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CASE AND RESEARCH LETTERS

The Effectiveness of a Twice-weekly Narrowband Ultraviolet B Phototherapy Schedule in Early-stage Mycosis Fungoides in a Cohort of 18 Argentinian Patients☆

Efectividad de la fototerapia ultravioleta B de banda estrecha con un esquema bisemanal en el tratamiento de la micosis fungoide estadio temprano en una cohorte de 18 pacientes argentinos

To the Editor

Mycosis fungoides (MF) is the most common type of primary cutaneous T-cell lymphoma (CTCL), affecting middle-aged and elderly population. The clinical manifestations are limited to the skin in early stages (eMF). Skin histopathology, immunohistochemistry and other complementary studies are required, in order to classify MF stages. The prognosis of eMF is favourable, with 98% five-year survival rate for limited patch or plaque disease.[1,2]

The most recommended treatments for eMF are topical therapies and phototherapy.[3] Narrowband UVB phototherapy (NB-UVB) is considered to have a safer profile than PUVA and broadband UVB regarding side effects, tolerability and carcinogenesis.[4] Up to the present, most MF and NB-UVB studies were performed on Caucasian and Asian populations with a schedule of three sessions per week.[2,5]

The aims of this study are to evaluate the response, relapse and side effects of a twice-weekly NB-UVB regimen in eMF. We compared the results with the classic three times a week schedule published in the literature. We also described for the first time the response to NB-UVB therapy in an Argentinean cohort, a mixture of Caucasian and Mestizo people (Amerindian and European ancestry).

We present a retrospective analysis of adult patients (> 18 years old) with confirmed eMF,[6] who underwent NB-UVB in the Department of Dermatology at ''Hospital Italiano de Buenos Aires'' for 8 years. Patient data were obtained from the electronic medical records. No patients presented advanced-stage MF prior to the treatment. NB-UVB treatment scheme is depicted in Table 1. Clinical evaluation was performed every 10 sessions or in the presence of side effects.

Clinical response was classified as complete (CR, >95% of skin lesions clearance), partial (PR, 50% to 95%), stable disease (<50%) and progressive disease. After achieving CR, NB-UVB frequency was reduced once-weekly for 5 weeks and

Table 1 Early-stage mycosis fungoides population features.

Population	n = 18
Sex ratio	2.75 females per male (11 female)
Age	Mean = 60.8 years old
	Range = 28 to 81 years old
Fitzpatrick classification scale	Skin type II = 8 patients
	Skin type III = 8 patients
	Skin type IV = 2 patients
MF clinical stage	Patch stage = 5 patients
	Plaque stage = 13 patients
TNMB staging system	IA = 2 patients
	IB = 16 patients
Concomitant treatment	Potent topical steroids (class I-II) = 18
Previous treatment	One patient received PUVA
NB-UVB phototherapy	Mean sessions = 39
	Range sessions = 20 to 65
	Mean CuD = 28.7 J/cm2
	Range CuD = 21 to 61.1 J/cm2
Study completion and response	15/18 patients
	CR = 12 (66%)
	PR = 3 (16.5%)
	CR Mean time = 6.1 months
	CR Median time = 5.5 months
	CR Range time = 3 to 13 months
Side effects	9/18 patients = moderate erythema
	4/18 patients = burning sensation
	1/18 patients = SCC (previous photodamaged skin)
Relapse	7/12 CR patients
	Mean time = 13.4 months
	Median time = 3 months
	Range time = 2 to 60 months
	Histological confirmation = 2 patients

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Table 2 Narrowband UVB treatment scheme.

NB-UVB Cabinet	Jorlan® Argentina; 44 fluorescent TL/01 Philips lamps 100W, peak emission at 311/312 nm
NB-UVB frequency	Twice a week on nonconsecutive days
Initial dose	0.1 J/cm2 (regardless of the skin phototype)
Increasing dose	0.1 J/cm2 per session
Maximal dose	1.5 J/cm2 or maximal well-tolerated dose
Mild side effects	If marked erythema or discomfort: 1 week pause and restart with 20% to 30% lower dose
Persistent side effects	Highest well-tolerated dose until the end of the treatment

then, discontinued. Remission and relapse were clinically assessed every 3 months and skin biopsies were performed, provided that the clinical picture was unclear. Late relapse was defined as the recurrence of MF more than 12 months after completion of NB-UVB.

We included a cohort of eighteen eMF patients. The study was completed by fifteen patients, while three were excluded as they developed a progressive disease. The eMF population and NB-UVB details are described in Table 2. All twelve CR patients received maintenance and five did not relapse during the follow-up period up to 36 months. Figure 1 shows the response to NB-UVB in eMF patients.

NB-UVB is an effective therapy to improve life quality and to induce a short-term CR in MF. Our cohort of patients was treated with a twice-weekly schedule, reaching a 80% CR in a mean time of 6.1 months. Hofer et al[7] reported 6 patients treated with NB-UVB 3-4 times-weekly for 5 to 10 weeks, with a mean cumulative dose (CuD) of 16.3 J/cm2. Although 83% of the patients achieved CR, all of them relapsed within 6 months. Gökdemir et al[8] published a prospective study with 23 early-stage MF patients, treated with a thrice-weekly schedule. A CR was achieved in 91.3% patients, the mean CuD was 90.3 J/cm2 with an average of 36 sessions. In the 3-year follow-up period, only one CR patient relapsed. Relapse rate appears to be related to the CuD, rather than to the number of sessions or the schedule applied. However, we also observed a late relapse in 2 patients, which it would suggest that the response variability is still insufficiently understood.

