Reply to "Immune checkpoint inhibitor-related dermatologic adverse events"

To the Editor: We recently read with great interest the article titled "Immune checkpoint inhibitor-related dermatologic adverse events" by Geisler et al.[1] In this recent continuing medical education activity, the authors described in detail the current data on cutaneous immune-related adverse events that have been described in patients receiving immune checkpoint inhibitors (CPIs).

Of particular interest are the various subtypes of cutaneous eruptions that may appear, including macular/papular rashes and psoriasiform, and lichenoid eruptions. Indeed, treatment with CPIs can result in a spectrum of adverse cutaneous events. Here, we would like to complement the authors by drawing attention to their reports on unique follicular involvement in these cutaneous eruptions. Follicular involvement has been described both clinically and histologically in patients receiving CPIs,[2-4] especially as a peculiar form of a lichenoid eruption pattern.[2,3]

Clinically, CPIs have been reported to cause immune-related cutaneous adverse events involving the hair follicle, commonly described in the form of folliculitis with lichenoid features (Fig 1). Folliculitis-like lichenoid eruption was clinicopathologically described in multiple patients receiving anti-programmed cell death protein-1 (PD-1) therapy with or without ipilimumab.[2,3] In addition, clinical folliculitis presentation with no lichenoid features was uncommonly reported in patients receiving anti-PD1 therapy for metastatic melanoma.[3] Furthermore, follicular involvement induced by CPIs may even result in scarring, as reported in 1 case in which it resulted in scarring eosinophilic folliculitis of the scalp after treatment with nivolumab.[4]

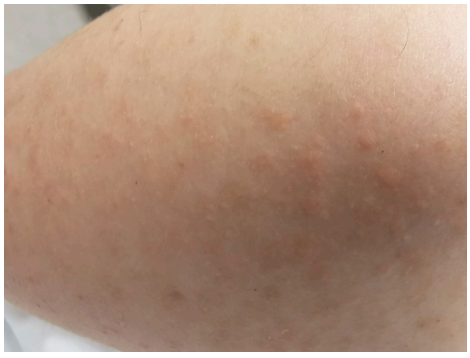

Fig 1. A representative case of immune-related cutaneous adverse events presenting as erythematous follicular papules on the arm.

As reported by the authors, lichenoid eruptions are commonly observed in patients receiving CPIs. The lichenoid infiltrate of these cutaneous reactions has been reported to involve the hair follicle in up to 45% of cases of patients in whom lichenoid dermatitis developed after they were treated with CPIs.[2] This lichenoid inflammation has been observed around the superficial portion of the follicular ostia and acrosyringium. The involvement of the hair follicle in lichenoid drug eruptions is not uncommon and has been reported with other medications, such as newer tyrosine kinase inhibitors.[5] Such cases have been reported with a clinical pattern reminiscent of follicular lichen planus/lichen planopilaris or keratosis pilaris and microscopic features of perifollicular lichenoid inflammation and perifollicular fibrosis.[5]

Follicular involvement in immune-related cutaneous adverse events is an interesting observation as the hair follicle is a relatively immune privileged site. PD-1 expression has been shown to contribute to the overall immune privilege status of the hair follicle.[5] Thus, the use of immune CPIs may result in alleviation of this immune privilege and subsequent follicular inflammation.[1,3]

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Conflicts of interest

None disclosed.

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