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Randomized Double-Blind Comparative Study of 8-Methoxypsoralen Bath Plus UV-A Treatment Regimens

Estudio comparativo randomizado a doble ciego de regímenes de tratamiento con 8-metoxypsoraleno en baño-PUVA

To the Editor:

Psoralen-UV-A (PUVA) therapy with topical 8-methoxypsoralen (8-MOP) is a widely used treatment for patients with moderate to severe psoriasis.^{1,2} The current regimen for bath PUVA involves soaks in a diluted 8-MOP bath followed by UV-A irradiation twice weekly. Bath PUVA has several advantages over oral PUVA as it avoids the adverse effects of oral psoralen administration (gastrointestinal disturbances and the need to use protective eyewear for 24 h after ingestion), produces a more direct psoralen bioavailability to the skin, and requires lower doses of UV-A, resulting in shorter treatment times.

Previous studies investigating the characteristics of PUVA erythema found peak erythematous responses at 96 to 120 hours.³⁻⁵ In addition, we have previously shown that skin remains significantly photosensitive for up to 2 days following trimethylpsoralen (TMP) bath PUVA, possibly due to the presence of psoralen-DNA monoadducts. These findings suggest that in order to achieve the same therapeutic response it may not be necessary to repeat photosensitization prior to the second weekly exposure to UV-A. We have examined this hypothesis.

Approval for the study was obtained from the Tayside Research Ethics Committee, Dundee, Scotland. Patients with symmetrically localized plaque psoriasis on the limbs who were referred for bath PUVA were invited to participate in the study; all participants signed a written informed consent form. The subjects recruited had a minimal phototoxic dose assessment performed by UV-A irradiation immediately after a 15-minute soak in 8-MOP solution (3 mL of 1.2% 8-MOP solution [Crawfords Pharmaceuticals, Milton Keynes, United Kingdom] in 15 L of water). The minimal phototoxic dose was determined at 72 hours.

Patients were randomized to receive 8-MOP soaks twice weekly followed by UV-A irradiation on 1 limb or an 8-MOP soak 1 day of the week and placebo at the time of the second treatment, followed by UV-A irradiation on the other limb.

The random allocation list was generated by computer and allocations were concealed in sequentially numbered opaque

envelopes containing the words active (twice-weekly soaks) or inactive (once-weekly soak). Randomization was controlled by the research nurse and carried out after patients had given their written consent to participate in the study.

Sixteen patients (9 women and 7 men) with symmetrically localized plaque psoriasis on the arms or legs participated in the study. Patients less than 18 years of age, on photoactive medication, and those who had received systemic treatment for psoriasis or phototherapy, photochemotherapy, or sunbed therapy in the preceding 3 months were excluded from the study. The treatment was limited to the arms or legs. The majority of patients underwent treatment of the arms (13 patients) and in the remaining 3 patients the treatment was applied to the legs.

During the study, topical steroids and antibiotic or antimycotic preparations were allowed for application only to the flexures and scalp; only emollients were permitted elsewhere. Treatment was performed in accordance with the protocol for stepped incremental UV-A therapy established in this unit. If a patient missed a treatment, the next soak administered was the active soak. Treatment was discontinued at clearance or with 4 exposures after achieving minimal residual activity. The data gathered included total number of treatments and total dose of UV-A to clearance or minimal residual activity, time to relapse, and psoriasis severity score in the plaques.

Patients were followed up at 2, 4, and 6 months and at 1 year.

The scaling, erythema, and induration (SEI) score was recorded for selected plaques at each visit. The nurses who administered the soaks, the patients, and the clinician scoring the plaques were blinded to the treatment allocation. In order to determine psoriasis severity on the study limbs over the course of study, we analyzed the area under the curve of SEI scores over time in all patients. There was a seemingly greater reduction in psoriasis severity on the limbs that received two 8-MOP soaks per week, although the difference between the 2 sides did not reach statistical significance in this small study ($P=0.29$, Wilcoxon signed rank sum test).

Among the 6 patients who attended follow-up, only one showed a difference in time to relapse on the 2 treated limbs; relapse occurred 2 months later on the active (twice-weekly soak) limb.

The aim of this double-blind, intrasubject comparative study was to determine whether omitting one of the 8-MOP baths each week reduced the risk of burning without loss of therapeutic efficacy. A number of difficulties were encountered during the course of the study: patient recruitment was limited by the fact that patients with localized psoriasis are

usually managed in the community with topical therapies and, if their psoriasis was generalized, only emollients were permitted; and many patients were lost to follow-up.

Despite prolonged photosensitivity with TMP-bath PUVA and 8-MOP bath PUVA, our impression from this study is that the second soak is probably important, though the size of the study did not allow us to reach a definitive conclusion.

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Reactive Arthritis Associated with *Chlamydia trachomatis* Infection: Importance of Screening and Treating the Partner

Artritis reactiva por *Chlamydia trachomatis*: importancia del rastreo y tratamiento de la pareja

To the Editor:

Reactive arthritis, also known as Reiter syndrome, is a seronegative spondyloarthropathy classically defined by the triad of arthritis, urethritis, and conjunctivitis. It develops in the context of a gastrointestinal or genitourinary infection.^{1,2}

The most common skin manifestations are circinate balanitis, keratoderma blenorrhagica, and nail dystrophy, but both the symptoms and their temporal relationship may vary.

We describe the case of a 23-year-old man admitted for sacroiliitis and psoriasiform lesions on the limbs and trunk associated with marked circinate balanitis, nail dystrophy, dactylitis, keratoderma blenorrhagica (Figure 1), asthenia, and bilateral conjunctivitis. The patient reported previous episodes of arthritis, conjunctivitis, and urethritis that occurred after an average incubation period of 3 weeks following symptoms of urethritis, and that improved after the administration of nonsteroidal anti-inflammatory drugs and doxycycline.

Blood tests performed during admission showed elevated levels of C-reactive protein. Rheumatoid factor was not elevated and the tests for autoimmunity, viral serology, and microbiology cultures for microorganisms related to

sexually transmitted diseases were negative. Skin biopsy was compatible with psoriasis, the histocompatibility antigen study was positive for HLA-B27, and imaging studies revealed early signs of enthesitis and asymmetric sacroiliitis. The partner presented no genitourinary symptoms.

A sample of urethral exudate was taken from the patient and cervical exudate from the partner to test for *Chlamydia*



Figure 1 Keratoderma blenorrhagica on the right foot.