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Primary Thyroid Lymphoma Causing Progressive Respiratory Distress: A Case Report

İlerleyici Solunum Sıkıntısına Sebep Olan Primer Tiroid Lenfoması: Olgu Sunumu

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Abstract

Primary thyroid lymphoma (PTL) is a rare malignancy of the thyroid gland. It usually presents itself as a very rapidly growing mass, and respiratory distress is commonly the first finding. Ultrasound guided fine needle aspiration biopsy and surgical biopsy can help with its diagnosis. The treatment is radiotherapy and chemotherapy. Surgical treatment is only indicated in cases which tracheal compression is severe. In this report, we present a primary thyroid lymphoma case, which presented with progressive respiratory distress, and dramatically went into remission with medical therapy, along with a literature review.

Key words: Thyroid lyphoma, respiratory distress, cervical mass

Özet

Primer tiroid lenfoması (PTL) tiroid bezinin nadir bir hastalığıdır. Genellikle çok hızlı büyüyen kitle olarak kendini göstermektedir, ve solunum sıkıntısı sık ilk bulgudur. Ultrason eşliğinde ince iğne aspirasyon biyopsisi ve cerrahi biyopsi teşhisi için yardımcı olabilir. Tedavi radyoterapi ve kemoterapidir. Cerrahi tedavi, sadece trakea basısı gibi ciddi durumlarda gerekir. Bu yazıda ilerleyici solunum sıkıntısı ile başvuran ve medikal tedavi ile dramatik remisyon gösteren primer tiroid lenfoma olgusu literatür derlemesi eşliğinde sunulmaktadır.

Anahtar kelimeler: Tiroid lenfoma, solunum güçlüğü, servikal kitle

Introduction

Primary thyroid lymphoma comprises 5% of all of the thyroid malignancies, and less than 1% of the non-hodgkin lymphoma cases[1]. PTL has a myriad of clinical and histological variations, the most common subtype, which is seen in 70% of the cases, is large B cell type. This entity is most frequently seen in older women, and the male to female ratio is 2-4/1. The risk of this disease in patients with autoimmune thyroid diseases such as Hashimoto thyroiditis is 50 times greater[2]. It is theorized, that the disease develops in the thyroid gland, which normally does not have lymphoid tissue, due to lymphocyte migration taking place in response to an autoimmune disease (Hashimoto, autoimmune thyroiditis)[3]. The first findings are usually, a rapidly growing mass, concomitant tracheal compression, and inspiratory stridor[3,4]. Elevation in the thyroid hormone levels, serum anti thyroglobulin and antimicrosomal antibody may be present[4].

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Ultrasound guided fine needle aspiration biopsy (US-FNAB) may help with the diagnosis, however in cases which the diagnosis is uncertain, open biopsy must be performed[5]. The standard therapy consists of chemotherapy and radiotherapy. Surgical treatment is not recommended other than in cases which severe compression related respiratory distress is present[6].

Case report

An 82 year old patient presented to the emergency department with respiratory distress and a rapidly growing mass in the neck, which had been persisting for 1 month. In physical examination, there was a large mass present in the right side of the mass. In palpation, there was a solid mass in the left thyroid gland area, and many hard lymph nodules present in the left cervical area. The patient, whose situation improved after administration of oxygen and bronchodilator therapy, was referred to the surgical ward. The thyroid hormone profile of the patient was as follows: Free T3: 2.89 pg/ml, Free T4:1.5 ng/dl, TSH: 2.26 µlu/ml, Anti TPO 136.7 IU/mL , Anti Thyroglobulin Antibody 55 IU/mL . The remaining laboratory findings were normal and as follows; Glucose 89 mg/dl, Urea:34mg/dl, Creatinine:0.7 mg/dl,ALP: 67 IU/L, LDH: 488 IU/L, Albumin 4.0 g/dl, Ca:9.3 mg/dl, Na:141 mmol/l, K:4.1 mmol/l, Cl: 103 mmol/l, WBC 4430 uL Hb: 13 g/dl, Hct: %39.5, Plt:222000/uL. On thyroid ultrasonography, a 8cm, solid heterogenous, irregular contoured, hypoechoic mass covering the entire left thyroid lobe, and multiple lymphadenopathies, with malignant sonomorphologic character, the largest of which was 16 mm, in the left jugular chain, was present. A cervical CT was performed which revealed a mass lesion, in the thyroid isthmus and left lobe, extending into the upper mediastinum, 85X30 mm at its largest point, narrowing and deplacing the tracheal lumen towards the back was identified (Figure 1).

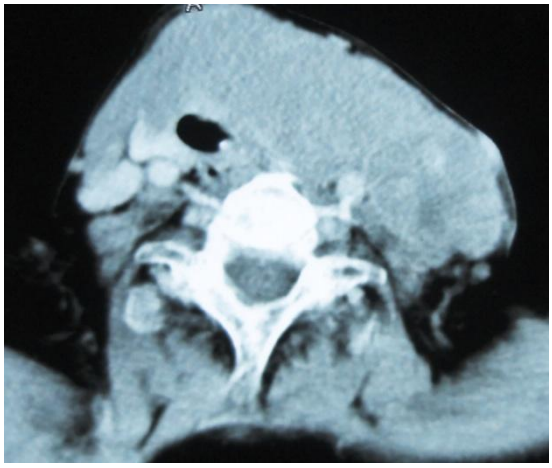

Figure 1. In this cervical CT image, diffuse enlargement of the left lobe of the thyroid gland (85x30 mm) with accompanying ipsilateral cervical lymphadenopathies, right tracheal deviation and compression can be seen.

