Mycosis fungoides in association with Acral lentiginous melanoma a new case

Saoussane Kharmoum[1], Mounia Amzerin[1], Jinane Kharmoum[2], Meryem Benameur El Youbi[1], Imane Aribi[1], Amina Mohtaram[1], Salma Belarbi[2], Fouad Kettani[2], Narjiss Berrada[1], Hind Mrabti[1], Bassma El Khannoussi[2], Hassan Errihani[1]

(1) Departement of medical oncology, National Institute of Oncology, Rabat, Morocco
(2) Departement of Pathology, Rabat, Morocco

Corresponding Author: Dr. Saoussane Kharmoum, MD
Hôpital My Abdellah, Institut National d'Oncologie, Rabat, Morocco
Email: saoussane.oncomed@gmail.com

ISSN: 2070-254X

Abstract

We report the case of a 75 years old North African patient, who present mycosis fungoides associated with acral lentiginous melanoma. Relatively few cases of malignant melanoma in cutaneous T-cell lymphoma patients have been reported,the reason of this association is unclear.

Background

An increased incidence of non melanoma skin cancer has been previously reported in cutaneous T-cell lymphoma (CTCL). However, relatively few cases of malignant melanoma in CTCL patients have been reported. The association of mycosis fungoides (MF) and acral lentiginous melanoma is rare(1).
MF is an indolent cutaneous T lymphoma, it accounts for 2% of all lymphomas (2). The acral lentiginous melanoma is the 4th most common histological type of melanoma. It is known for its poor prognosis(3). The mechanism of this association is unclear.

Case report

We report the case of a 75 years old patient, who presented 2 years ago a generalized pruritus. The evolution was marked by the apparition of erythematous lesions extending progressively from the lower limbs to the trunk.

The patient had a leonine facies. The physical examination found a dry erythroderma with diffuse infiltration of the skin and a palmoplantar keratoderma. Moreover, the patient had a black tumor of lateral right foot. It was well-limited, rounded, firm and covered with a crust. It measured 1,5 cmx 1cm. The examination of lymph nodes areas found bilateral axillary and inguinal lymphadenopathy. The skin biopsy reveleated a dense dermal infiltration by atypical lymphocytes, with sparing of the epidermis (figure 1). At immunohistochemical study, tumor cells expressed CD3 (figure2) The diagnosis of mucosis fungoide was made. The biopsy of the foot tumor showing marked acanthosis, elongation of the rete ridges, broadened horny layer, and large, atypical melanocytes with large, often bizarre nuclei and nucleoli, and cytoplasm filled with melanin granules (figure 3,4). The diagnosis of Acral-lentiginous melanoma was made.

The blood count formula was negative for sezary cells. The melanoma was treated by a wide excision to over 2 cm tumor. The patient received for its MF systemic treatment consisting in combination chemotherapy: cyclophosphamide, doxorubicin, vincristine and prednisone. The response assessment after 4 cycles showed a clinical benefit and partial radiological response. The same regimen was continued.

Discussion

MF is an extranodal, indolent non-Hodgkin lymphoma of T cell origin. It accounts of 2% of all lymphomas. It primarily develops in the skin, but can ultimately involve the lymph nodes, blood, and visceral organs. It was first described in the literature in 1806 (2). The skin lesions include localized or diffuse plaques, tumors, and erythroderma. It is characterized by malignant proliferation of CD4 and CD45.

Acral lentiginous melanoma is the 4th most common histological types of melanoma. It can occur on the palms, soles, toes, or beneath the nail plate. The lesion is characterized clinically by a flat brown to black lesion with irregular borders. Variations in the colour are possible. Papules or nodules are often present (3).

The increased risk of associated malignancies, including non-melanoma skin cancers, with cutaneous T-cell lymphoma (CTCL) patients has been well documented (4). However, relatively few studies of malignant melanoma in CTCL patients have been reported.To our knowledge only 18 cases of patients with both MF and melanoma have been reported(5,6,7). The physiopathology of this association is not known.

To explain this association, it was suggested that malignancy is related to carcinogenic or immunosuppressive effects of MF therapies including electron beam irradiation, topical nitrogen mustard and psoral en plus ultraviolet A (PUVA)(4,8).

Melanoma has been reported in several MF patients treated with PUVA therapy(5,6).Stern et al (9) found a 5-fold increase in the incidence of melanoma in psoriasis patients treated with high levels of PUVA when followed up at least 15 years from the time of the first exposure. PUVA does have a proliferative effect on melanocytes as well as immunosuppressive effects (10).

Several cases of malignant melanoma associated with nitrogen mustard therapy for MF have already been reported (6,11).

