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CASE REPORT

MYCOSIS FUNGOIDES AND MANTLE CELL LYMPHOMA: A CASE REPORT

ABSTRACT

Mycosis fungoides (MF) is the most common type of primary non-Hodgkin cutaneous T-cell lymphoma and typically presents with a patch or plaque lesion with variable progression to tumors and extracutaneous involvement. Epidemiological studies have indicated that patients with MF are at a high risk for the development of secondary lymphomas.

However, although some of these studies have reported an increased risk for NHL, Hodgkin disease (HD) remains the most common type of secondary lymphoma in patients with MF in other studies.

In this report, we describe a 76-year-old male patient with MF (stage IA) who was concomitantly diagnosed with mantle cell lymphoma (MCL). Histopathologic and immunophenotypic features as well as cyclin D1 oncogene and chromosomal aberrations were subsequently identified.

Key Words: Aged; Mycosis Fungoides; Lymphoma, Mantle-Cell.



OLGU SUNUMU

MİKOZİS FUNGOİDES VE MANTLE CELL LENFOMA BİRLİKTELİĞİ: OLGU SUNUMU

Öz

Mikozis fungoides (MF) en sık görülen primer T hücreli non-Hodgkin kutanöz lenfoma olup, tipik olarak yama, plak ve tümörler ile, nadiren de ekstrakutanöz organ tutulumuyla karakterizedir. Epidemiyolojik çalışmalar MF tanısı alan hastalarda sekonder lenfoma gelişme riskinin artmış olduğuna dikkat çekmektedir.

Bu çalışmalardan bazılarında MF'ye eşlik eden en sık görülen sekonder lenfoma tipi Hodgkin lenfoma (HL) iken, diğer çalışmalar özellikle non-Hodgkin lenfoma (NHL) için risk artışı olduğunu bildirmektedir. Bu olgu sunumunda Mantle cell lenfoma (MCL) tanısı alan evre IA MF nedeni ile takip edilen 74 yaşındaki erkek hastanın histopatolojik, immünfenotipik, cyclin D1 onkogen ve kromozomal değişiklik özellikleri tanımlanmıştır.

Anahtar Sözcükler: Yaşlı; Mikozis Fungoides; Mantle Cell Lenfoma.



INTRODUCTION

Mycosis fungoides (MF) is the most common type of primary non-Hodgkin cutaneous T-cell lymphoma and typically presents with a patch or plaque lesion with variable progression to tumors and extracutaneous involvement (1). The association between MF and both non-Hodgkin lymphoma (NHL) and Hodgkin lymphoma has been rarely reported and studies have indicated that patients with MF are at a high risk for the development of secondary lymphomas (2-7).

In this report, we describe a patient with MF (stage IA) who was concomitantly diagnosed with mantle cell lymphoma (MCL). Histopathologic and immunophenotypic features as well as cyclin D1 oncogene and chromosomal aberrations were subsequently identified.

CASE REPORT

A 74-year-old man with a two-year history of pruritic eruption on the back was referred to our dermatology department. During physical examination, patches and plaques that were consistent with the symptoms of MF were observed. Skin biopsy showed classical features of MF with prominent epidermotropism (Figure 1), and immunohistochemical staining; T cells were predominant and mostly expressed CD2, CD3, CD 7, and CD5; CD8 and CD4 expression was noted, although, it was comparatively less predominant. Staining for CD30 and CD20 showed negative results.

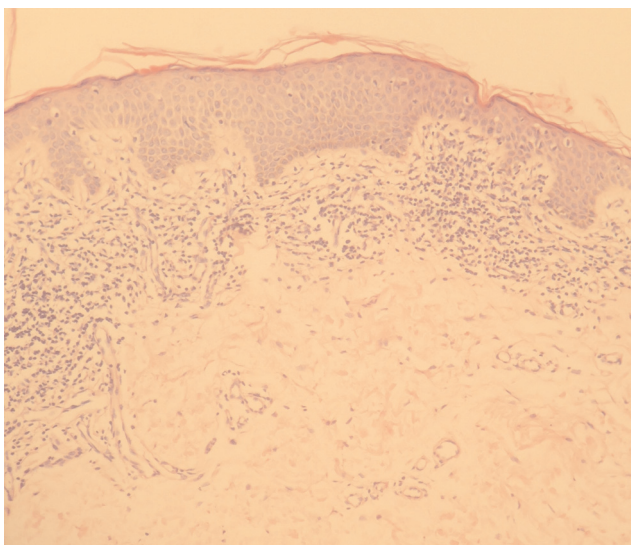


Figure 1— H&E x 100 skin biopsy epidermotropic lymphocytes.

