CASE REPORT

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A Case of Mycosis Fungoides Developed Early After Hodgkin Lymphoma Treatment

Hodgkin Lenfoma Tedavisi Sonrası Erken Dönemde Mikozis Fungoides Gelişmiş Olgu

Emrah Kılıçaslan, Muhammet Kürşat Kaptan

University of Health Sciences Türkiye, Sultan 2. Abdulhamid Han Training and Research Hospital, Clinic of Internal Medicine, Division of Hematology, İstanbul, Türkiye

ABSTRACT

Coexistence or sequentially of Hodgkin lymphoma (HL) and non-Hodgkin lymphoma (NHL) can occur in the same patient rarely. Although the underlying etiopathogenesis of this condition is not known for certain, reasons such as drugs, genetic and environmental factors, and the effect of the primary tumor are blamed. Also, synchronous or metachronous formation of HL and T-cell NHL in the same patient is known, and this occurs most often with mycosis fungoides (MF). MF usually precedes HL, but to a much lesser extent, the opposite is observed. There are often years between the development of two separate diseases. A 38-year-old male presented swelling on the neck, high fevers, sweating, and weight loss. A patient diagnosed with stage 4B HL-nodular sclerosis type after evaluation. ABVD regimen was initiated for the patient and 6 cycles of chemotherapy were completed. Complete response was observed after six cycles of chemotherapy. He did well for the next 2 months but then developed cutaneous lesions like slightly hypopigmented and dandruff patches on the trunk and MF diagnosed after skin biopsy. In HL patients, secondary malignancies such as MF may occur very soon after the end of treatment.

Keywords: Mycosis fungoides, Hodgkin lymphoma, secondary malignancy

ÖZ

Nadiren Hogdkin lenfoma (HL) ve non-Hodgkin lenfoma (NHL) birlikte veya sıralı olarak aynı hastada ortaya çıkabilmektedir. Bu durumun etiyopatogenezi kesin olarak bilinmemekle birlikte, ilaçlar, genetik ve çevresel faktörler, primer tümörün etkisi gibi nedenlere bağlı olabileceği düşünülmektedir. Aynı hastada HL ve T-hücreli NHL'ler de senkron veya metakron gelişebilmektedir. Bu durum T-hücreli NHL'ler içinde en sık mikozis fungoides (MF) ile ortaya çıkmaktadır. Her iki hastalığı da barındıran kişilerde MF genellikle HL'den daha önce gelişmektedir, ancak çok daha az oranda bu durumun tersi gözlenebilmektedir. Literatürde bildirilen olgularda iki ayrı hastalığın gelişim süreleri arasında genellikle yıllar vardır. Otuz sekiz yaşında erkek hasta boyunda şişlik, yüksek ateş, terleme ve kilo kaybı ile başvurdu. Tanısal değerlendirmelerden sonra evre 4B HL-nodüler sklerozan tip tanısı konuldu. ABVD rejimi ile kemoterapiye başlandı ve 6 siklus kemoterapiyi tamamladı. Tedavi sonrası yapılan incelemede tam yanıtlı olarak değerlendirildi. Tedavi bittikten 2 ay sonra hastanın derisinde hafif hipopigmente lezyonlar çıktı. Deri lezyonlarının patolojik incelemesi sonrası MF tanısı konuldu. HL hastalarında tedavi bitiminden çok kısa bir süre sonra MF gibi sekonder maligniteler ortaya çıkabilmektedir.

