

THERAPEUTIC HOTLINE: LETTER

Conventional versus daylight photodynamic therapy in the treatment of erosive pustular dermatosis of the scalp

Dear Editor,

Conventional versus daylight photodynamic therapy in the treatment of erosive pustular dermatosis of the scalp.

An 84-year-old male patient with a personal history of recurrent actinic keratoses on the scalp treated with cryotherapy presented with new skin lesions. Physical examination revealed erosions and erythematous lesions, some with purulent content, distributed bilaterally in the parietal regions of the scalp (Figure 1). A skin biopsy was performed, showing an epidermis with signs of spongiosis and exocytosis of neutrophils dispersed among keratinocytes. In the dermis an intense perivascular, periadnexal, and interstitial inflammatory infiltrate was discovered, consisting of lymphocytes, plasma cells, histiocytes, and neutrophils. The periodic acid-Schiff stains were negative for fungi. With the diagnosis of erosive pustular dermatosis of the scalp (EPDS), treatment with topical corticosteroids was carried out for a week, without improvement. Daylight photodynamic therapy (PDT) with methyl aminolevulinate (MEL) cream, according to the usual protocol, on one half of the scalp was initiated with good response (Figure 2). On the other half of the scalp conventional PDT with MEL cream (exposure to red light </10 min, wavelength: 635 nm, dose: 37 J/cm² at a distance of 50–80 mm) was performed with similar results (Figure 2b). After 1 month of treatment there was a complete resolution of the scalp lesions (Figure 3).

Erosive pustular dermatosis of the scalp is an infrequent chronic inflammatory disease, which has often been associated with a previous history of trauma (laser, radiotherapy, photodynamic therapy, cryotherapy, surgery, and hair transplants, as well as different topical treatments) or actinic damage. It classically presents as sterile pustules, scabs, erosions, and mild inflammation in photodamaged skin (Bologna, Schaffer, & Cerroni, 2018; Yeh, Polcz, & Wong, 2019). It appears in elderly adults, with an average age of 60–70 years and slight female predominance (Patton, Lynch, Fung, & Fazel, 2007; Starace et al., 2017). It is important to make a differential diagnosis with other entities such as folliculitis, pyoderma, hypertrophic actinic keratoses, cicatricial pemphigoid and pemphigus, among others. Different topical treatments have been proposed, such as corticosteroids, calcineurin inhibitors, calcipotriol, dapsone or retinoids, intralesional corticosteroids, oral corticosteroids, acitretin, dapsone, doxycycline, isotretinoin, nimesulide, and zinc (Bologna et al., 2018; Yeh et al., 2019). The role of PDT in EPDS is controversial. Its immunomodulatory effect with apoptosis of inflammatory cells is recognized and is useful in a multitude of infectious, inflammatory, and oncological diseases.

Cases of EPDS with good response to PDT have been described (Cunha, Tsoukas, & Kroumpouzou, 2018; Eleftheriou, McIntee, & Stratman, 2011; Meyer, López-Navarro, Herrera-Acosta, Jose, & Herrera, 2010; Yang, Kuhn, Cohen, & Kroumpouzou, 2016), but there are also cases in which it appears as a precipitating factor of the disease (Guarneri & Vaccaro, 2009; López, López, Ramos, & Ricart, 2012). Using conventional-PDT, a photosensitizer is activated with red or blue light, being metabolized into protoporphyrin IX. In contact with the intracellular oxygen, it selectively enters dysplastic cells, causing necrosis and apoptosis. Using daylight-PDT, patients are exposed directly to daylight, leading to a similar process. It is presented as an alternative to the conventional procedure with similar efficacy and better tolerability (McLellan et al., 2019).

