Letters

COMMENT & RESPONSE

Indications and Limitations of Afamelanotide for Treating Vitiligo

To the Editor I read with great interest the study by Lim et al[1] on the use of afamelanotide in combination with narrowband UV-B for treating vitiligo. So far, there is no truly satisfactory treatment for vitiligo, so any new approach is most welcome. However, this study raises several issues. Afamelanotide binds with the melanocortin-1 receptor (MC1R), which is the receptor upstream of one of the key pathways for melanogenesis.[2] Unfortunately, MC1R is not expressed by melanocyte stem cells, and thus afamelanotide can stimulate pigmentation and increase proliferation of melanocytes but cannot have any effect on the differentiation of melanocyte stem cells.[3]

Phototherapy is required for induction of melanoblast differentiation. As a result, afamelanotide can increase the speed and the extent of repigmentation in patients who respond to phototherapy, but it cannot by itself induce differentiation and increase the rate of response.

This study also shows better results in dark-skinned individuals, which can be explained by the potent MC1R response in these patients.[4] In December 2012, Clinuvel completed a similar study in Europe (NCT01382589), and the results do not seem to have been reported, or at least they are not yet posted on clinicaltrials.gov. These findings would be of great interest to the dermatologic community and patients.

In addition, afamelanotide usually induces potent tanning. While this is not an issue for those with dark skin, the increased contrast induced in fair-skinned individuals between healthy and lesional skin can increase the visibility of the vitiligo lesions and have a negative impact on the quality of life of treated people. Two of the patients in the study by Lim et al[1] dropped out for this very reason. Quality of life is now recognized as a key criterion of evaluation in vitiligo treatment.[5] This factor was listed in the secondary outcome measures in the registration of this study (NCT01430195), but it is not reported in the article. This outcome should be given by the authors for the entire population and for patients with type III skin in particular.

In conclusion, this therapeutic approach appears potentially interesting, especially in dark-skinned patients, but additional studies are clearly required to confirm these results and to determine the indications and limitations of this new treatment.

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