Our case is particularly interesting since the patient did not receive a PUVA or total skin electron beam therapy. Heald and al (12) suggested that malignancy is related to immunosuppression: MF patients have deficient circulating CD4+ T cells and decreased synthesis of interferon-gamma by Th2 T-cell subsets resulting in decreased antitumor cytotoxic T-lymphocyte activity (13).
A Genetic alteration in the p16 tumor suppressor protein was also suggested as a possible explanation (14).

Competing interests: The authors report no conflicts of interests. The authors alone are responsible for the content and writing of the paper. All authors have contributed to this paper

Authors' contributions: SK, MA and NB were in charge of the overall care of the patient, reviewed literature, and drafted the manuscript and revised it critically for important intellectual content.
MBE, AM and IA carried out the literature review. JK,SB, FK and BE have participated in the histological diagnosis of the case. HM, HE carried out the conception of the case, revised it critically for important intellectual content. All authors read and approved the final manuscript.

Figures

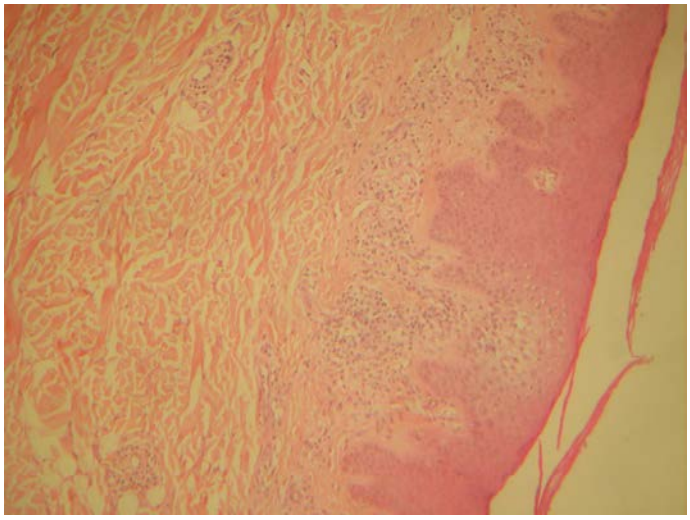

Figure1: Mycosis fungoides: Dense dermal infiltration by atypical lymphocytes, with sparing of the epidermis. (HEx40).

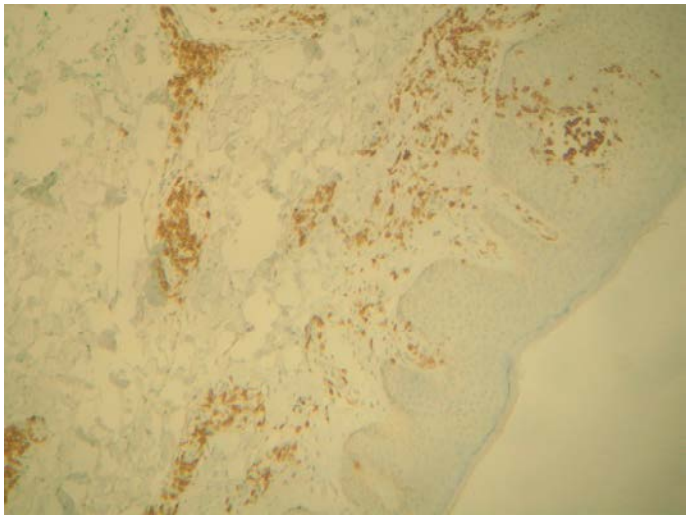

Figure2: Mycosis fungoides: High power view demonstrating positive immunostaining for CD3 (Gx40)

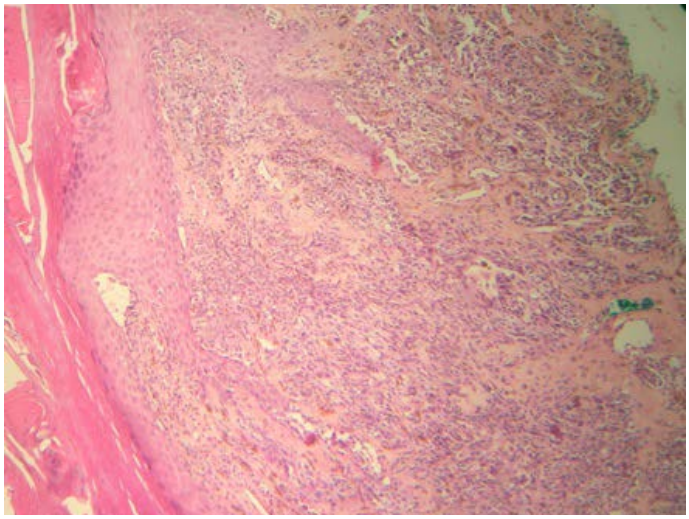

Figure 3: Acral-lentiginous melanoma showing marked acanthosis, elongation of the rete ridges, broadened horny layer. (HEx10).

