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Efficiency of fine-needle aspiration biopsy in follow-up of thyroid nodules: Case report-primary thyroid lymphoma

Tiroid nodüllerinin takibinde ince iğne aspirasyon biyopsisinin etkinliği: Olgu sunumu-primer tiroid lenfoması

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SUMMARY

Primary lymphomas of the thyroid are uncommon tumours, constituting approximately 5% of all thyroid tumours, and less than 3% extranodal lymphomas. Typically, the disease presents and diagnosed with pressure symptoms caused by a rapidly growing mass. A biopsy is necessary to diagnose thyroid lymphoma. High grade diffuse large B-cell lymphoma and mucosa associated lymphoid tissue (MALT) lymphoma are the most common forms of primary lymphomas of the thyroid. Accurate diagnosis is very important as these tumours require a different treatment compared to other thyroid malignancies. In this case report, the aim was to present a patient diagnosed with primary thyroid lymphoma.

Keywords: Thyroid, lymphoma, gland

ÖZET

Tiroidin primer lenfoması, tüm tiroid tümörlerinin yaklaşık olarak %5'ini ve extranodal lenfomaların %3'ünden azını oluşturup, oldukça nadirdir. Tipik olarak, hızlı büyüyen kitleye bağlı bası semptomları ile tanı alırlar. Primer tiroid lenfoma tanısı için mutlaka biyopsi gereklidir. En yaygın formları, high grade Diffüz büyük B hücreli lenfoma ve MALT lenfomadır. Tedavisi diğer tiroid malignitelerinden farklı olduğu için tanı konulması oldukça önemlidir. Bu yazıda, primer tiroid lenfoma tanısı konulan olgunun sunulması amaçlandı.

Anahtar sözcükler: Tiroid, lenfoma, bez

INTRODUCTION

Thyroid cancer is a common endocrine malignancy whose prevalence is increasing worldwide[1]. Malignant lymphomas of the thyroid gland are rare, and constitute less than 3% of all extranodal lymphomas and about 5% of all thyroid malignancies[2]. In patients having Hashimoto's thyroiditis and presenting with a growing mass in neck, it is very important to consider primary thyroid lymphomas (PTL) during diagnosis. Cytology has a limited value in the evaluation and thus biopsy is recommended. It is encountered more frequently in women than in men[3, 4, 5]. Depending on the fast-growing mass, pressure symptoms such as hoarseness and shortness of breath may be present in varying degrees. Less frequently, patients may apply to clinic with systemic symptoms such as fever, night sweats and weight loss.

Primary thyroid lymphomas are commonly of B-cells origin, and generally present as Mucosa-Associated-Lymphoid-Tissue (MALT)-lymphoma associated with underlying Hashimoto's thyroiditis. Large Diffuse B-Cell Lymphomas (DLBCL) generally develop as a result of transformation of a MALT lymphoma[6]. Treatment varies depending on the histological subtype, prevalence and prognostic factors. Surgery is employed in the treatment of localized tumours while low grade and high grade histologic subtypes are usually treated with radiotherapy, chemotherapy or combined therapy.

CASE REPORT

A 58 years old male patient admitted to the hospital with complaints of swelling in the neck, difficulty in swallowing, fever, night sweats, weight loss and widespread pain. After detecting hyperthyroidism on assay, anti-microsomal and anti-tyroglobulin antibodies were examined to exclude Hashimoto's thyroiditis and the result was as negative. Multiple nodules were detected in left lobe (the largest one is of 1 cm) and a 4 cm nodule was found in the right lobe. Fine-needle aspiration biopsy was performed for three times (Figure 1).

As the aspiration cytology was suspicious, a total thyroidectomy was performed. The specimen obtained was evaluated, and the immunohistochemical staining of the right lobe resulted as follows: (-) for CD23, (-) for CD43, (+) for CD20, 30% positive for Ki67, (-) for BCL-6, (-) for CD10, (-) for CD5. Depending on these results, the patient was diagnosed with diffuse large B-cell lymphoma (Figure 2, 3, 4).

