VEMURAFENIB: AN UNUSUAL UVA-INDUCED PHOTOSENSITIVITY

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INTRODUCTION

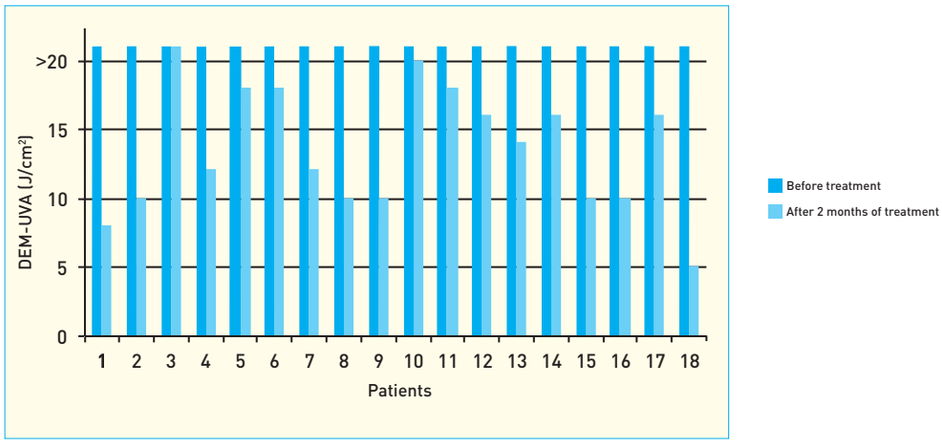
Vemurafenib is a new-targeted therapy recently approved as first line treatment in patients with V600E BRAF-mutant metastatic melanoma. Among adverse events, photosensitivity is frequent, recently noticed in 52% of patients in BRIM-2. Our study aimed to characterize more precisely this photosensitivity and to determine whether daily protective moisturizer SPF 100 UVA-PF 40 could prevent vemurafenib-induced photosensitivity.

MATERIAL AND METHODS

In this prospective monocentric study, 18 patients were included. Prior the first administration of vemurafenib, phototests, vitamin PP and porphyrin dosages were performed and controlled after two months of treatment. At the beginning of treatment, a dedicated nurse delivered photoprotection instructions and a daily protective moisturizer with follow up notebook to patients.

RESULTS

Phototests showed that for 17 of 18 patients, from normal value prior to vemurafenib, the UVA-Minimal Erythema Dose decreased under 20J/cm^2 (median=12J/cm^2) while the polychromatic MED was unchanged. The vemurafenib-induced erythema appeared quickly during UVA exposure in contrast to conventional drug phototoxicity. Besides, there was no pruritus and the erythema lasted several days contrarily to solar urticaria. Vitamin PP concentration was decreased after two months of vemurafenib and erythrocytes porphyrins increased. Photosensitivity has been experienced by 55.5% of patients. These episodes occurred during oversight or misapplication of the daily protective moisturizer except for two patients.



Evolution of DEM-UVA after 2 months of vemurafenib

Before vemurafenib — Day 0-Month 2 — Day 1-Month 2

Phototest: DEM-UVA before and after 2 months of vemurafenib

CONCLUSION

Our study shows that the vemurafenib-induced photosensitivity results from a phototoxic mechanism in the UVA spectrum, indeed UVA-DEM is decreased in 94% of patients. This is a new type of phototoxicity because a painful erythema appears during the phototest but lasts a few days unlike solar urticaria. A niacin and erythrocyte porphyrin mechanism is suspected. We confirm that the high risk of vemurafenib-induced photosensitivity could be prevented by regular applications of a daily protective moisturizer with a high UVA photoprotection.

REFERENCE

1 - Gelot P, Dutartre H, Khammari A, Boisrobert A, Schmitt C, Deybach JC, Nguyen JM, Seité S, Dreno B. Vemurafenib: an unusual UVA-induced photosensitivity. *Exp Dermatol.* 2013, **22:** 297-8