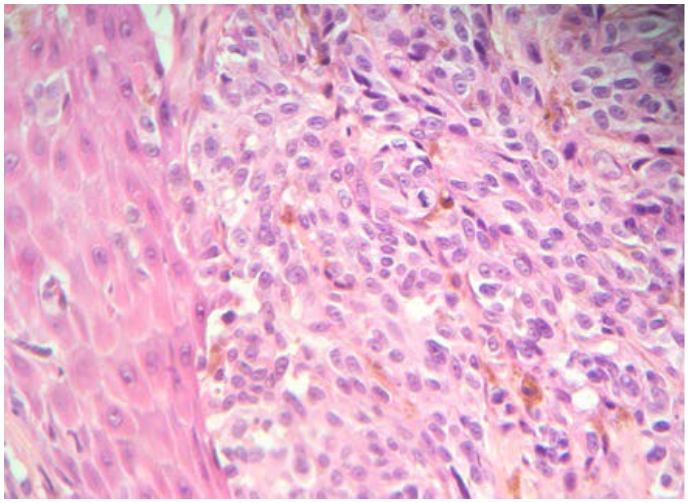

Figure 4:High power view: Atypical melanocytes with large, often bizarre nuclei and nucleoli, and cytoplasm filled with melanin granules. (HEx40).

References

1. Evans AV, Scarisbrick JJ, Child FJ, Acland KM, Whittaker SJ, Russell-Jones R. Cutaneous malignant melanoma in association with mycosis fungoides. J Am Acad Dermatol. 2004 May; 50(5):701-5
2. Girardi M, Heald PW,Wilson LD. The pathogenesis of mycosis fungoides. N Engl J Med. 2004; 350:1978-1988.
3. Bae JM, Kim HO, Park YM. Progression from Acral Lentiginous Melanoma in situ to Invasive Acral Lentiginous Melanoma. Ann Dermatol. 2009 May; 21(2):185-8.
4. DuVivier A, Vonderheid EC, Van Scott EJ, Urbach F. Mycosis fungoides, nitrogen mustard and skin cancer. Br J Dermatol 1978; 99: 61-64.
5. Reseghetti A, Tribbia G, Locati F, Naldi L, Marchesi L. Cutaneous malignant melanoma appearing during photochemotherapy of mycosis fungoides. Dermatology1994;189: 75-77.
6. Licata AG, Wilson LD, Braverman IM, Feldman AM, Kacinski BM. Malignant melanoma and other second cutaneous malignancies in cutaneous T-cell lymphoma. Arch Dermatol1995;131: 432-435.
7. Pielop JA, Brownell I, Duvic M. Mycosis fungoides associated with malignant melanoma and dysplastic nevus syndrome. Int J Dermatol. 2003 Feb;42(2):116-22
8. Vonderheid EC, Tan ET, Kantor AF, Shrager L, Micaily B, Van Scott EJ. Long-term efficacy, curative potential, and carcinogenicity of topical mechlorethamine chemotherapy in cutaneous T cell lymphoma. J Am Acad Dermatol.1989;20: 416-428.
9. Stern, RS, Nichols KT, Vakeva, LH. Malignant melanoma in patients treated for psoriasis with methoxsalen (psoralen) and ultraviolet A radiation (PUVA). New Engl J Med 1997;336: 1041-1045.
10. Gupta AK, Stern RS, Swanson NA, Anderson TF. Cutaneous melanomas in patients treated with psoralens plus ultraviolet A: a case report and the experience of the PUVA Follow-up Study. J Am Acad Dermatol 1988; 19: 67-76.
11. Amichai B, Grunwald MH, Goldstein J, Finkelstein E,Halevy S. Small malignant melanoma in patients with mycosis fungoides. J Eur Acad Dermatol Venereol 1998;11:155-157.
12. Heald P, Yan S-L, Edelson R. Profound deficiency in normal circulating T cells in erythrodermic cutaneous T-cell lymphoma. Arch Dermatol 1994; 130: 198-203.
13. Lee B-N, Duvic M, Tang C-K, Bueso-Ramos, C, Estrov Z, Reuben JM. Dysregulated synthesis of intracellular type 1and type 2 cytokines by T cells of patients with cutaneous T-cell lymphoma. Clin Diag Laboratory Immunol 1999; 6:79-84.
14. Piepkorn M. Melanoma genetics: an update with focus on the CDKN2A (p16)/ARF tumor suppressors. J Am Acad Dermatol 2000; 42: 705-722.