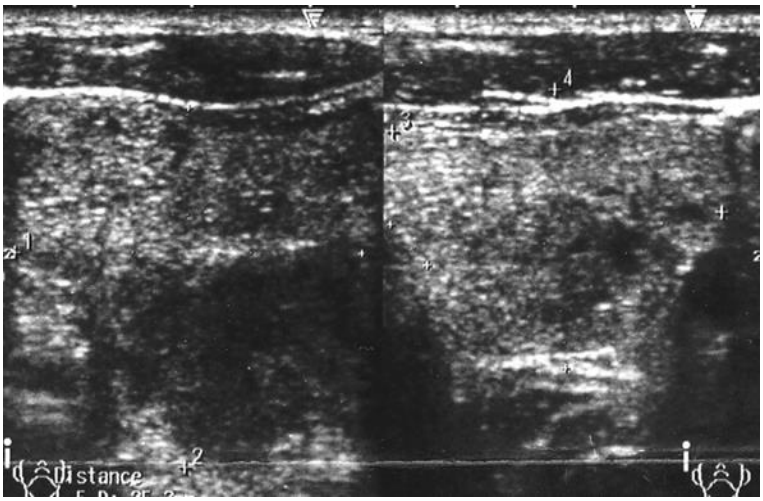

Figure 1: Thyroid ultrasonography revealed multiple nodules (biggest 1 cm) in the left thyroid gland 1 cm and a 4 cm nodule was found in the right thyroid gland.

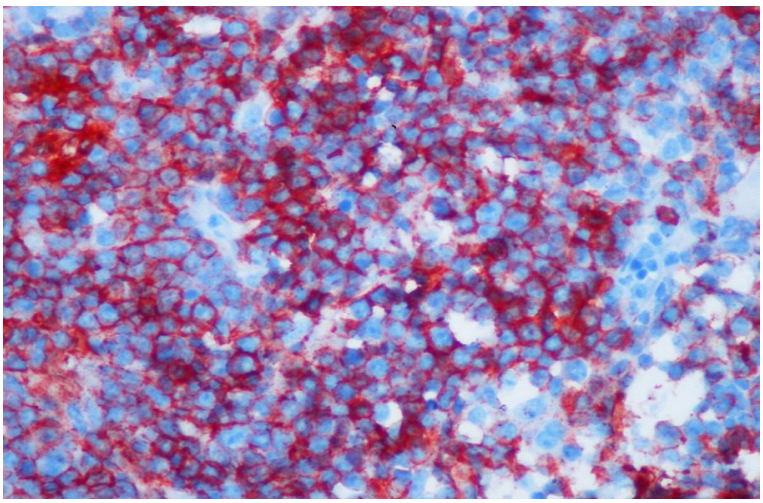

Figure 2: CD20 positivity in the lymphoma cells, x400.

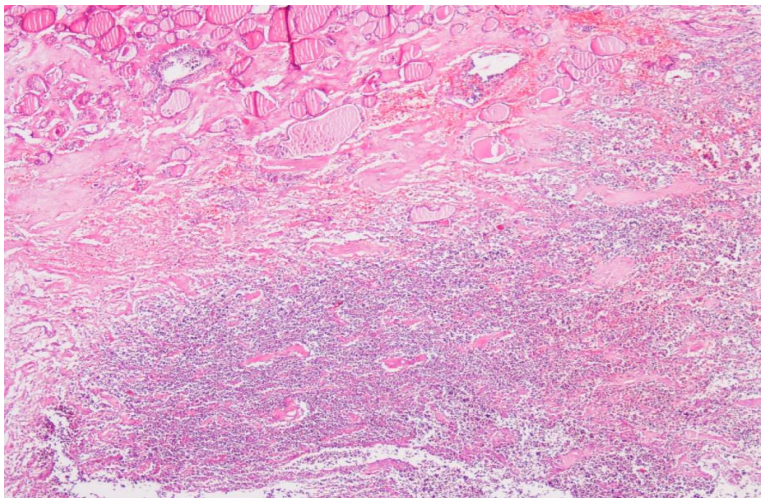

Figure 3: Thyroid tissue containing diffuse atypical B lymphocytes (H&E, X400).

