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Case Report

Laryngeal Carcinoma with Chronic Lymphocyter Leukemia

Guven Yıldırım[1], Guler Berkiten[1], Ziya Salturk[1], Demet Aydın[2], Suzan Deniz Onol[3], Ferhan Adatepe[4], Filiz Filiz[5]

ABSTRACT

In this study, we report an extraordinary case in which a patient was diagnosed with laryngeal squamous cell carcinoma and simultaneous chronic lymphocytic leukemia. A 53-year-old male patient presented with hoarseness and a neck mass. Laryngeal examination revealed a lesion that had infiltrated the right band, cord, and ventricle, and the left cord and band. There were multiple bilateral lymphadenopathies in the supraclavicular, inguinal, and axillary regions, the largest of which was 4x4 cm. Following hematology consultation, a direct laryngoscopy and biopsy were performed. An excisional biopsy was taken from the neck mass. The postoperative histopathology reported an invasive squamous cell carcinoma in the larynx and a small B cell lymphoid leukemia in the neck. Following consultation with our oncology department, curative radiotherapy was applied to the neck region. Following this therapy, the mass was no longer detectable upon palpation, although no curative treatment was applied for leukemia. It is important to be aware that lymphadenopathy may be secondary to head or neck cancer or to a hematological malignancy. Thus, preoperative evaluation should be carefully performed, and hematological malignancy should be considered as a differential diagnosis when histopathologically evaluating neck dissection material.

Key words: *Laryngeal carcinoma, chronic lymphocytic leukemia, neck, lymphadenopathy*

Kronik Lenfositer Lösemili Laringial Karsinoma

ÖZET

Bu çalışmada larengeal yassı epitel hücreli karsinom ile kronik lenfositer lösemi tanılarının eş zamanlı olarak konulduğu sıradışı bir vakayı sunuyoruz. 53 yaşında erkek hasta ses kısıklığı ve boyunda kitle nedeni ile başvuruda bulundu. Larengeal muayenede sağ kord, sağ band ile ventrikül ve sol kord ile bandı tutan infiltratif lezyon saptandı. En büyüğü 4x4 cm boyutlarında ve bilateral supraklavikuler, inguinal ve aksiller çok sayıda lenf nodu mevcutu. Hematoloji konsültasyonunu takiben direk larengoskopi eşliğinde biyopsi alındı. boyundan da eksizyonel biyopsi alındı. Histopatolojik inceleme sonucu larenkste İnvazif yassı epitel hücreli karsinom ve boyunda B hücreli lenfoid lösemi tanıları konuldu. Onkoloji konsültasyonu sonucu hastaya küratif radyoterapi uygulanmasına karar verildi. Bu tedavinin sonunda kronik lenfositer lösemiye yönelik küratif tedavi uygulanmamasına rağmen boyundaki kitleler geriledi. Boyun bölgesinde saptanan lenfadenopatilerin baş boyun bölgesi malinitelerinin yanısıra hematolojik malinitelere de bağlı olabileceği unutulmamalıdır. Preoperatif boyun değerlendirmelerinde ve boyun disseksiyon materyallerinin incelenmesinde hematolojik maliniteler ayırıcı tanıda yer almalıdır.

Anahtar kelimeler: *Laringeal karsinoma, kronik lenfositer lösemi, boyun, lenfadenopati*

INTRODUCTION

Chronic lymphocytic leukemia (CLL) is the most common type of leukemia in adults and represents approximately 25% of all leukemias (1). CLL is prevalent in those with autoimmune disease (1). Although its precise etiology is not understood, CLL is known to be a hematological malignancy originating from mature B cells (2). No correlation between CLL and ionizing radiation, chemicals, or drugs have been proven. CLL occurs predominantly

[1]*Okmeydani Training and Research Hospital ENT Clinic Specialist,* [2]*Okmeydani Training and Research Hospital Heamotology Clinic Specialist,* [3]*Okmeydani Training and Research Hospital Radiology Clinic Specialist,* [4]*Okmeydani Training and Research Hospital Oncology Clinic Specialist,* [5]*Okmeydani Training and Research Hospital Pathology Clinic Specialist*

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Correspondence: *Guven Yildirim*
Okmeydani Training and Research Hospital ENT Clinic, Darülaceze cadde Sisli, İstanbul/Turkey
E-mail: *dr.gyildirim@yahoo.com* ***Tel:*** *+90 212 221 77 77*

in adults; the majority of newly diagnosed patients are older than 50 years, and the mean age at diagnosis is 65 years (3). Approximately 60% of CLL patients are first diagnosed with lymphocytosis detected by a blood test. CLL may be suspected based on lymphadenopathy in other patients. Diagnostic criteria for CLL include the presence of >5,000 small lymphocytes per microliter of blood and the presence of B lymphocytes as >30% of all nucleated cells in a bone marrow aspirate (1).

