chemotherapy and radiotherapy are preferred over chemotherapy alone. Surgery is generally not recommended except for diagnostic biopsies. The standard chemotherapy regimen is rituximab combined with cyclophosphamide, doxorubicin, vincristine, and prednisolone (R-CHOP). Obstructive symptoms often improve within hours of starting chemotherapy. The prognosis depends on several factors, including histology, tumor burden, stage, age, performance status and response to treatment. The five-year failure-free survival rate for limited-stage disease treated with combined therapy is approximately 91%.[5]

The most complications of primary thyroid lymphoma include airway obstruction, superior vena cava syndrome, and dysphagia. Treatment-related complications consist of radiation-induced hypothyroidism, secondary cancers in the thyroid or other exposed organs, peripheral neuropathy, congestive heart failure, hemorrhagic cystitis, and bladder cancer.[5]

CONCLUSION

Early diagnosis of primary thyroid lymphoma is vital due to its rarity, diverse clinical presentation, and management, which significantly differs from other thyroid malignancies. The cases presented illustrated these differences and highlighted the need for a multidisciplinary approach to managing this condition. With proper diagnosis and treatment, primary thyroid lymphoma can have a favorable prognosis. Radiotherapy is central to treatment, particularly because of the radiosensitive nature of this tumor.[1,3]

Clinicians should always include primary thyroid lymphoma in the differential diagnosis of thyroid masses to ensure timely diagnosis and appropriate management.

ETHICAL DISCLOSURES

Conflicts of Interest: The authors have no conflicts of interest to declare.
Financing Support: This work has not received any contribution, grant or scholarship.
Confidentiality of Data: The authors declare that they have followed the protocols of their work center on the publication of patient data.
Patient Consent: Consent for publication was obtained.
Provenance and Peer Review: Not commissioned; externally peer-reviewed.

RESPONSABILIDADES ÉTICAS

Conflitos de Interesse: Os autores declaram a inexistência de conflitos de interesse na realização do presente trabalho.
Fontes de Financiamento: Não existiram fontes externas de financiamento para a realização deste artigo.
Confidencialidade dos Dados: Os autores declaram ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.
Consentimento: Consentimento do doente para publicação obtido.
Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

CONTRIBUTORSHIP STATEMENT

DG: Writing the original draft
JV, AO and JP: Review and editing
AG: Conceptualization
All authors approved the final version to be published.

DECLARAÇÃO DE CONTRIBUIÇÃO

DG: Redação do projeto original
JV, AO e JP: Revisão e edição
AG: Conceptualização
Todos os autores aprovaram a versão final a ser publicada.

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