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Net Letter

Photoxicity-like rash at a healed skin donor area: A case of locus minoris resistentiae

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Dear Editor,

A 60-year-old man diagnosed with stable vitiligo was planned for vitiligo surgery due to an inadequate response to topical medications and phototherapy. We performed autologous, non-cultured, non-trypsinized, melanocyte plus keratinocyte grafting or Jodhpur technique, by harvesting epidermal tissue from the anterolateral aspect of his left thigh and transferring it onto the dermabraded vitiligo patches on both knees. At 4-week post-procedure, after ensuring complete healing of both the donor and recipient sites, the patient was advised daily application of topical tacrolimus 0.1% and alternate-day treatment with topical PUVASOL (prepared by diluting one part of 1% methoxsalen with nine parts of eau-de-cologne). One week later, the patient presented with a history of blistering that began 3 days after starting treatment. On examination, a few circular erosions in different stages of healing, with peripheral desquamation, were seen over the treated vitiligo patches [Figure 1]. We were surprised to find similar crusted erosions over the previously healed donor site [Figure 2] as well. Upon further inquiry, the patient admitted to daily application of 0.5% methoxsalen instead of 0.1%, followed by exposure to sunlight. However, he denied applying any medications to the donor site. Based on the clinical history and examination findings, he was diagnosed with a phototoxic rash to methoxsalen. The unprovoked development of similar skin lesions on an unexposed but previously injured donor area can be explained by the phenomenon of locus minoris resistentiae (LMR).

LMR refers to a site or organ with diminished resistance to the occurrence of disease. In dermatology, it stands for the localization of cutaneous lesions to previously injured or damaged skin.[1-3] The Koebner phenomenon is the most common and widely known example of LMR.[3] Tissue injuries from herpes zoster infection, trauma, surgery, burns, radiotherapy, vaccination, or lymphoedema can lead to a localized immune dysregulation.[2] Tissue injury may compromise the normal trafficking of immunocompetent cells through lymphatic circulation or affect the release of neuromediators by peripheral nerve fibers.[1,2] Consequently, these sites become vulnerable to a wide variety of infectious, inflammatory, neoplastic, or autoimmune conditions and are therefore referred to as “immunocompromised cutaneous districts.”[1] The skin lesions appear confined to or accentuated at these sites. Interestingly, sites of previous dermatosis that offer greater resistance and remain unaffected by a second dermatosis are termed locus maioris resistentiae.[1]

Reports of “dermatitis in loco minoris resistentiae” are uncommon. We were unable to find any previous reports of phototoxic rash occurring over an LMR. In the case series by Zuehlke *et al.*, most patients developed irritant contact dermatitis over post-surgical or post-traumatic scars.[4]

Figure 1: Erosions with peripheral desquamation over and around the treated vitiligo patches on bilateral knees.

Figure 2: Crusted healing erosions on the donor site over the left thigh.

Among their post-operative cases, eczema occurred over the donor and/or grafted areas months to years after surgery. In contrast, our patient manifested LMR as early as within a month of surgery. Affected patients completely recovered with topical steroids and emollients, as was evident in our patients.

In conclusion, sites of prior skin injury may become susceptible to a wide range of dermatoses. We present an interesting and previously unreported example of LMR, in which a patient with psoralen-induced phototoxicity additionally developed blistering over a healed surgical scar.

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