Cutaneous seeding of melanoma by complete lymph node dissection

Sir,

The surgical management of regional metastasis to lymph nodes is critical in the survival of patients with melanoma. However, there is a theoretical risk of tumor seeding that can occur as a complication of the surgical management of regional metastasis to the lymph nodes. Here, we present a patient who developed cutaneous seeding of melanoma by complete lymph node dissection.

A 57-year-old female came to our clinic for pigmentation on the linear scar line of her right groin. Physical examination revealed several well-demarcated, black macules along the linear scar line [Figure 1]. Dermoscopic examination of the pigmented macules was performed [Figure 1; black arrow] revealing dark brown irregular streaks confined to the linear scar line [Figure 2, ×10]. One year previously, she had undergone total excision of the nail unit followed by a full-thickness skin graft of her right big toe for acral lentiginous melanoma with a Breslow thickness of 2.4 mm, lymphovascular invasion and ulceration [Figure 3]. A sentinel lymph node biopsy (SLNB) was performed at the ipsilateral groin and three lymph nodes were positive. As the sentinel lymph node was positive, complete lymph node dissection (CLND) was done. The biopsy of the pigmented macule on the scar, developed after CLND, revealed melanoma [Figure 4].

The whole-body positron emission tomography showed no evidence of distant metastasis. We concluded that this patient had melanoma tumor seeding as a result of CLND. She is undergoing adjuvant immunotherapy with pembrolizumab.

Over the past 30 years, surgeons have witnessed a shift from elective lymph node dissection to CLND after positive SLNB and now toward SLNB alone.[1] The previous studies sought to address whether CLND is therapeutic or only provides prognostic information. The multicenter selective

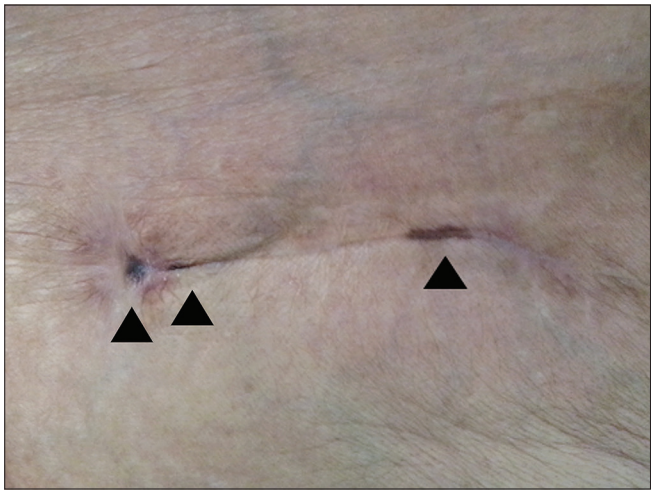

Figure 1: Physical examination revealed several well-demarcated, black macules along the linear scar line

Figure 2: Dark brown irregular streaks confined to the linear scar line (original magnification, ×10)

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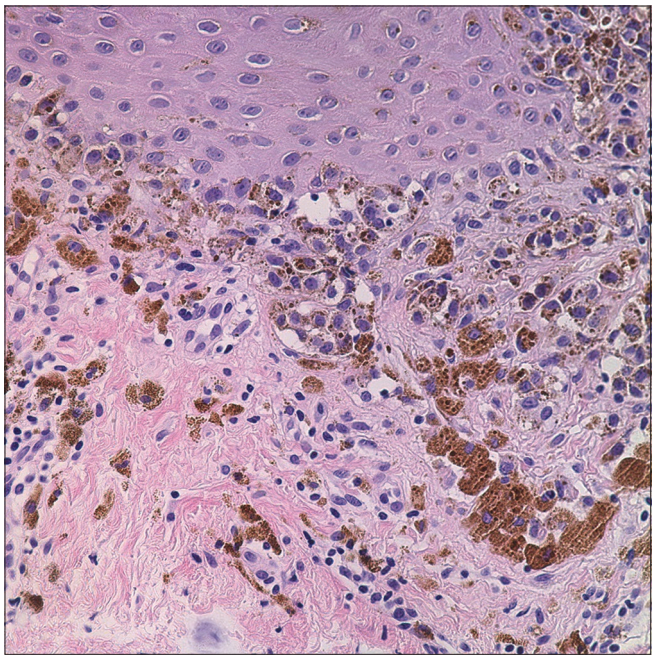
Figure 3: The acral lentiginous melanoma on the right big toe