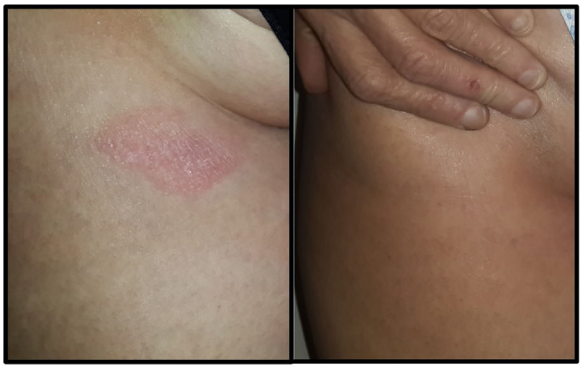

Figure 1 Female patient with plaque stage MF in both legs. Complete resolution of the skin lesions after 60 sessions of UVB-NB therapy.

The establishment of a maintenance therapy should be mandatory as relapse is expected in most of the patients. Boztepe *et al* described a maintenance therapy based on 80-160 NB-UVB sessions (12-30 months) on a decreasing frequency schedule. During this period, no relapse was observed.[9] In regard to avoiding unnecessary energy accumulation and longer therapy, we decided a short-term maintenance, with a close follow-up. Relapsed eMF patients restarted NB-UVB or began PUVA (data not shown).

In order to lower side effects, we apply a common schedule to our cohort and no severe reactions were observed. Despite most publications show a shorter mean time treatment to reach CR (3-4 months), twice-weekly regimen reduces theoretically the risk of acute side effects, as well as the immunosuppressive response in the short term.[8–10]

A twice-weekly NB-UVB schedule in eMF is as effective as the three-times-weekly regimen. Our CR and relapse rate can be compared to the classic scheme, which confirms that the total amount of energy delivered could be more important than the frequency of exposure or the initial dose. Although longer treatments could be required to reach CuD, we emphasize the low rate of side effects and an adequate treatment compliance. Based on our clinical study, we can recommend a twice-weekly schedule as an alternative to the classical schedule, if patients report intolerance to NB-UVB.

Conflicts of Interest

Conflicts of Interest The authors declare that they have no conflicts of interest.

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Narrowband UV-B Phototherapy in the Treatment of Generalized Hailey-Hailey Disease☆

Tratamiento de la enfermedad de Hailey-Hailey generalizada con fototerapia UVB de banda estrecha

To the Editor:

Hailey-Hailey disease (HHD) is an autosomal dominant genodermatosis caused by a mutation in the *ATP2C1* gene. This gene encodes the hsPCA1 protein, which is responsible for calcium homeostasis. The mutation affects desmosome function, resulting in suprabasal acantholysis.[1–3] Clinically, it presents with recurrent flares of erythematous and macerated plaques in intertriginous areas, sometimes accompanied by erosions, fissures, and vesicles.[4] Lesion superinfection and a foul odor, which can compromise patient quality of life, are observed in some cases.[3] Generalized forms are infrequent and can be triggered by infections or drugs.[5,6] There are multiple available therapeutic options of variable efficacy.[1,7] Here, we describe complete lesion disappearance following narrowband ultraviolet B (NBUVB) phototherapy in a patient with generalized HHD resistant to multiple therapeutic regimens.

The patient was a 41-year-old man with skin phototype III and a history of histologically confirmed HHD that began at age 28 with involvement of the neck, axillae, and groin.

He was seen for eroded and macerated erythematous plaques located in the skin folds. Over the preceding months the lesions, which caused mild pain and produced a foul odor, had spread to the trunk, upper extremities, and proximal thighs (Figs. 1 and 2).

The lesions spread progressively despite treatment with 1% isoconazole and 2% mupirocin cream, 100 mg minocycline every 12 hours, and 150 mg fluconazole per day for 7 days, in repeated cycles.

In the absence of a clinical response 3 weeks after starting treatment with prednisone (40 mg/d), NBUVB phototherapy was added to the regimen. NBUVB irradiation was carried out using a Waldmann F85/100W-01 cabinet equipped with TL01 lamps. The patient underwent a total of 8 weekly sessions, starting at a dose of 300 mJ/cm^2 and increasing by 50 mJ/cm^2 per week. The maximum dose of 500 mJ/cm^2 was reached after the fifth session, and was maintained until the eighth week. The patient received a cumulative dose of 3500 mJ/cm^2. During each session he was positioned standing with the lower limbs in abduction and the upper limbs elevated above the level of the shoulders, thus allowing irradiation of the skin folds. No adverse effects were observed during treatment.

Four weeks after starting phototherapy a marked improvement was observed; the lesion extension decreased and the odor subsided. Consequently, the prednisone dose was progressively decreased at a rate of 5 mg per week, and prednisone treatment was ultimately discontinued 1 month after cessation of phototherapy.

After completing the 8 phototherapy sessions the lesions resolved completely, leaving only residual hyperpigmentation (Fig. 3).

Currently, the patient is being treated with 1% clotrimazole and 0.1% betamethasone cream once per day, and has not relapsed over 12 months of follow-up.

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