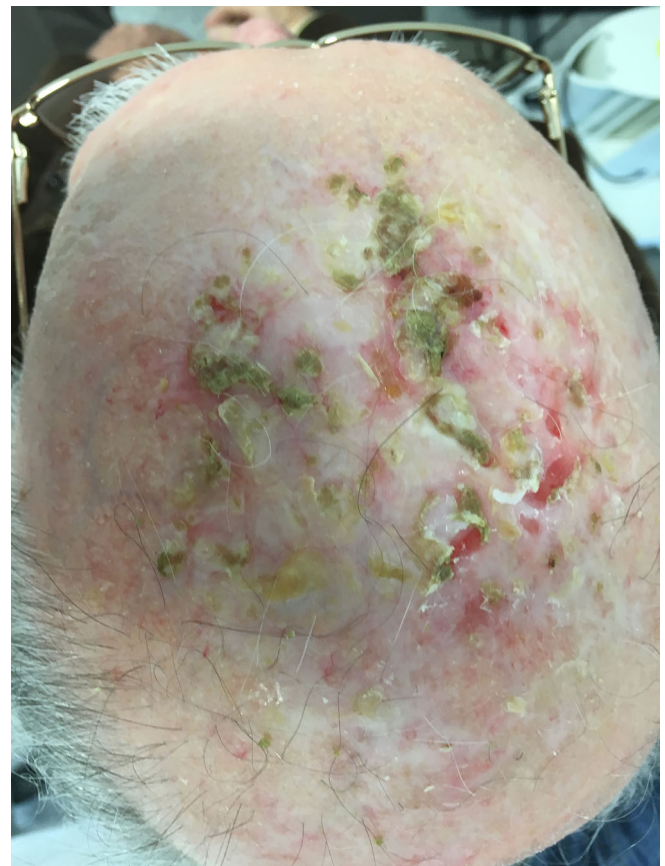


FIGURE 1 Erosions and erythematous lesions on the scalp

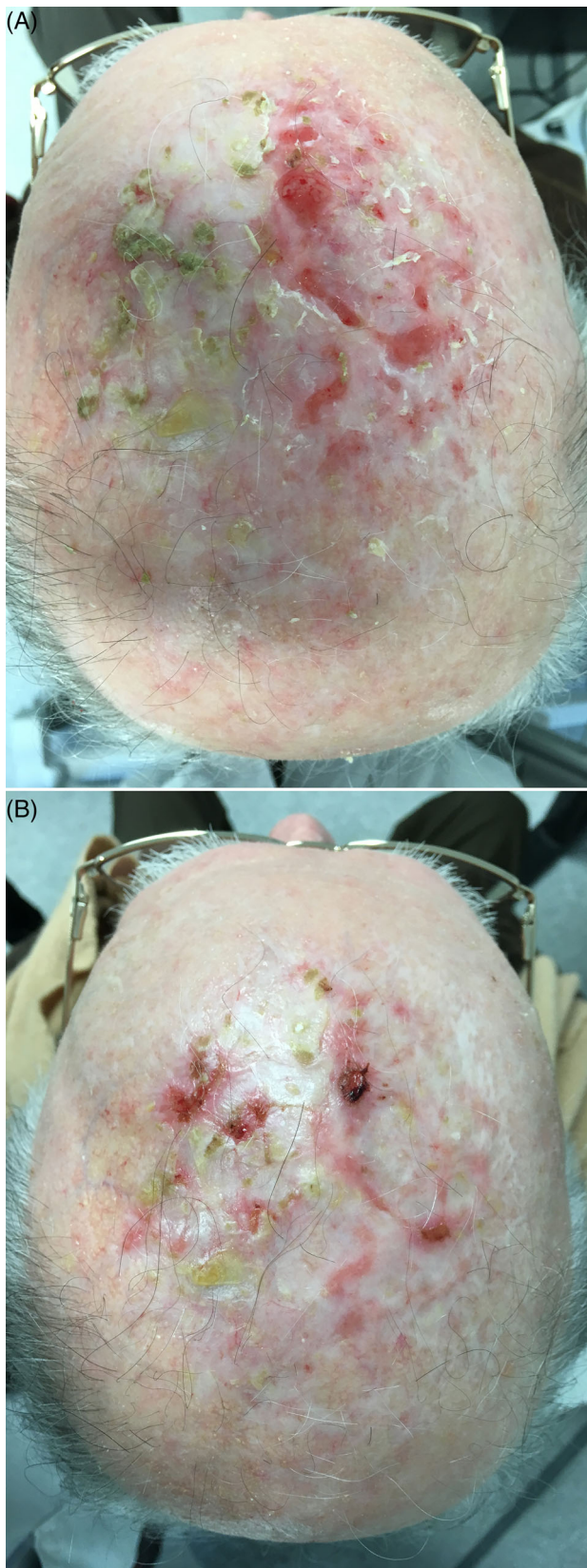


FIGURE 2 (a) Lesions on one half of the scalp after treatment with daylight photodynamic therapy with methyl aminolevulinate cream. (b) Lesions on the other half of the scalp after conventional photodynamic therapy with methyl aminolevulinate cream

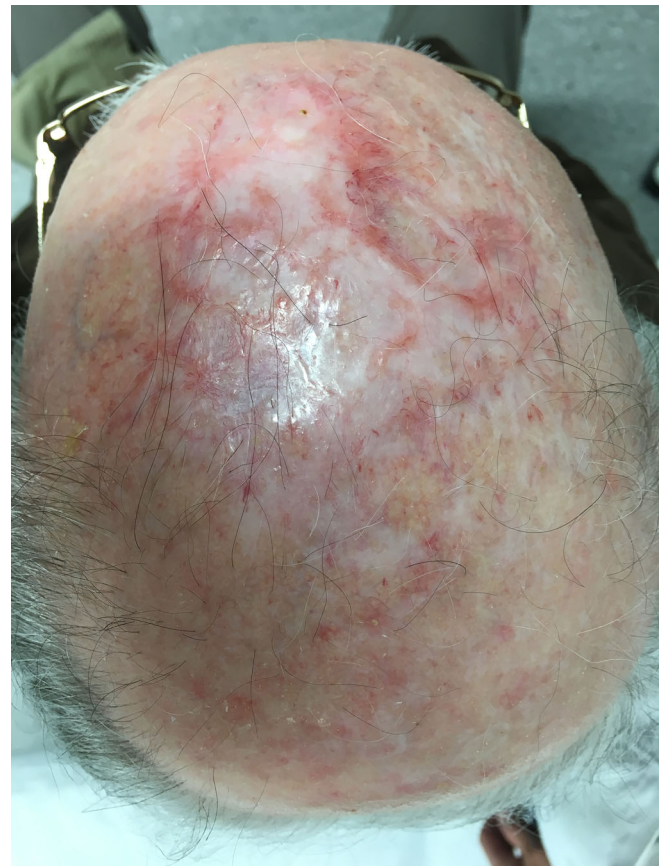



FIGURE 3 Lesions after one month of treatment

We present a new case of EPDS with a good response to photodynamic therapy, both conventional and daylight, after a single treatment cycle.

Maria Arteaga-Henriquez 
Sorahaya Gonzalez-Hernandez
Estela Garcia-Peris

Department of Dermatology, Complejo Hospitalario Universitario de Canarias, Tenerife, Spain

Correspondence

Maria Arteaga-Henriquez, Department of Dermatology, Complejo Hospitalario Universitario de Canarias, Carretera Cuesta Taco, 0, 38320 La Laguna, Tenerife, Spain.
Email: mariaarteagah@gmail.com

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ORCID

Maria Arteaga-Henriquez  <https://orcid.org/0000-0003-2433-5131>

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