Figurer 4a: The biopsy on the scar revealed a lentiginous array of atypical melanocytes (hematoxylin and eosin, ×400)

lymphadenectomy trial two was an international, randomized, Phase three clinical trial comparing immediate CLND against observation in melanoma patients positive for sentinel node metastasis.[2] There were no significant differences in either mean three-year melanoma-specific survival or distant metastasis-free survival between patients who underwent CLND or observation after lymph node metastasis was detected. Therefore, the therapeutic value of CLND for all patients remains doubtful.

We assume that the melanoma on the CLND scar in our case is attributed to tumor seeding for the following reasons. First, the lesions were located on both ends of linear scar line where the incision line was extended for better visibility during CLND and this could be easily identified with a dermoscope [Figure 2]. Second, the lymphatic spread is unlikely in that

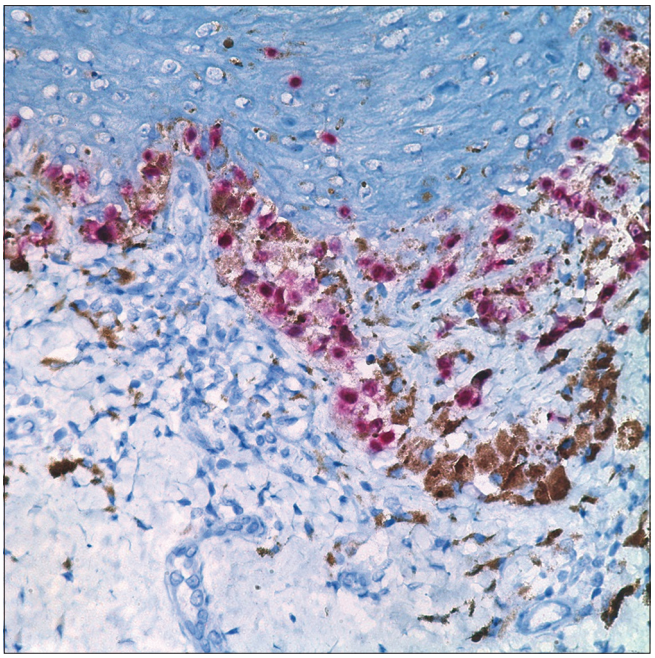


Figure 4b: Atypical cells showing HMB45 stain positivity (HMB-45, ×400)

no lesion was detected on the ipsilateral limb of primary lesion except the linear scar line. Finally, our patient had low possibility of hematogenous metastasis in that she had metastasis to the skin rather than metastasis of visceral organs.

Robinson and Brown reported a case of fine-needle aspiration associated tumor seeding of a malignant melanoma within the head-and-neck region.[3] We think that this report might be the first case of tumor seeding due to CLND in melanoma. Therefore, in managing melanoma, clinicians should perform CLND selectively while assessing risk versus benefit and be cautious about the cutaneous seeding during CLND.

