Vemurafenib is a potent and selective BRAF inhibitor, which is effective on patients with BRAF V600E mutated late-stage melanoma. Common and less common adverse skin reactions include photosensitivity, maculo-papular exanthema, hand-foot skin reactions, hyperkeratotic follicular rash, pruritus, benign verrucous papillomas, plantar hyperkeratosis, keratoacanthomas, squamous cell carcinomas, infections, and melanoma. To our knowledge, vitiligo has been reported in 2 cases only. This paper reports the case of a 63-year-old man with metastatic melanoma, who developed sudden facial depigmentation after 4 weeks of treatment with vemurafenib 960 mg twice daily. Features consistent with vitiligo were evident at clinical and ultraviolet light examination, as well as at in vivo reflectance confocal microscopy. The latter examination showed lack of normal brightly refractile papillary rings at the dermo-epidermal junction in lesional skin, as well as decreased brightness and half-rings with "scalloped border-like" features in adjacent non-lesional skin. Vitiligo is an adverse reaction to be expected in patients treated with vemurafenib and whether its occurrence may be associated with a positive outcome, as suggested by previous investigations, is still a matter of debate. PMID:27272087