Mycosis fungoides mimicking nevoid hyperkeratosis of the nipple and areola in an adolescent

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Mycosis fungoides is one of the great imitators in dermatology; it can mimic many dermatoses. Nevoid hyperkeratosis of the nipple and areola is a rare idiopathic disease with typical clinical features of verrucous thickening and brownish discoloration of the nipple, areola or both. Here, a 16-year-old male patient with mycosis fungoides mimicking nevoid hyperkeratosis of the nipple and areola has been reported. To our knowledge, this is the first atypical MF patient to have presented with a NHNA-like lesion. Although the clinical appearance of nevoid hyperkeratosis of the nipple and areola is highly characteristic for diagnosis, histopathological examination is recommended, especially in cases with atypical features such as unexpected age, male gender and unilateral location.

Key words: adolescent, mycosis fungoides, nipples.

Mycosis fungoides (MF) is the most common type of cutaneous T-cell lymphoma, representing almost half of the cases. However, it is still a rare disease, with an annual incidence rate of 0.3 per 100,000. MF is commonly seen in older adults with a median age of 55-60. It may nonetheless also affect children and adolescents[1]. Patients with classical MF follows a progression pattern from patch stage to plaque stage and finally to tumor stage. The initial skin lesions are patches that have a predilection to localize in the buttocks and other covered sites of the trunk and limbs. With progression of the disease, more infiltrated, reddish-brown and scaling plaques develop, eventually progressing in some patients to nodules and tumors[2].

Occasionally MF occurs in atypical forms, which may mimic several other dermatoses[3, 4]. Herein we present a patient with MF mimicking nevoid hyperkeratosis of the nipple and areola (NHNA). To our knowledge, this is the first reported case in the literature.

Case Report

A 16-year-old male patient was admitted to the dermatology clinic due to an abrupt development of asymptomatic, brown thickening in his left mammary area eight months previously. His medical history was unremarkable. He denied any underlying systemic or dermatologic disease, drug intake or hormonal therapy.

On the dermatological examination, a brown, verrucous and ill-defined plaque was observed in the area extending from the left areola to the nipple. Otherwise he was healthy. He was clinically diagnosed as NHNA. He refused further histopathological examination and surgical excision of the lesion. Three months later, he was readmitted to the clinic with a newly developed skin lesion in the left chest area. On the dermatological examination, an erythematous patch with a diameter of 8 cm was detected in the left submammary area 10 cm away from the previous lesion (Fig. 1). No additional skin lesion or lymphadenopathy was present.

Skin biopsies from the hyperkeratotic lesion and the patch lesion were taken for histopathological examination and T cell receptor (TCR) analysis by polymerase chain reaction. The histopathological examination revealed patchy lymphocytic infiltrate within the papillary dermis, associated with coarse fibrosis

This case was presented in part on the occasion of Atıf Taşpınar Dermatology Days in March 2010.

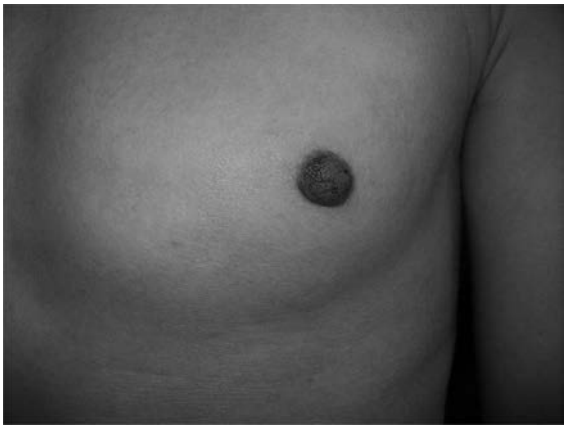

Fig. 1. Nevoid hyperkeratosis-like lesion of the nipple and areola in the left mammary area and erythematous patch-type lesion located inferomedial to it.

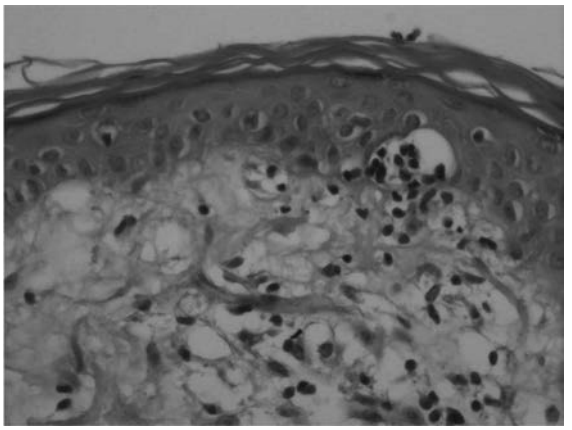

Fig. 2. Papillary dermal interstitial infiltrate associated with linear aggregation of neoplastic lymphocytes along the dermal-epidermal junction (hematoxylin-eosin stain; original magnification, x40).