Declaration of patient consent

The patient's consent is not required as the patient's identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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Nodular melanoma on lip with retrograde in-transit metastases on face

Sir,

A 45-year-old woman presented with an ulcerated 4 × 3.5 cm nodule over the right half of upper lip for two months. It featured variegated pigmentation. Besides, there were numerous skin-colored papules over the pre-maxillary portion of upper lip, cheeks, nose and central forehead [Figure 1] for the past five weeks. Fine-needle aspiration cytology was performed from the lip mass. Multiple facial papules were sampled by slit skin preparation. Microscopically, all lesions expressed cell-rich aspirates, predominated by singly isolated large tumor cells. It featured eccentric round-shaped homogeneously hyperchromatic nuclei, marked anisokaryosis, prominent macronucleoli with occasional binucleation, multinucleation and intranuclear cytoplasmic pseudoinclusions. Their cytoplasm contained dusty melanin granules. The background contained extracellular pigment debris and melanophages [Figure 2]. Therefore, the diagnosis was a malignant melanoma with multiple facial satellitosis and in-transit metastases. However, most of these lesions from in-transit metastases were located in a reverse direction to conventional lymphatic flow. The tumor was excised with 2 cm resection margin, followed by autologous skin grafting. Histologically, the epidermis appeared thinned-out and focally denuded. Dermis was occupied by multiple small nests of melanoma cells, forming into an expansile nodule with expanding borders. Heavily pigmented melanocytes were sprinkled in variable proportions within the tumor [Figure 3]. The tumor cells appeared epithelioid in shape with abundant pale to clear or sometimes intensely pigmented cytoplasm. Nuclear chromatin seemed vesicular and clear with often prominent nucleoli [Figure 4]. Its Breslow depth was measured at 2.5 cm. Mitotic count approximated to 6/mm^2. Confirmatory histopathology of the papules representing in-transit metastases revealed intralymphatic dissemination of the malignant melanocytes [Figure 5]. Submandibular sentinel lymph node biopsy was positive for metastatic deposits. On complete lymph node dissection, two more nodes expressed metastatic involvement. Positron emission tomography scan did not reveal any distant metastases from

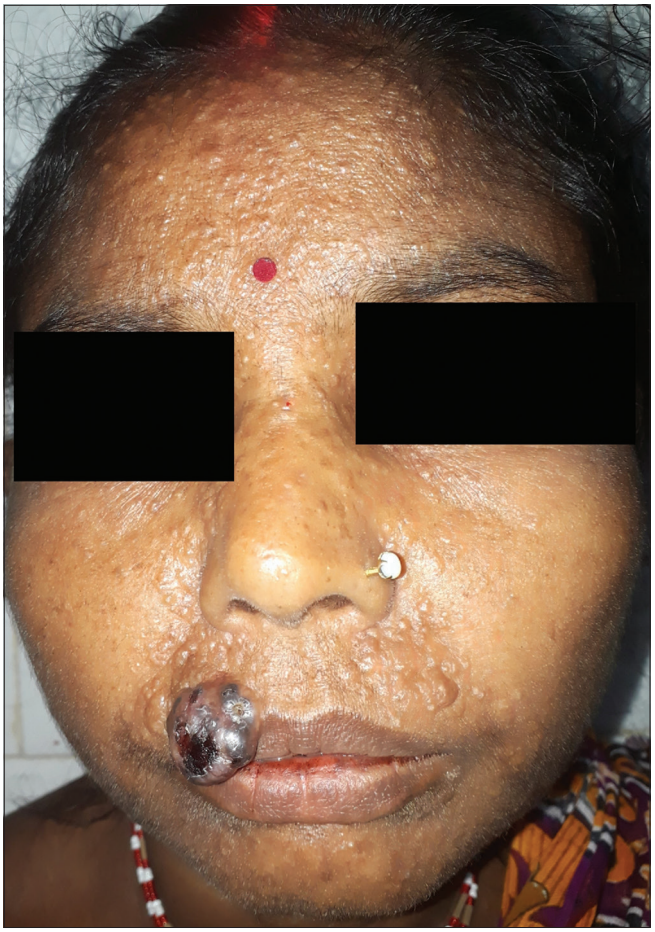

Figure 1: Nodular melanoma on the right side of upper lip with numerous papules of satellitosis and in-transit metastases bilaterally on upper lip, nose, medial portion of both cheeks and central forehead

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