An ultrasound guided fine needle aspiration biopsy (US-FNAB) was performed, which suggest lymphoma. Afterwards, a cervical lymph node sampling was made, which established the diagnosis of large B cell non-hodgkin lymphoma (Figure 2).

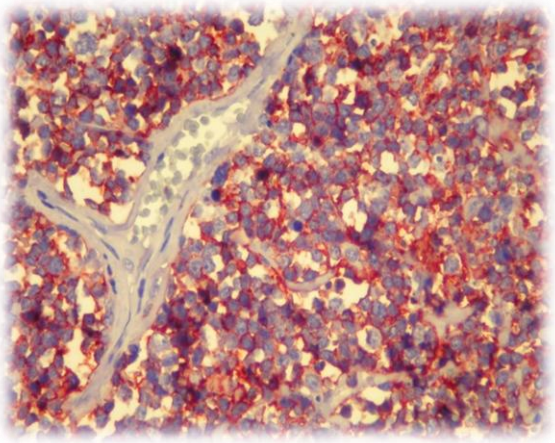

Figure 2. CD20 positivity in our diffuse large B cell lymphoma case (Immunohistochemistry CD20x400).

Discussion

Primary thyroid lymphoma is a rare thyroid gland malignancy with different histological subtypes. The most commonly seen subtypes are diffuse large B cell and MALT lymphoma[1]. It is usually seen in middle-aged and old women. The most common presentation is a rapidly growing mass and compression symptoms. Because of this it frequently is confused with anaplastic thyroid carcinoma, metastatic tumors and neck abscesses[2,3]. In our case, a rapidly growing mass, and related compression symptoms, persisted for one month, was present. The thesis that in 70-80% of PTL cases have an underlying autoimmune thyroiditis (Hashimoto etc.) and that chronic antigenic stimulation leads to the neoplastic differentiation of the thyroid tissue, is widely accepted. In these patients, there is a 95% increase in the anti thyroglobulin and antimicrosomal antibody levels[4]. In our case, although the anti thyroglobulin levels were normal in laboratory evaluation, the anti-TPO antibody titre, was 5 times of the normal level. In cases of suspected PTL, clinical examination, laboratory evaluation, cervical ultrasonography and computed tomography should be performed[5,6]. In ultrasonogrpahy and cervical tomography, a diffuse enlargment of the thyroid gland, and tracheal deviation may be present[6]. Takashima et al[7], have compared the efficacy of CT and ultrasonography and have determined that, while CT is similar in quality in demonstrating the tumor dimensions and lymph node involvement, CT is superior to ultrasonography in evaluating the retropharyngeal and tracheoesophageal areas, due to bone and air artifacts (Figure 1). In suspected PTL cases, ultrasonography guided fine needle aspiration biopsy, core biopsy, or surgical biopsy techniques may be employed[8]. Fine needle aspiration biopsy is a technique frequently used for sampling thyroid nodules. However, in 10-20% of the cases, the findings are non-diagnostic[6,8]. Also, in a study conducted by Ota et al[9]. fine needle aspiration biopsy was shown to have a high false negative rate, for diagnosing thyroid lymphoma. Because of this, core biopsy or surgical biopsy should be performed, to evade this error, and determine the exact subtype of the lymphoma[8,9]. In the presented case, an ultrasound guided fine needle aspiration biopsy was performed. The cytological preparations were hypercellular, and non-cohesive atypical cells with large circular vesicular nuclei, on a necrobiotic plane. Anaplastic thyroid carcinoma was included in the cytomorphological differential diagnosis. Immunohistochemical examination with LCA, CD20 and pancytokeratin was positive and negative, respectively. The findings at hand, suggested an atypical lymphoid population, and primarily diffuse large B cell lymphoma. Afterwards, in order to justify that diagnosis, and sub-classification a lymph node biopsy was performed. In the lymph node's cross sections, diffuse infiltration with large lymphoid cells, including wide sclerotic bands were present. In the immunohistochemical evaluation that was performed, dying with CD20 was positive. (Figure 2). CD3 and CD5 positive lymphocytes were observed. Bcl-1, Bcl-2 and CD30 were negative. The Ki-67 proliferation index was high (%70-80). Immunophenotyping established the definite diagnosis of diffuse large B cell lymphoma. There is little room for surgical therapy in the treatment of primary thyroid lymphoma, and mostly radiotherapy and chemotherapy is recommended[8]. Surgical

therapy is only indicated in cases which severe tracheal compression leads to respiratory distress[3,5,8].

As a conclusion, primary thyroid lymphoma must be considered in the differential diagnosis of rapidly growing neck masses, and before surgical intervention, histopathological examination should be performed. Additionally, thyroid lymphoma should be kept in mind by surgeons especially for a very rapidly growing neck mass in the elderly.

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