CARTAS CIENTÍFICO-CLÍNICAS

Leucemia cutis desarrollada en la zona de inoculación de una dosis de recuerdo de la vacuna del tétanos

Leukemia Cutis Arising at the Site of Injection of a Tetanus Vaccine Booster

Sr. Director:

La leucemia cutis es una entidad infrecuente. Aunque es conocido su valor pronóstico, ya que con frecuencia se asocia a un peor pronóstico de la enfermedad\(^1\), se desconoce el mecanismo de acción que justifica su aparición en un territorio determinado. Presentamos un caso de leucemia cutis desarrollada a partir de la zona de inoculación de una dosis de recuerdo del tétanos.

Paciente de 64 años exfumador y con antecedentes de hiperuricemia. El paciente había sido diagnosticado de leucemia mielomonocítica crónica en 2004 durante el estudio de una monocitosis persistente en sangre periférica. Tres años más tarde el paciente consultó por una lesión aparecida en la zona de punción de la dosis de recuerdo de la vacuna antitetánica. Iniciada en forma de una pequeña pápula, la lesión creció de forma progresiva hacia una tumoración violácea y friable de 7 × 5 cm (fig. 1). Durante las últimas semanas, y de forma paralela a la progresión de la tumoración cutánea, se evidenció una erupción generalizada, bilateral y simétrica, de máculas y púpulas confluentes en placas, de coloración violácea-marronosas; más evidente en la parte anterior del tronco (fig. 2). En el estudio histopatológico se comprobó la presencia de un infiltrado denso en dermis media y profunda constituido por células de la serie granulocítica en diferentes estadios evolutivos, con frecuentes mitosis (figs. 3 y 4). En el estudio inmunohistoquímico las células eran CD68 y CD43 positivas. El infiltrado, de predominio perianexial y perivascular, disecaba las fibras de colágeno y respetaba la Zona Grenz y la epidermis. Estos hallazgos permitieron concluir el diagnóstico de infiltración cutánea por leucemia mielomonocítica crónica. En la tomografía axial computarizada se observaron adenopatías supra e infradiaphragmáticas y hepatoesplenomegalia, sin cambios con respecto a otras previas. En la biopsia de médula ósea, con signos de infiltración por leucemia mielomonocítica crónica, no se comprobaron cambios con respecto a los estudios previos. Con el diagnóstico de leucemia cutis se inició quimioterapia intensiva con idarubicina, citarabina y etopósido complementada con radioterapia en la tumoración de mayor tamaño. Como complicación del tratamiento el paciente presentó una sepsis por *Klebsiella* productora de betalactamasas de espectro ampliado (BLEA) y por *Staphylococcus haemolyticus*, considerados secundarios a la aplasia posquimioterapia, que respondió de forma favorable al tratamiento antibiótico. En los meses posteriores se comprobó la progresión clínica con afectación del sistema nervioso central en forma de cefalea y parálisis facial central, iniciándose tratamiento con azacitidina y citarabina. En el

![Figura 1 Tumoración violácea y friable de 7 × 5 cm.](image1)

![Figura 2 Erupción generalizada bilateral y simétrica.](image2)
La leucemia cutis se define como una manifestación específica de un proceso hematológico maligno y ocurre por diseminación cutánea de las células neoplásicas con proliferación local. La leucemia cutis es un proceso infrecuente —su incidencia se calcula en un 2–3% de los pacientes diagnosticados de neoplasia hematológica—, asociado casi siempre, como ocurrió en nuestro caso, a leucemias de estirpe mieloide. Aunque en ocasiones la clínica cutánea precede a la enfermedad hematológica incluso meses antes que se pueda evidenciar patología —la leucemia cutánea aleucémica—, en la mayoría se desarrollan, tal y como comprobamos en nuestro paciente, en el contexto de una enfermedad hematológica ya diagnosticada. Es conocido que la afectación cutánea específica se asocia a la agudización de la leucemia crónica, así como, también a mayor predisposición de afectación del SNC por las células neoplásicas, situaciones ambas observadas en el caso presentado.

No existen lesiones clínicas patognomónicas y puede consistir tanto en placas, pápulas o presentarse como tumores.

En el caso presentado llama la atención el inicio de la clínica cutánea a partir de la zona de inoculación de la dosis de recuerdo de la vacuna antitetánica, circunstancia que, en nuestro conocimiento, no ha sido descrita con anterioridad. Sin embargo, se ha descrito la aparición de otros tumores tales como el carcinoma basocelular, el carcinoma epidermoide, el melanoma maligno o el carcinoma de Merkel en la zona de inoculación de vacunas. Desde un punto de vista patogénico parece probable que la alteración de la inmunidad local, descrita en la zona de inoculación de las vacunas, juntamente con la facilidad que presentan las células de estirpe mieloide a migrar a los tejidos, podría favorecer la proliferación de células atípicas. El antecedente de algún factor desencadenante se describe de forma ocasional en la leucemia cutis habiéndose referido casos iniciados en zonas de cicatrices o incluso de infecciones como el virus de herpes simple, de forma similar a como ocurre en el fenómeno de Koebner de las enfermedades inflamatorias. En definitiva, el desarrollo de lesiones cutáneas rápidamente progresivas y de morfología atípica a partir de la zona de inoculación de una vacuna hace aconsejable el estudio histológico y la valoración del paciente con vistas a descartar la posibilidad de una leucemia cutis.

**Bibliografía**

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. 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 h. 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-min 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 h.

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 antifungal 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.

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