Increased risk for a secondary malignancy exists in CLL patients (4, 5). Development of a secondary malignancy typically follows prolonged treatment and suggests the importance of immune deficiency as an important factor. It is thought that therapy may also support the etiological factors associated with the primary malignancy (6). In the present study, we report a case of simultaneously diagnosed CLL and laryngeal squamous cell carcinoma.

CASE

A 53-year-old male with no previous medical problems presented with a neck mass at our ear, nose, and throat outpatient clinic in October 2007. The mass had been increasing in size for >5 months, and the patient had experienced intermittent hoarseness for 3 months. Upon endoscopic examination, a vegetative mass was observed in the larynx; the mass involved the right vocal band, laryngeal ventricle, and vocal cord, and the left band and cord. Palpation of the neck revealed multiple bilateral lymphadenopathies in the jugular and supraclavicular regions; the largest of these was 4 x 4 cm and located in the left upper jugular region. Multiple lymphadenopathies in the inguinal and axillary regions were also observed (Figure 1).

On neck CT, a vegetative lesion (adenoid hypertrophy) narrowing superiorly and symmetrical in the nasopharynx was observed. Internal air cysts evident on the left 1 cm and right 1.5 cm of the parapharyngeal space were considered to be laryngoceles. Multiple lymphadenopathies were present bilaterally in the internal jugular chain and in the supraclavicular region. Blood tests showed 39,100 leukocytes per microliter of blood, composed of 84% lymphocytes, 12% neutrophils, and 4% monocytes. The Hb and sedimentation values were 12.7 and 21/h, respectively. After a hematology consultation, a direct laryngoscopy was performed, and multiple

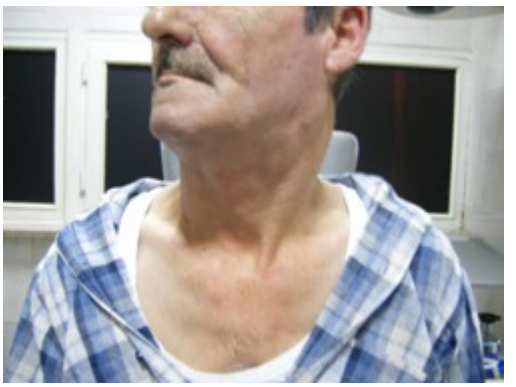

***Figure 1**. Preoperative neck*

punch biopsies were taken from the vegetative lesion, which involved both the left and right cords and bands. A hematologist proposed an excisional biopsy from the mass on the right side of the neck, as a low probability of hematological problems were observed. The postoperative histopathological findings were invasive squamous cell carcinoma in the larynx and small B-cell lymphocytic leukemia in the neck (Figure 2).

Bone marrow aspiration biopsy revealed mildly to moderately increased reticulin fibrosis, chronic lymphocytic leukemia, and a small lymphocytic lymphoma infiltration in the hypercellular bone marrow. On CT of the thorax, several anterior paratracheal and subcranial lymph nodes, the largest of which was 1.5 cm, were seen. Abdominopelvic CT revealed right- and left-sided retrocrural para-aortic lymphadenopathies, which were conglomerated and more evident parailiacally. Following

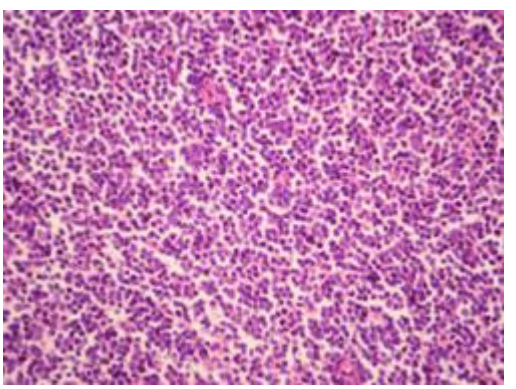

***Figure 2**. Histopathology of lymph node*

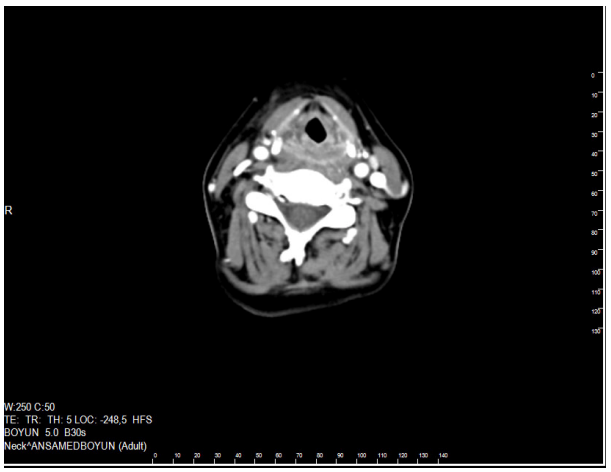

***Figure 3**. Neck MRI after Radiotherapy*

an oncology consultation, curative radiotherapy (6600 Gray) was applied to the larynx carcinoma. After radiotherapy, the neck mass had regressed, and no lesion was observed during larynx examination. However, laryngeal CT taken 1 month after radiotherapy showed edema of both vocal cords and an expansion of the posterior mucous membrane. The lesion was suggestive of a larynx tumor (Figure 3). To evaluate the lesion and treatment options, PET-CT was performed. Bilateral lymphadenopathies in the mediastinal and interaortocaval lymphatics in the iliac and inguinal regions were evident. A minimal increase in FDG uptake in the para-aortic space was observed, in agreement with lymphoproliferative disease.