Anahtar Kelimeler: Mikozis fungoides, Hodgkin lenfoma, ikincil malignite

Address for Correspondence: Emrah Kılıçaslan, University of Health Sciences Türkiye, Sultan 2. Abdulhamid Han Training and Research Hospital, Clinic of Internal Medicine, Division of Hematology, İstanbul, Türkiye

Phone: +90 555 678 66 54 E-mail: dremrahkilicaslan@gmail.com **ORCID ID:** orcid.org/0000-0002-0944-4068

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Introduction

Hodgkin lymphoma (HL), anciently known as Hodgkin's disease, is a hematological malignant disease that develops from germinal or post-germinal center B lymphocytes. The disease has a cellular combination, including neoplastic cells (Reed-Sternberg cells and their variants) in the inflamed environment. HL is less common than non-Hodgkin lymphoma (NHL) and constitutes 10% of lymphomas in all over the world. It also makes up 0,6% of total cancer cases in developed countries (1).

Mycosis fungoides (MF) is a T-cell non-Hodgkin lymphoma (T-NHL) presenting in the derm but with possible involvement of the blood, lymph nodes, and internal organs. Skin lesions observed in the disease include patches or plaques, which may be localized or diffuse. The etiopathogenesis of MF is not known exactly, although genetic and epigenetic factors have been implicated. Although environmental and occupational exposure to solvents and chemicals played a role in the etiology of the disease, a large case-controlled study did not support this hypothesis (2).

The association between MF and HL was reported for the first time in 1963 (3). In patients who harbor both malignancies; MF usually precedes HL, but is much less likely vice versa (4). In addition, we see that MF develops years after HL in cases reported in the literature.

Case Report

A thirty-eight years old male patient presented with enlargement in the neck region and B symptoms (fever, night perspiration, and 8 kg involuntary weight loss in the last six months). No disease or suspicious finding was found in the patient's medical history. Physical examination revealed left cervical and supraclavicular lymphadenopathy. No abnormal finding was found in other systems in physical examination. In laboratory evaluation, sedimentation rate was 13 mm/h, lactate dehydrogenase: 297 U/L, while other biochemical parameters were within normal limits.

Excisional biopsy was taken from the left cervical lymph node, and as a result of a pathological examination, it was reported as classical HL nodular sclerosis type (CD30+, EBV+, FASCIN+).

Positron emission tomography/computed tomography (PET/CT) scanning showed involved lymph nodes in the left submandibular, left infraclavicular, mediastinal, and abdominal areas. In addition, multiple disease involvement areas were observed in the liver and pelvic bones. No disease involvement was observed in the bone marrow biopsy examination. As a result of all diagnostic examinations, the patient was diagnosed with stage 4B HL. The patient was started on doxorubicin, bleomycin, vinblastine, and dacarbazine (ABVD) chemotherapy regimen. Six cycles of scheduled chemotherapy were administered to the patient without complications. It was observed that there was a complete response to the treatment in the PET/CT scanning taken after the treatment.

In the following period, he did not have any complaints for 2 months. However, later on, multiple mildly hypopigmented cutaneous lesions such as dandruff spots developed on the trunk of the patient (Figure 1). The patient was then referred to the dermatology department of the institute. A diagnosis of MF was made as a result of a skin biopsy of the lesion.

Discussion

HL cases treated with chemotherapy and/or radiation therapy are more likely to develop solid tumors or hematological malignancies later in life than the general population (5). Due to the new and effective drugs discovered in cancer treatment, it is estimated that the life expectancy of these patients will be prolonged, and secondary malignancies will be observed more frequently in the future.

It has been reported many times that HL and NHL coexisted at identical or different times in the same

