Nodular basal cell carcinoma on an autologous split-thickness skin graft after melanoma surgery

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Dear Editor,

Skin grafts are used for multiple intents. In the field of oncologic surgery, they cover tissue-deficient areas following tumor excision. When used for this purpose, they can present relapses of the pre-existing neoplasm. This case report presents a rare onset of a novel basal cell carcinoma on a skin graft executed in previous melanoma surgery.

A 77-year-old Caucasian woman presented to the melanoma unit for the onset of nodular neoformation. The patient was under follow-up for the previous excision of an amelanotic melanoma (5.2 mm Breslow thickness, stage pT4a). Molecular investigations have shown the absence of BRAF, NRAD, and KIT genes mutations. A wide surgical excision of 3 cm of the region's margins with a subsequent skin graft was executed: the partial-thick graft was taken from the thigh donor site and placed on the upper left clavicle area. A concomitant lymph node specimen was performed.

The lesion, which grew in three months, was a reddish-blue papular lesion located on the previous melanoma excision's skin graft center (Figure 1A). Video dermoscopy showed small, blue-colored areas, blurred vessels and a small area of granulation (Figure 1B).

We then excised the lesion and requested a histopathological examination. The specimen showed an evident proliferation of a giant nest of basaloid cells, peripheral palisading and peritumoral clefting. The laterals and deep lesion margins were tumor-free. With this presentation, the nodular basal cell carcinoma (BCC) diagnosis was made.[1]

BCCs are usually located on the head and neck regions, and within them, the highest chance of appearance is on the nose, cheeks, and forehead, respectively.[1] Among the histological subtypes, nodular BCC is the most common, with more than half of the cases reported in the literature.

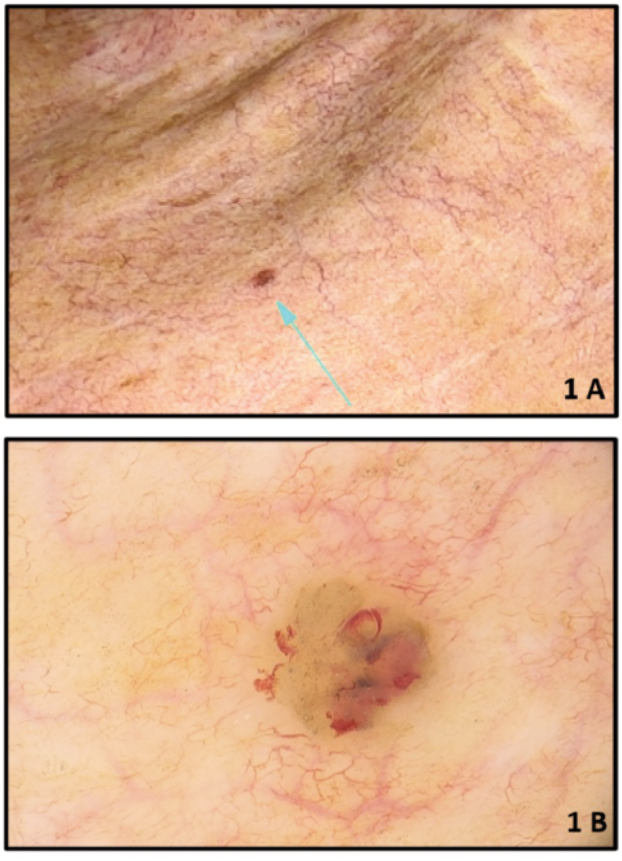

Figure 1. A) Macroscopic view of the papule appearing on the skin graft; **B**) 40x videodermatoscopy of the papule on the skin graft. There are blurred vessels, blue areas and a regression area.

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The pathogenesis of basal cell carcinoma is complex and not fully understood. Still, we know that most BCCs have 90% of mutations on patched one gene (PTCH1) and on smoothened gene (SmoM2). The first is a gene in the hedgehog signaling pathway that inhibits SmoM. SmoM starts the signaling cascade. Dysregulation in this pathway causes the development of basal cell carcinoma. These mutations have been seen to be correlated, though not linearly, with exposure to solar UV rays.[2] However, there may be other factors: it has also been suggested that a reduction in vascularization and elasticity may cause the overlying epithelium to be more susceptible to repeated trauma-induced carcinogenesis.[3]

Although the appearance of neoformations on skin grafts should suggest, in the first instance, a recurrence of the previous tumor disease,[4] new-onset neoplasms on a skin graft are a possible but rare event.[4] Sporadic cases of new neoplasms appearing on implanted skin tissue have been reported in the literature.[5]

Finally, after the following surgical excision and histological confirmation of the BCC, we did not perform any other suppletive treatment. The lesion did not recur, and the patient continued her follow-up visits for her previous melanoma.

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