Based on the hematological evaluation, the case was considered stage 1 CLL, according to the Rai staging system. After a 15-month follow-up, no recurrence of laryngeal carcinoma was detected.

DISCUSSION

CLL is a malignancy originating from defective B cell apoptosis, resulting in the slow accumulation of B cells over time (1). Compared with the general population, CLL patients have a higher risk for secondary malignancy development, which is typically detected during long-term follow-up (6). In studies with a large series of CLL patients, soft tissue sarcomas, pulmonary cancer, and especially malignant melanoma were more common than in the healthy population (4,6). An increased incidence of head and neck cancers has also been observed in CLL patients (7). Among 16,367 CLL patients, Hisada et al. determined solid tumors, including 42 pulmonary, 42 buccal mucosa, and 31 laryngeal cancers, in 1,820 patients during follow-up (6). Smoking is known as a major etiological factor for pulmonary cancers, and immune deficiency and radiotherapy are contributing factors for gastric (8) and bladder tumors(9,10). Using the Rai and Binet classification systems, the patient in the present study was determined to be Stage 1 and Clinical stage B, respectively. No therapy is proposed for these patients, but they are followed by way of routine blood tests and imaging techniques (1).

Laryngeal carcinoma may simultaneously appear with Hodgkin's lymphoma in the neck. In particular, Hodgkin's lymphoma has been detected by neck dissection of laryngeal carcinoma (11). Previous studies have shown that chronic myelogenous leukemia can infiltrate some organs (12). Brito et al. reported a case in which chronic myelogenous leukemia had infiltrated the larynx (13). The patient was treated by chemotherapy and tracheotomy. The distinguishing characteristic of our case was the existence of CLL at the time laryngeal cancer was diagnosed. Although it is not known which originated first, no CLL therapy was initiated. The two malignancies were diagnosed simultaneously, and no therapy had been initiated prior to the diagnoses.

The decision to initiate CLL therapy is a difficult one, as no effect on prognosis is observed in the early stages of the malignancy. However, when a patient develops hepatosplenomegaly with either progressive or massive lymphadenopathy, symptomatic disease, bone marrow deficiency, or recurrent infections, CLL therapy should be considered (1). Alkylating drugs such as chlorambucil can be used in CLL therapy(14), and cyclophosphamide is the preferred agent when intolerance to alkylating drugs is observed (15). Fludarabine, cladribine, and corticosteroids are also used (16). Recently, use of the purine analog rituksimab and interferon α has increased (17). Our patient did not receive CLL therapy, as he was stage 1B and asymptomatic, with no organomegaly. In addition to CLL, our patient had stage 2 glottic cancer. In such cases, horizontal glottectomy and supracricoid subtotal laryngectomy with neck dissection are possible surgical options (18,19). Alternatively, radiotherapy may be applied. Following an oncology consultation, radiotherapy was chosen as for our patient. The lymph-

adenopathies reported as CLL upon excisional biopsy showed regression after radiotherapy, and despite suspicious MRI results, PET-CT showed no malignancies.

Ferlito et al.(20), presented a case with dysphagia and submandibular and right cervical lymphadenopathies in which an epiglottic tumor was diagnosed. A partial laryngectomy and neck dissection were performed, and the histopathology showed that among 74 lymph nodes, 4 displayed CLL, and another 4 nodes exhibited CLL and squamous cell carcinoma together. In that case, laryngeal carcinoma therapy was completed with radiotherapy. As no symptoms except leukocytosis were present, hematological malignancy was not considered, and no tests were performed to diagnose a hematological malignancy. The lymphadenopathies of the neck were accepted as laryngeal carcinoma metastasis, and surgery was planned for laryngeal carcinoma. The CLL diagnosis was made coincidentally in that case. In contrast, in the present case, the CLL diagnosis was made along with the diagnosis of laryngeal carcinoma.

Although the simultaneous occurrence of hematological malignancy and head and neck cancer is rare, an attentive head and neck and radiological examination must be performed when evaluating lymph nodes. Lymphadenopathies are generally secondary to head and neck cancer, but may be related to a hematological malignancy. In addition, in postoperative histopathological examinations, neck dissection materials must be assessed for hematological malignancies. Appropriate treatment of each malignancy must be considered.

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