Correspondence

Tattoo-induced psoriasis: an umpteenth example of immunocompromised district

Editor,

We read with great interest the report recently published in the International Journal of Dermatology by Ghorpade, which describes a patient with psoriasis induced by unhygienic tattooing. Our attention was drawn by the peculiar distribution of lesions, which developed and remained localized to only the tattooed body regions. Interestingly, the patient had neither a personal nor a family history of psoriasis. Ghorpade correctly notes that it is difficult to label this case as representing the Koebner phenomenon (the appearance of new lesions pertaining to a previously present skin disorder at sites of trauma or other insult) because the patient had not had psoriasis lesions in the past. However, the author does not fully clarify the pathomechanism involved in the development of psoriasis at the sites of tattoos. Bearing in mind that some tattoo pigments residing in the dermis can initiate an altered immune response at the site of tattoo, we speculate that Ghorpade’s report describes a further example of an immunocompromised cutaneous district (ICD). This concept refers to a skin site of locoregional immune dysregulation caused by an obstacle to the normal trafficking of immunocompetent cells through lymphatic channels, and/or an interference with the signals that neuropeptides and neurotransmitters (related to peripheral nerves) send to cell membrane receptors of immunocompetent cells. Disruption of lymph microcirculation and damage to peripheral nerve endings can obviously occur in tattooed skin, thus altering the local interplay between immune cells conveyed by lymph vessels and neuromediators running along peripheral nerve fibers. Depending on which of the neurotransmitters and immune cells are involved, this destabilization can be either defective, predisposing to infections and tumors, or excessive, favoring the occurrence of some immune disorders or dysimmune reactions such as psoriasis. In our opinion, the ICD concept is key to understanding this case.

The injuring events capable of rendering a skin region a potential ICD are various, numerous, and generally identifiable by means of a careful clinical history (Caccavale S, Kannangara AP, Ruocco E. Categorization of and comments on isomorphic and isotopic skin reactions; unpublished study 2015). An ample documentation of multifarious disorders (infectious, neoplastic, immune) appearing in ICDs was delineated by Ruocco et al. in 2009. Over the subsequent 7 years, what was initially a novel pathogenic concept has been extended to embrace an increasing variety of clinical conditions. A recent classification of isomorphic and isotopic skin reactions has proposed a newly coined terminology to indicate each specific cause responsible for the occurrence of an ICD and has encompassed additional conditions (isotattootopic, isomosaictopic, isovaccinetopic, isoneuraltopic, isolymphostatic response and non-response) that had not been defined previously (Caccavale S, Kannangara AP, Ruocco E. Categorization of and comments on isomorphic and isotopic skin reactions; unpublished study 2015). According to this new categorization, the patient described by Ghorpade can be seen as demonstrating a typical example of the isotattootopic response. We thank Ghorpade for giving us the opportunity to discuss such a complex and interesting topic.

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