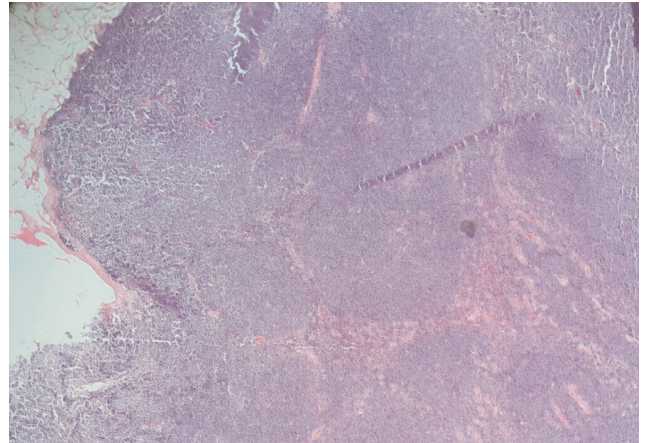


Figure 2— H&E x 400 lymph node biopsy showed small lymphoid cell infiltration.

Hematological studies showed a hemoglobin level of 10.4 g/dL [normal range (NR): 13.2–17.2 g/dL], a platelet count of 60×10^3 cells/ μ L (NR: 150–450 $\times 10^3$ cells/ μ L), and a white blood cell (WBC) count of 2.55×10^3 cells/ μ L (NR: 4.8–10.8 $\times 10^3$ cells/ μ L).

Bilateral axillary, inguinal, submandibular, and cervical lymphadenopathy as well as splenomegaly were detected on ultrasound examination. Computed tomography scanning of the thorax and abdomen revealed paratracheal, aortopulmonary, paraesophageal, mesenteric, and retroperitoneal lymphadenopathy and splenomegaly. The lymph node biopsy showed small lymphoid cell infiltration (Figure 2), which stained heterogeneously with CD79a, CD20 (Figure 3), CD43, CD5, Bcl2, CD3, CD4, CD8, and CD23. Cyclin D1 staining was negative (Figure 4).

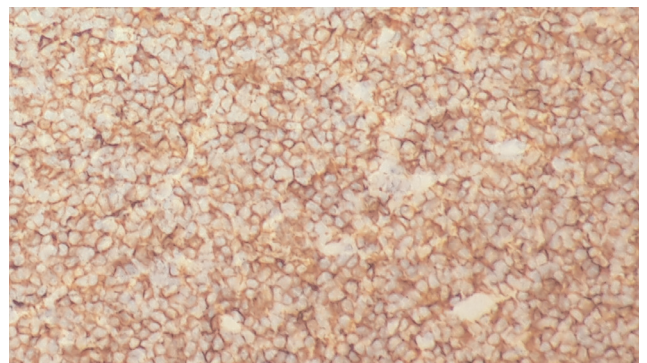


Figure 3— x200 lymph node biopsy, CD20 positivity.



Figure 4— x100 lymph node biopsy cyclin D1 negativity.

Lymphoid cell infiltration of up to 90% was seen on bone marrow aspiration. Flow cytometric analysis revealed CD5, CD19, CD22, CD23±, CD20, CD79b, FMC7, CD25, CD43, and lambda positivity. On Fluorescence in situ hybridization analysis of MCL cells, which was performed for differential diagnostic purposes, extra copies of the t(11;14) translocated chromosomes were detected. On the basis of these results, the patient was diagnosed with concomitant MCL and MF. The hematology department planned chemotherapy for the patient as he was not suited for autologous stem cell transplantation. In January 2013, he received six cycles of the rituximab–cyclophosphamide–vincristine–prednisolone combination therapy. However, because he did not positively respond to this regimen, chemotherapy was resumed in October 2013, which was discontinued after the third cycle upon his request. The patient is presently being followed up.

DISCUSSION

The coexistence of both MF and B-cell malignancies in the same patient is extremely rare. Previous epidemiological studies that investigated the association between MF and secondary malignancies have consistently reported an increased risk for secondary lymphoid neoplasms (2, 5-8). However, although some of these studies have reported an increased risk for NHL (5, 8), Hodgkin disease (HD) remains the most common type of secondary lymphoma in patients with MF in other studies (2, 6). In one of these studies, no case of HD was found. The authors explained that this may be due to the lesser prevalence of HD in their population, approximately four times less than that of NHL (8).

There are several hypotheses for the coexistence of two different lineages of lymphomas in the same patient other than the possibility of the coincidental development of two different types of lymphomas. One of the overemphasized explanations is that immunodeficiency due to the primary neoplasm or treatment regimens for the primary neoplasm can facilitate development of secondary malignancies (8). Gniadecki (9) hypothesized a common neoplastic stem cell origin or genetic predisposing event for the development of different cell lineages. In addition, exposure to common viruses and carcinogens that affect B- and T-cell precursors have been suggested (8). Apart from all these possible explanations, several epidemiological studies have supported the increased risk of secondary neoplasms in lymphoma patients. MCL, a type of NHL that is characterized by small-to-medium-sized lymphocytes, has an aggressive clinical course and occurs because of the overexpression of a cyclin D1 (*bcl-1*) proto-oncogene, which is generally associated with the t(11;14) chromosomal translocation (10). Nevertheless, cyclin D1 staining can be negative in rare instances, as demonstrated in our case. The importance of normal immune system functions in the MF course is well known. Immunosuppression after the initiation of chemotherapy for second lymphoma can induce aggressive progression of early-stage MF. We have thus been closely following up our patient, who refused to complete his chemotherapy, at frequent intervals.

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