

# Reversible Cutaneous Side Effects of Vismodegib Treatment

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### PRACTICE POINTS

- Hair loss is a common late side effect of vismodegib usage and is reversible, but regrowth takes many months.
- Mild folliculitis that resolves spontaneously has been observed in patients using vismodegib.
- Dermal hypersensitivity has been observed in patients on vismodegib, though the exact frequency of this type of dermatitis is not known.

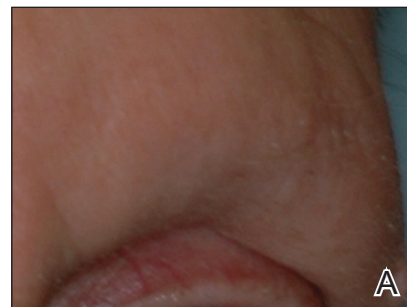
To the Editor:

Vismodegib, a first-in-class inhibitor of the hedgehog signaling pathway, is useful in the treatment of advanced basal cell carcinomas (BCCs).<sup>1</sup> Common side effects of vismodegib include alopecia (58%), muscle spasms (71%), and dysgeusia (71%).<sup>2</sup> Some of these side effects have been hypothesized to be mechanism related.<sup>3,4</sup> Keratoacanthomas have been reported to occur after vismodegib treatment of BCC.<sup>5</sup> We report 3 cases illustrating reversible cutaneous side effects of vismodegib: alopecia, follicular dermatitis, and drug hypersensitivity reaction.

A 53-year-old man with a locally advanced BCC of the right medial canthus began experiencing progressive and diffuse hair loss on the beard area, parietal scalp, eyelashes, and eyebrows after 2 months of vismodegib treatment. At 12 months of treatment, he had complete loss of eyelashes and eyebrows (Figure, A). After vismodegib was discontinued due to disease progression, all of his hair began regrowing

within several months, with complete hair regrowth observed at 20 months after the last dose (Figure, B).

A 55-year-old man with several locally advanced BCCs developed new-onset mildly pruritic, acneiform lesions on the chest and back after



Reversal in alopecia following discontinuation of vismodegib. Complete loss of eyebrow was experienced after 12 months of continuous vismodegib (A). Eyebrow hair regrowth occurred 20 months after discontinuation of vismodegib (B).

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4 months of vismodegib treatment. Biopsy of the lesions showed a folliculocentric mixed dermal infiltrate. The patient did not have a history of follicular dermatitis. The dermatitis resolved several months after onset without treatment, despite continued vismodegib.

A 55-year-old man with locally advanced BCCs developed erythematous dermal plaques on the arms and chest after 2 months of vismodegib treatment. Lesions were asymptomatic. He was not using any other medications and did not have any contact allergen exposures. Punch biopsy showed superficial and deep perivascular dermatitis with occasional eosinophils, consistent with drug hypersensitivity. Although lesions spontaneously resolved without treatment after 1 month, he experienced a couple more bouts of these lesions over the next year. He continued vismodegib for 2 years without return of this eruption.

The average time frame for hair regrowth after vismodegib cessation has not been characterized and awaits future larger studies. The frequency of follicular dermatitis and drug eruption also has not been determined and may require careful observation by dermatologists in larger numbers of treated patients.

Because the hedgehog pathway is critical for normal hair follicle function, follicle-based toxicities of vismodegib including alopecia and folliculitis could be hypothesized to reflect effective blockade

of the pathway.<sup>6</sup> Currently, there are no data that these changes correlate with tumor response.

Although alopecia is a recognized side effect of vismodegib, regrowth has not been previously reported.<sup>1,2</sup> Knowledge of the reversibility of alopecia as well as other toxicities has the potential to influence patient decision-making on drug initiation and adherence.

## REFERENCES

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