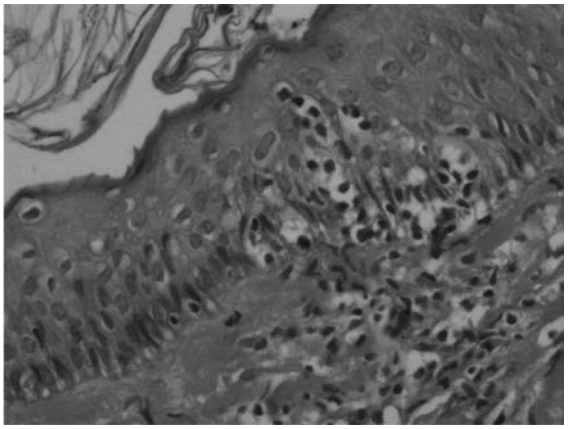

Fig. 3. Early mycosis fungoides lesion showing marked epidermotropism (hematoxylin-eosin stain; original magnification, x40).

in the dermis. Lymphoid epidermotropism with Pautrier microabscesses composed of atypical lymphocytes was accompanied by linear aggregation of neoplastic lymphocytes along the dermal-epidermal junction (Figs. 2-3). Immunohistochemical examination revealed that most of the epidermotropic cells (in particular, those displaying nuclear atypia) expressed CD3 but not CD8.

TCR analyses showed monoclonal T cell proliferation. Laboratory and instrumental examinations, including blood tests and CT scans of the abdomen and chest were performed. They were all normal. On the basis of all clinical and laboratory findings, the patient was diagnosed as MF, early patch stage, or stage IA according to the TNM classification.

Discussion

NHNA is a rare dermatosis with unknown etiology. It is a subgroup of hyperkeratosis of the nipple and areola (HKNA). In addition to NHNA, HKNA has three other subgroups: HKNA due to extension of an epidermal nevus; HKNA associated with underlying dermatosis, such as ichthyosis, acanthosis nigricans, Darier disease or a cutaneous lymphoma; and HKNA associated with estrogen and spironolactone therapy. The idiopathic form of NHNA is commonly observed in female patients in the second or third decade of life, and is usually bilateral. Clinically, this benign condition is characterized by verrucous thickening and brownish discoloration of the nipple, areola or both[5].

Hyperkeratotic or verrucous lesions are rare findings of cutaneous lymphomas and are commonly located in the palmoplantar areas[4]. However, the development of a hyperkeratotic and verrucous lesion on the nipple and areolar area has been reported in two cases in the literature. Those cases were advanced-stage lymphoma patients with generalized skin and lymph node involvement, and the hyperkeratotic and verrucous lesions developed on the existing cutaneous lymphoma lesions[6, 7]. In contrast, our patient developed an NHNA-like lesion de novo on normal skin, and this was the presenting and, for a while, the only lesion.

Histopathological features of NHNA are nonspecific, presenting similarities with epidermal nevus and acanthosis nigricans,

such as varying degrees of acanthosis, hyperkeratosis, keratin plugging, papillomatosis and hyperpigmentation. Dermal infiltration, if present, is rare[8]. Roustan et al.[9] reported a patient with NHNA who showed some histopathological features of MF. However, further laboratory findings and long-term follow-up results did not support a diagnosis of MF. Nonetheless, the authors emphasized the importance of conducting further studies on NHNA patients to eliminate the possibility of cutaneous T-cell lymphoma[9]. In contrast to that patient, our patient was diagnosed as MF, early patch stage, on the basis of both clinical and laboratory findings. He developed a classical MF lesion subsequent to the initial NHNA-like lesion; histopathological examination of both lesions revealed classical findings of MF; and TCR analyses showed monoclonal T cell proliferation.

NHNA has a highly characteristic clinical presentation. Because of that, further histopathological examination is not necessary for diagnosis. However, some diseases, such as MF, are great imitators and can mimic several other dermatoses[10]. To our knowledge, this is the first atypical MF patient with an NHNA-like lesion to have been reported. Based on this patient, we conclude that atypical NHNA-like lesions in association with unexpected age, male gender and unilateral location should be histopathologically examined.

REFERENCES

1. Zinzani PL, Ferreri AJ, Cerroni L. Mycosis fungoides. Crit Rev Oncol Hematol 2008; 65: 172-182.
2. Smith BD, Wilson LD. Cutaneous lymphoma. Curr Probl Cancer 2008; 32: 43-87.
3. Requena L, González- Guerra E, Angulo J, DeVore AE, Sangueza OP. Anetodermic mycosis fungoides: a new clinicopathological variant of mycosis fungoides. Br J Dermatol 2008; 158: 157-162.
4. Kazakov DV, Burg G, Kempf W. Clinicopathological spectrum of mycosis fungoides. J Eur Acad Dermatol Venereol 2004; 18: 397-415.
5. Baykal C, Büyükbabani N, Kavak A, Alper M. Nevoid hyperkeratosis of the nipple and areola: a distinct entity. J Am Acad Dermatol 2002; 46: 414-418.
6. Allegue F, Soria C, Rocamora A, Fraile G, Ledo A. Hyperkeratosis of the nipple and areola in a patient with cutaneous T-cell lymphoma. Int J Dermatol 1990; 29: 519-520.
7. Ahn SK, Chung J, Soo Lee W, Kim SC, Lee SH. Hyperkeratosis of the nipple and areola simultaneously developing with cutaneous T-cell lymphoma. J Am Acad Dermatol 1995; 32: 124-125.
8. Krishnan RS, Angel TA, Roark TR, Hsu S. Nevoid hyperkeratosis of the nipple and/or areola: a report of two cases and a review of the literature. Int J Dermatol 2002; 41: 775-777.
9. Roustan G, Yus ES, Simón A. Nevoid hyperkeratosis of the areola with histopathological features mimicking mycosis fungoides. Eur J Dermatol 2002; 12: 79-81.
10. Ferahbaş A. Mycosis fungoides, clinical variants and subtypes. Turkiye Klinikleri J Dermatol 2007; 17: 242-251.