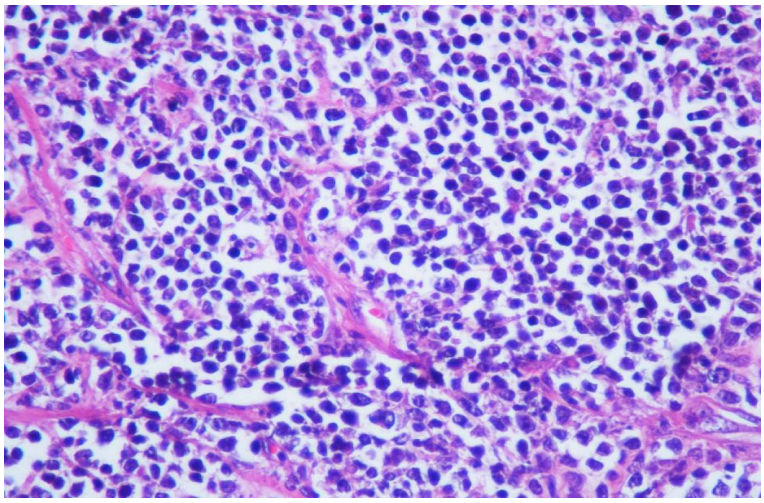

Figure 4: Diffuse large atypical lymphocytes, (H&E, X400).

To determine the Ann Arbor staging, a neck computed tomography (CT), abdomen CT, thorax CT and PET (positron emission tomography) were performed. For bone marrow involvement, bone marrow aspiration biopsy was performed. Observing no involvement in any other organs, the patient was considered as having primary thyroid lymphoma (stage IEB) CHOP (cyclophosphamide, doxorubicin, vincristin and prednisone) chemotherapy protocol was administered combined with rituximab (R-CHOP). In the mid-term evaluation performed after three CHOP therapy sessions, there was no pathological involvement. Thus, a maintenance of therapy was initiated. When the patient had a complaint of hearing loss before the fourth session, an audiometry was performed. Beliving that the hearing loss was caused by vincristine, the therapy was continued with rituximab + cyclophosphamide + prednisone. During his follow-up, the patient had no complaint and therapy was completed at the end of the sixth session. The patient in remission has still been in our follow-up for the last 18 months.

DISCUSSION

PTL is a very rare subtype of both thyroid malignancies and extranodal lymphomas. Patients are commonly diagnosed in the 6th or 7th decades of life. In male patients, PTL tends to occur at earlier ages. Awareness is of great important to achieve early diagnosis and treatment. PTL is a heterogeneous disease in terms of histological and clinical features. Biopsy remains to be

essential as cytology has a limited role in its diagnosis. Diffuse large B-cell lymphoma, which is more aggressive than MALT lymphoma, is the most common histological type. While radiotherapy may be adequate, a combination of radiotherapy and chemotherapy is required in aggressive histological subtypes and in a widespread disease. For example, early stage (stage 1E) intra-thyroidal MALT lymphoma can only be treated by surgery, radiotherapy or both. Otherwise, DLBC- more aggressive- requires either systemic chemotherapy or its combination with radiotherapy. The prognosis of the disease is perfect despite being a heterogeneous disease group (7, 8, 9).

In our case, although the lymphoma was localised in thyroid, systemic chemotherapy was administered as the patient had a DLBCL subtype lymphoma having an aggressive nature with systemic symptoms. Response of the patient to chemotherapy was favourable.

In conclusion; PTL should be considered in patients presenting with rapidly growing thyroid nodules. While fine-needle aspiration biopsy has an important role in the management of thyroid nodules, it has a limited role in PTL. In case of a severe airway obstruction caused by a fast growing thyroid mass, surgery is required for a pathological diagnosis. In the treatment of DLBCL's, rituximab-based combined systemic chemotherapy remains to be the most effective therapy option.

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