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Dermatoscopy and locally advanced or multiple basal cell carcinomas: a non-invasive tool to evaluate sonidegib effectiveness

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To the Editor:
Total body mapping (TBM) videodermatoscopy is a noninvasive and rapid examination that allows clinical and dermatoscopic monitoring of pigmented lesions. This tool has long been used for the follow-up of patients with melanoma, dysplastic nevus syndrome, or patients with more than 100 moles [1]. No studies, however, report its use for keratinocytic tumors because they are usually treated with topical or surgical treatments after being diagnosed. However, in case of locally advanced and/or multiple basal cell tumors, TBM allows to photograph the entire patient in different positions, acquiring both clinical and dermatoscopic images of the BCCs present.

To encourage its routine use in patients with multiple BCCs under systemic treatment, we present the case of a 52-year-old woman with a 10-year history of multiple BCCs of the face, trunk, and extremities; the patient had previously undergone three surgical procedures. On dermatologic examination, more than twenty BCCs of the face, scapular region, legs, and abdomen were observed. Considering the large number of BCC, genetic research of the *PATCH1* gene was performed, with negative results. The patient reported several sunburns during childhood and a family history of non-melanoma skin cancers. Based on the patient's age and refusal to resort to other surgical procedures, treatment with sonidegib 200mg daily was started in September 2019. [2].

Vismodegib and sonidegib are Hedgehog pathway inhibitors, orally bioavailable agents approved for locally advanced or multiple BCC. These two alternative treatment options share similar efficacy and tolerability profiles, but they have different pharmacokinetic features, such as half-life and volume of distribution making sonidegib more extensively distributed in the skin compared with vismodegib [3]. The oral dosage for sonidegib is 200mg daily on empty stomach and for vismodegib is 150mg daily, with or without food. Both drugs are teratogenic agents and the most common adverse

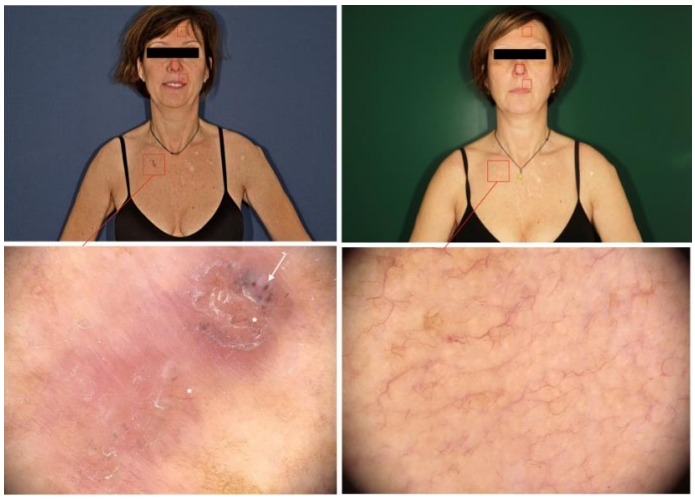

Figure 1. *Clinical and dermoscopic features of superficial basal cell carcinomas of the face and chest, before and after treatment with sonidegib 200 mg daily. The baseline lesion shows blue-gray globules (white arrow) with short fine superficial telangiectasia (white asterisks). After 15 months of therapy, the dermoscopic characteristics of BCC are no longer visible.*

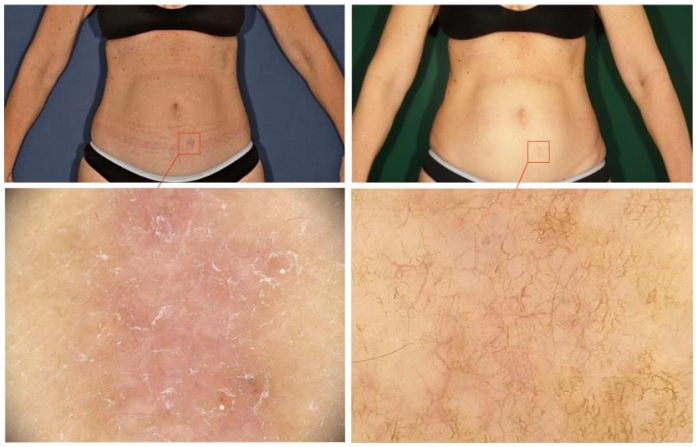

Figure 2. *Clinical and dermoscopic features of superficial basal cell carcinoma of the abdomen, before and after treatment with sonidegib 200 mg daily. The baseline lesion reveals a pinkish background with short fine superficial telangiectasia and multiple small erosions (white asterisk). After 15 months of therapy, a complete clearance of the characteristics is obtained.*

events (AEs) are muscle spasms (64%–71%), alopecia (55%–66%), and dysgeusia (51%–71%); furthermore, patients complain of weight loss, fatigue, nausea, decreased appetite, and diarrhea [4].

Sonidegib was chosen based on literature data that demonstrated an approximately 10% lower incidence of most AEs compared with vismodegib, longer time to AE onset (except for fatigue), and less severe AEs compared with vismodegib [3]. Moreover, as reported in the sonidegib data sheet only, alternate daily dosing is allowed to manage AE.

