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Tumor-stage mycosis fungoides regressing with milia and pustules after total skin electron beam therapy

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A healthy 66 year-old man presented with a three-year history of a skin eruption, initially treated as psoriasis without response. A biopsy was subsequently performed that was consistent with mycosis fungoides (MF). This diagnosis was confirmed with a positive T-cell gene rearrangement. The patient was referred to our institution for management of tumor stage MF. Due to widespread skin involvement (approximately 80% body surface area) and advanced stage, the patient was treated with Total Skin Electron Therapy (TSET). He received 36Gy in

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24 fractions of 1.5Gy each using the Stanford technique. This resulted in significant clinical improvement.

Close skin examination two months after TSET revealed numerous pustules in the area of the resolving tumors (Figure 1). The pustulosis was subsequently treated with tretinoin 0.025% ointment with improvement.

Fig. 1 (a) The patient's back two months after TSET for tumor stage MF. (b) Closer inspection reveals multiple milia and cystic pustules within the resolving MF tumors and plaques.

Milia formation following resolution of blistering diseases such as bullous pemphigoid has been well described (1-3). A similar, though uncommon, phenomena consisting of milia formation has been documented in the recovery phase of MF treated with topical nitrogen mustard with systemic acitretin (4) and photochemotherapy (5). To our knowledge no reports have documented development of pustules in treatment of MF with TSET. While the mechanism for the development of milia and pustules in treated MF is not known, it has been hypothesized that eccrine duct occlusion could be a contributing factor. This occlusion may be a direct result of the regression of MF or from occlusion with topical nitrogen mustard or systemic acitretin (4, 5). There are also reports of acne vulgaris developing in areas of the skin treated with radiation(6), although this is unlikely etiologic in our reported patient because the pustules were only evident in areas of regressing tumor, sparing uninvolved skin.

It is important to recognize this uncommon entity for several reasons. First, proper identification of this condition can eliminate other differential considerations including miliaria rubra, infection, and pustular drug reaction. Milia and pustule formation, when appreciated at the onset of treatment, could also be an early sign of regressing MF and therefore portend a favorable response to TSET. Finally, correct

identification can lead to proper treatment with topical tretinoin, which was of benefit to our patient.

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