Comment on "Merkel Cell Carcinoma in a Vein Graft Donor Site"

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To the Editor:

A recent *Cutis* article, "Merkel Cell Carcinoma in a Vein Graft Donor Site" (*Cutis*. 2016;97:364-367), highlighted the localization of a Merkel cell carcinoma (MCC) within a well-healed scar resulting from a vein harvesting procedure performed 18 years prior to presentation. Their discussion focused on factors that may have contributed to the development of the MCC at that specific location. As noted by the authors, this case does not classically fit under the umbrella of a Marjolin ulcer given the stable, well-healed clinical appearance of the scar. We agree and believe it is not secondary to chance either but consistent with Wolf isotopic response.

This concept was originally described by Wyburn-Mason in 1955¹ and later revived by Wolf et al.² Wolf isotopic response describes the development of dermatologic disorders that localize to a site of another distinct and clinically healed skin disorder. Originally, it was reserved for infections, malignancies, and immune conditions restricted to a site of a prior herpetic infection but recently has been expanded to encompass other primary nonherpesvirus-related skin disorders. The pathophysiology behind this phenomenon is unknown but thought to be the interplay of several key elements including immune dysregulation, neural, vascular, and *locus minoris resistentiae* (ie, a site

of lessened resistance).³ Immunosuppression is a known risk factor in the development of MCCs,⁴ thus the proposed local immune dysregulation within a scar may alter the virus-host balance and foster the oncogenic nature of the MCC polyomavirus. A recent article describes another case of an MCC arising within a sternotomy scar,⁵ lending further credibility to a skin vulnerability philosophy. These cases provide further insight into the pathomechanisms involved in the development of this rare and aggressive neoplasm and sheds light on an intriguing dermatologic phenomenon.

REFERENCES

- 1. Wyburn-Mason R. Malignant change arising in tissues affected by herpes. *Br Med J.* 1955;2:1106-1109.
- 2. Wolf R, Brenner S, Ruocco V, et al. Isotopic response. *Int J Dermatol.* 1995;34:341-348.
- Liu CI, Hsu CH. Leukaemia cutis at the site of striae distensae: an isotopic response? Acta Derm Venereol. 2010;90:422-423.
- 4. Heath M, Jaimes N, Lemos B, et al. Clinical characteristics of Merkel cell carcinoma at diagnosis in 195 patients: the AEIOU features. *J Am Acad Dermatol*. 2008;58:375-381.
- 5. Grippaudo FR, Costantino B, Santanelli F. Merkel cell carcinoma on a sternotomy scar: atypical clinical presentation. *I Clin Oncol.* 2015;33:e22-e24.

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