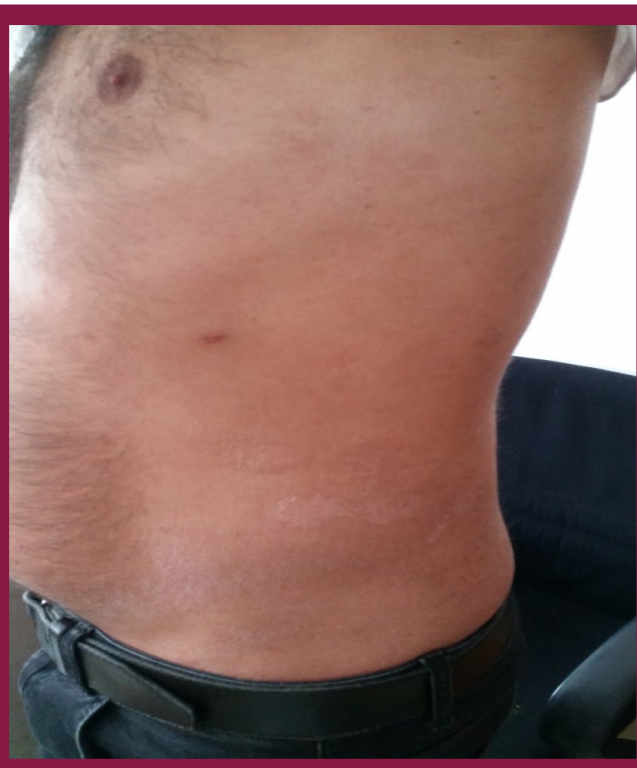

Figure 1. Mycosis fungoides lesions on the patient's skin

patient. Two neoplasms can emerge concurrently. Also, the emergence of HL may be before or after the onset of NHL.

Simultaneous development of HL and T-NHL in one patient has also been reported previously. The best frequently identified association is between HL and MF (6). In reported cases, MF is generally diagnosed prior to HL, but the opposite situation has also been reported rarely. Lipa et al. (4) reported that MF developed in two patients diagnosed with HL years after the administration of chemotherapy for HL.

Amongst peripheral T-NHL, the most common malignancy related to HL is MF. However, most of these patients are cases that develop HL after being followed and treated for a long time with the diagnosis of MF. This has raised the suspicion of some scientists that MF and HL arise from the same progenitor cell (7). However, another study on immunological antigen expression patterns and gene rearrangements in HL and cutaneous T-cell lymphoma suggests that malignancies do not originate from the same cell (6).

There are different opinions in the scientific community about the emergence of secondary malignant neoplasms. Some scientists argue that viral pathogens, potential mutagenic effects of chemotherapeutic drugs administered to the patient, or genetic tendency in the patient may contribute to the development of B and T-cell malignancies in the same individual. Barzilai et al. (8) suggested that cytokines released by existing malignant cells may lead to a secondary malignancy with a carcinogenic effect on progenitor stem cells. In a previous study, Väkevä et al. (9) found a high risk of HL and NHL as secondary cancers in the follow-up of 319 patients with cutaneous T-cell lymphoma. However, they could not comment on the pathogenesis of secondary malignancy development.

Combined modality therapy for HL significantly increases the risk of developing secondary malignancies compared to chemotherapy alone. It is known that people exposed to alkylating agents and/or topoisomerase II inhibitors are at increased risk of growing acute myeloid leukemia or myelodysplastic syndrome later in life (10). However, such relationships have not been defined for secondary NHL. Both drug classes form the backbone of chemotherapy protocols such as ABVD, BEACOPP, and stanford V applied in the treatment of HL.

The development of secondary hematological neoplasia usually occurs within the first 10 years after the diagnosis of HL. However, the risk of secondary solid malignancy increases significantly after 25 years. MF lesions developed in our patient 2 months after receiving the last course of chemotherapy for the treatment of HL. Did our patient have MF skin lesions before the diagnosis of HL? This question occupied our minds a lot. However, our patient was sure that the skin lesions were new. When we conducted a literature search, we did not encounter MF that developed so early in a patient with HL.

In conclusion, the physician should bear in mind that secondary hematological malignancies such as MF may occur not only in the late-term but also in the very early term in treated HL patients.

Ethics

Informed Consent: Informed consent was obtained.
Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: E.K., M.K.K., Concept: E.K., M.K.K., Design: E.K., M.K.K., Data Collection or Processing: E.K., M.K.K., Analysis or Interpretation: E.K., M.K.K., Literature Search: E.K., M.K.K., Writing: E.K., M.K.K.

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