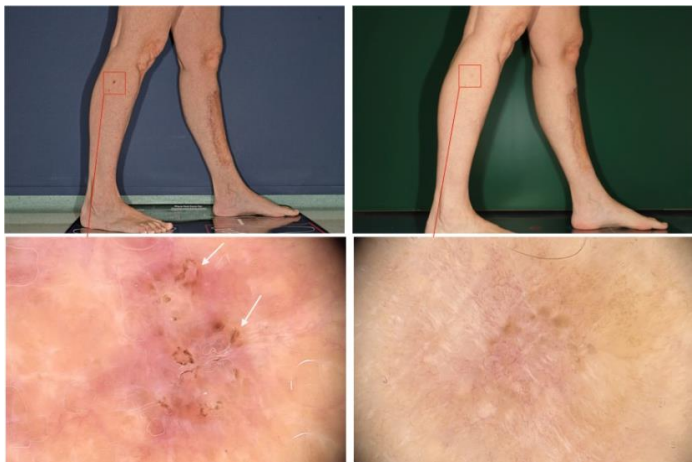

Figure 3. *Clinical and dermoscopic features show a complete response of a superficial basal cell carcinoma of the right leg. At baseline, the lesion displays pinkish background with squamous-crusts and some spoke-wheel pigmentation (white arrows). After 15 months of treatment with sonidegib, a complete clearance of the features is observed.*

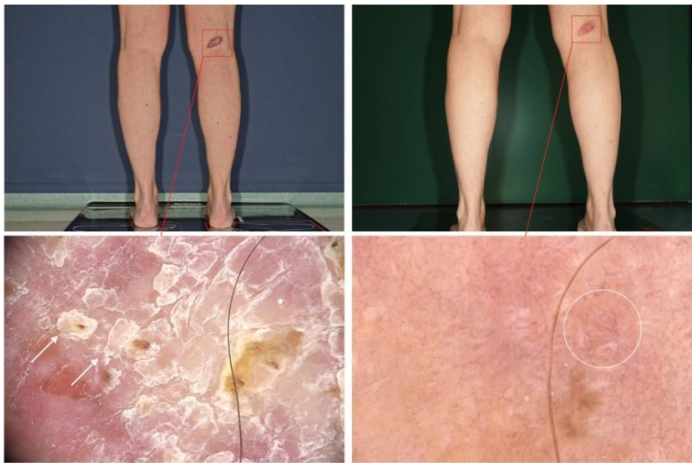

Figure 4. *Partial response of a superficial basal cell carcinoma of the right popliteal cavity, after treatment with sonidegib 200 mg daily. Before starting the therapy, dermoscopy shows a pink-reddish background with squamous-crusts. After 15 months of treatment, there is an evident reduction of erythema, crusts and scales, but fine short teleangectasia and brown structureless areas (leaf-life structures) are detected (white circle).*

Before starting the treatment, a TBM was performed with the aim of identifying all BCCs and performing, for each of them, high-resolution dermatoscopic photos. (**Figures 1-5**).

The aim was to have an iconographic reference to be constantly compared with the subsequent images, to objectively evaluate the response or non-response to treatment and to identify residual dermatoscopic patterns after therapy. The patient

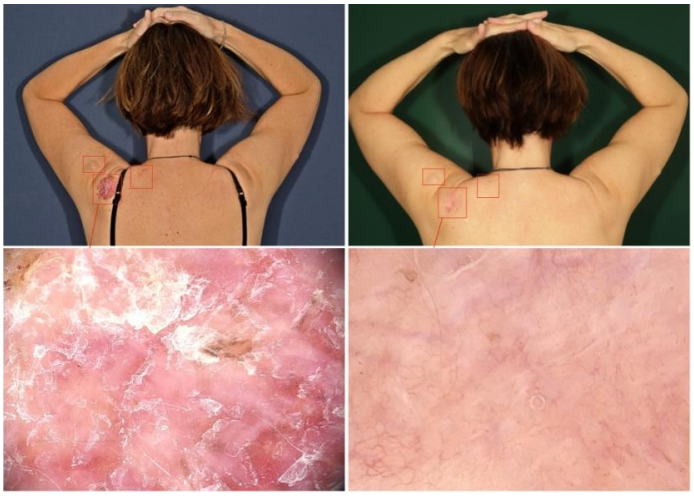

Figure 5. *Clinical and dermoscopic features of multiple superficial basal cell carcinomas of the left shoulder/scapular region, before and after treatment with sonidegib 200 mg daily. At baseline, the largest lesion shows a pinkish background with several squamous-crusts. After 15 months of therapy, there is a progressive disappearance of erythema, crusts and scales.*

performed the treatment for one year and 5 months and she is currently still in therapy. She did not develop any side effects, not even minor ones, and obtained an almost complete response. The largest BCC was on the left scapular region (17cm×12cm) and in the right popliteal cavity (7cm×3cm) with a common dermatoscopic pattern of ulceration, squamous-crusts, and pinkish background.

After 15 months from the start of treatment, all superficial and pigmented BCCs were clinically resolved without local recurrences. The one exception, the BCC at the popliteal site was reduced in size while showing a telangiectasic and erythematous background, suggestive of partial response. Therefore, it was surgically excised while the patient continued to receive 200mg/day of sonidegib, achieving a complete response and demonstrating the neo-adjuvant role of the drug. In conclusion, TBM is a useful tool for monitoring multiple BCCs under systemic therapy. In fact, it allows one to observe the therapeutic response, to objectify tumor cyto-reduction, and to identify persistent BCCs requiring surgery.

Potential conflicts of interest

The authors declare no conflicts of interest.

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