Dermatology Practical & Conceptual

Pustular Psoriasis Triggered by a Subcutaneous Tissue Expander

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Case Presentation

An African 50-year-old female presented to our department complaining of retracting, painful and dystrophic scarring caused by a previous childhood burn in the right pectoral area. Past medical history was unremarkable.

We chose a two-step approach to treat her burn sequelae. First, we inserted a 400-cc silicone smooth rectangular tissue expander (Mentor, Irvine, USA) in the right suprascapular area. The expander was progressively filled during ambulatory visits. Secondly, three months later, the dystrophic area was excised and reconstruction was performed using the expanded skin flap. At 12-months follow-up, the patient complained of itch above the advancement flap. We noticed an indurated purple plaque within the distal part of the flap, measuring 15x16 cm and surrounded by erythematous borders (Figure 1A). Multiple pruritic pustules were noted in the upper arms, abdomen and dorsum (Figure 1B). Biopsies of the right pectoral plaque and of a left supraclavicular pustule were taken. Histology revealed parakeratosis, acanthosis, epidermal spongiotic pustules, perivascular inflammatory infiltrate with neutrophils in the epidermis and psoriasiform hyperplasia. Although the negative family history of the patient, our findings were compatible with pustular psoriasis (Figure 1, C and D).

Teaching Point

Pustular psoriasis (PP) is clinically characterized by sterile pustules corresponding to a neutrophilic infiltrate in the dermis. Usually, PP affects palms and soles while sometimes it may present in a generalized form associated with systemic symptoms.

We hypothesized that the keratinocytes stretching and skin insult provoked by tissue expansion could have triggered the development of cutaneous psoriasis presenting as a plausible Koebner phenomenon [1,2].

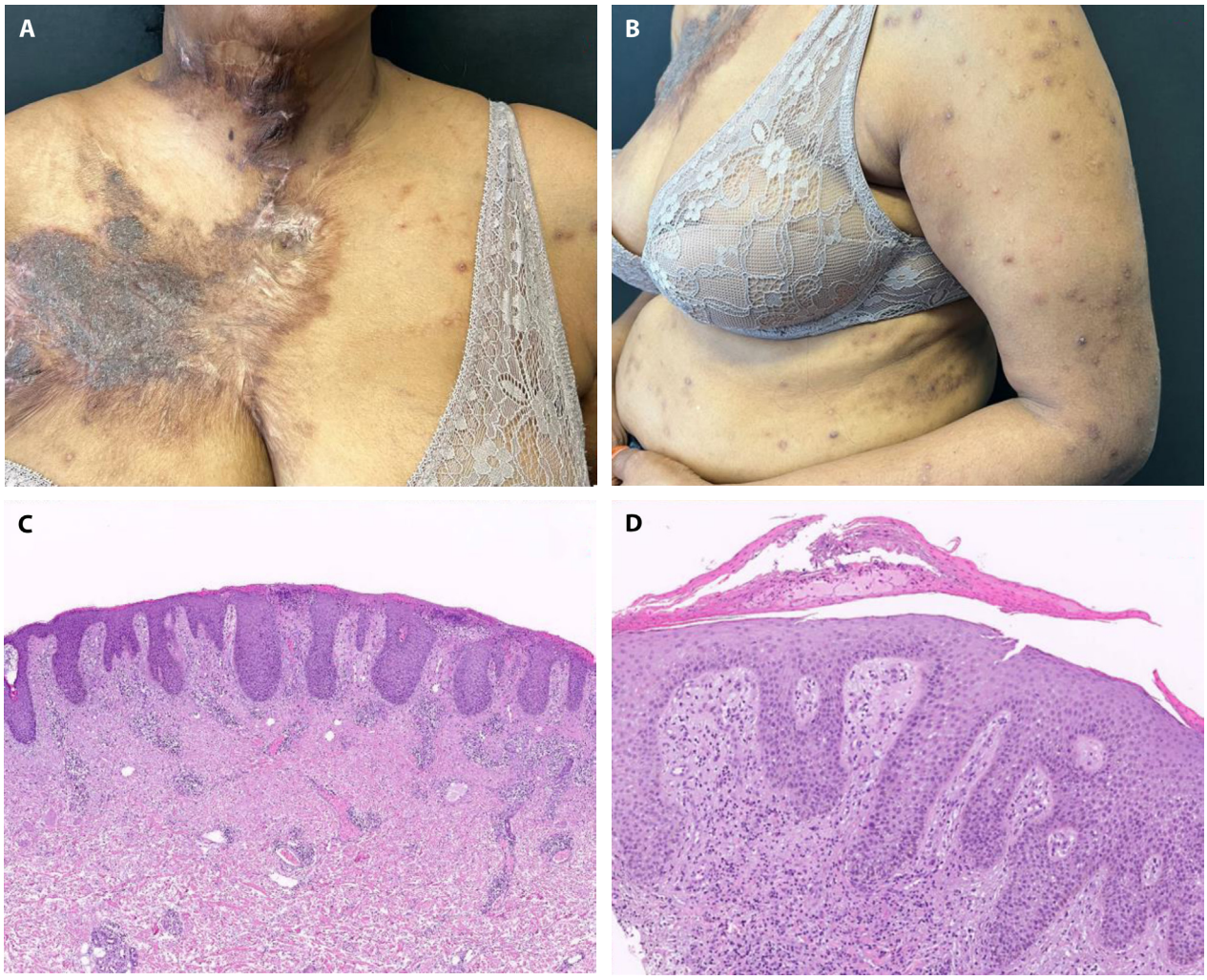

Figure 1. (A) Hyperchromic psoriatic plaque in the right pectoral area, developed above the expanded skin flap. (B) Multiple psoriatic pustules developed above abdominal area and upper arms. (C) Psoriasiform acanthosis and thinning of suprapapillary plates. Mild inflammatory infiltrate (H&E, x10). (D) Subcorneal pustules, parakeratosis and hypogranulosis. Mild inflammatory perivascular and interstitial infiltrate composed predominantly of lymphocytes (H&E, x20).

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