INTRODUCTION

Primary thyroid lymphoma is defined as a lymphoma involving only the thyroid gland or the thyroid gland and adjacent (regional) neck lymph nodes. Primary thyroid lymphomas are uncommon, accounting for only 1-5% of thyroid neoplasms and less than 2% of extranodal lymphomas, and usually affects elderly women [1].

It is typically presenting as a rapidly enlarging, painless thyroid mass, which may cause pressure symptoms of the aerodigestive tract. Thyroid lymphomas are divided into two groups: non-Hodgkin’s lymphomas of B-cell origin and mucosa-associated lymphoid tissue (MALT) lymphomas. Most thyroid lymphomas are B-cell origin non-Hodgkin’s diffuse large cell type lymphomas and develop in 50-70% of all lymphomas. The more indolent lymphomas are the subgroup of MALT lymphomas comprising approximately 6% to 27% of thyroid lymphomas. Pure MALT thyroid lymphomas tend to have an indolent clinical course with an excellent prognosis, whereas the diffuse large cell types alone or mixed have a more aggressive clinical course. Hashimoto’s thyroiditis appears to be associated with the development of MALT lymphomas. The exact mechanism of malignant transformation of benign lymphoid infiltrates seen in chronic thyroiditis remains unknown. The annual incidence rate is 2 per million persons, with female predominance, typically present at ages of 50 and 80 years, with a peak incidence at 60 years. Chronic lymphocytic thyroiditis or Hashimoto’s disease is found in more than 90% of the reported cases. The relative risk of thyroid lymphoma in patients with chronic thyroiditis is 70 to 80 times higher compared to the normal population. It is speculated that malignant transformation of lymphocytes is the result of chronic stimulation by thyroiditis. Primary thyroid lymphomas are very rare as in the large majority of cases they are MALT lymphomas and DLBCL with or without a MALT component. The development of a primary thyroid MALT lymphoma can be considered a late event related to the acquisition of intra-thyroid lymphoid tissue in the context of an autoimmune thyroid disease such as Hashimoto’s thyroiditis [2, 3, 4]. Frequently patients present an enlarging neck mass; more rarely, this is accompanied by compression of surrounding structures and related symptoms such as dysphagia and/or dyspnea. In the large majority of patients, the disease is localized. In case of disease dissemination, the involvement of the GI tract is frequent, while CNS involvement is rare.

CLINICAL CASE

We present a clinical case of a 35-year-old patient with a large tumor formation in front of the neck, with difficulty swallowing and breathing. From the conducted hormonal tests, no data on abnormalities in thyroid function was found. Ultrasonic examination describes a thyroid gland with greatly enlarged size, pronounced density and hardness with pronounced compression and displacement of adjacent organs. Ultrasonography is the initial guiding diagnostic method for thyroid pathology. Although nonspecific, there are some ultrasound features that suggest primary thyroid lymphoma. Based on ultrasound criteria, primary thyroid lymphoma can be classified as nodular, diffuse, or mixed [7]. The presence of distinct posterior echoes is also present in 3 species and helps to distinguish lymphoma from other types of thyroid lesions. In the nodular type, the goiter is unilateral with internal echoes, hypoechoic, ho-
mogeneous and pseudocystic structures. Well-defined boundaries separate lymphomatous from non-lymphomatous tissues. In the diffuse type, the goiter is bilateral and hypoechoic, with unclear boundaries between lymphomatous and non-lymphomatous tissues. Mixed lymphoma shows numerous uneven, hypoechoic lesions. In our case it is a diffuse type.

**Histopathological result**

The observed lymphoid tissue is with massive infiltration of large lymphoids, with vesicular nuclei, in places more heterogeneous, with oval nuclei, with dispersed chromatin, visible delicate, non-permeable nucleoli, the lymphatic infiltrate is separated from the stroma by pseudo nest growth; extremely high mitotic activity and abundance of apoptosis; scattered a large percentage of caryophagous macrophages, giving the picture a „starry sky“. The described atypical infiltrate diffusely engages adjacent bundles of transverse striated muscles. The adjacent lymph node is uninvolved by lymphoid infiltrate. No thyroid parenchyma was found in the isthmus. In both lobes the thyroid parenchyma has atrophic changes, focal oncocytic metaplasia and abundant lymphoid infiltrates in the interstitium (picture of Hashimoto’s thyroiditis); massive infiltration in the predominant part of the gland from diffuse, massive lymphoid infiltrate from relatively monotonous medium and in, places to large lymphoids, with oval nuclei, with delicate nuclei and high mitotic activity, infiltration in the surrounding soft tissues. From the performed immune-histochemical method from the block, CD 20 was detected; CD 10-100% immunomarked the lymphocyte infiltrate; Bcl and Ki67 – 90% immunomarked lymphoma infiltrate (extremely high proliferative activity). Morphology and immunophenotype of aggressive B-cell lymphoma is similar to diffuse large cell B-cell lymphoma. On cytological section, diffuse large cell lymphoma presents as a relatively uniform population of large, abnormal lymphoid cells with lymphoepithelial foci and reduced or absent colloid [5, 6]. Nuclear abnormalities such as segmentation or micronuclei can be seen. In contrast, cytological findings in Hashimoto’s thyroiditis include small lymphocytes, Hürthle cells, lymphoid hyperplasia with dilated germ centers, and increased interstitial conjunctive tissue.

**Fig. 1. Peripheral blood swab – large granular lymphocytes**

**Treatment**

Traditionally, surgery and radiation therapy are considered standard treatments for primary thyroid lymphoma.

Surgical treatment was performed with total thyroidectomy, isthmusectomy and lymph node dissection and several courses of radiation therapy. According to the literature, low survival rates are observed in relapse. Although thyroid lymphomas are sensitive to chemotherapy and radiation, in subsequent relapses the long-term prognosis for survival is very poor and reoperation has a limited role [8, 9].

**Conclusion**

Primary thyroid lymphoma is a rare cause of thyroid malignancy. It should be suspected in a patient with increased neck mass, especially in one with a history of Hashimoto’s thyroiditis. Some ultrasound findings may suggest a diagnosis of primary thyroid lymphoma, but a definite diagnosis is ultimately made by biopsy. Immunophenotyping can be used as an initial diagnostic test. The most common subtype of primary thyroid lymphoma is diffuse large cell lymphoma, which is characterized by its more aggressive behavior and specific cytological findings. The second most common sub-
type is MALT lymphoma, which is more difficult to diagnose based on a slower rate of development and a similar type of ultrasound and cytology as in chronic thyroiditis. If left untreated, MALT lymphoma can transform into diffuse large cell and develop a more aggressive clinical course. Treatment and results are based on both developmental stage and histology. Given the sensitivity of primary thyroid lymphoma to radiation therapy and chemotherapy, they remain a major part of treatment. Localized indolent lymphomas can only be treated with radiation therapy, while disseminated indolent lymphomas or aggressive histological subtypes should also be treated with chemotherapy. Surgery is the first step regardless of the histological variant, due to the frequent severe compression symptoms of the airways.

The relatively rare occurrence of primary thyroid lymphoma severely limits the performance of larger, prospective, randomized trials that would allow more definitive conclusions about diagnosis and treatment.

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Библиография / References


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