Desmoplastic Melanoma as a Diagnostic Pitfall

Dear Editor,

Desmoplastic melanoma (DM) is a rare histological subtype of melanoma, usually presenting as a slowly-growing, amelanotic, discoid, and/or firm lesion composed of spindle cells with abundant collagen (1). It is more common on sun-exposed areas, especially on head and neck in elderly patients (2). Regional lymph node involvement is reported to be less frequent than in other cutaneous melanomas (3). Desmoplastic melanoma can clinically mimic a wide spectrum of benign and malignant lesions, including Bowen's disease, desmoplastic nevus, basal cell carcinoma, squamous cell carcinoma, lentigo maligna, dermatofibrosarcoma protuberans, peripheral nerve sheath tumors, cysts, or hypertrophic/keloid scars (4). Regarding its appearance, at the time of diagnosis DM frequently presents as advanced lesions with deep infiltration.

A 60-year-old man presented with an one-year history of an asymptomatic, erythematous, well-defined plaque in the right lumbar region (Figure 1). Dermatological examination revealed a 5×5 cm, pink/red infiltrated plaque accompanied by a 6 mm dark-brown melanocytic lesion. Dermoscopically, atypical vascular structures in the form of linear, irregular, and dotted vessels, milky-red areas, and atypical pigment network, and streaks were observed near the melanocytic lesion (Figure 2). A 4 mm punch biopsy was performed on the erythematous plaque next to the melanocytic lesion, and a dermal-based, paucicellular proliferation of atypical spindle cells without melanin in a sclerotic stroma was found histologically (Figure 3, a). Immunohistochemically, dermal spindle cells were stained with S-100 and HMB45 antibodies (Figure 3, b). The patient was histologically diagnosed with melanoma, of the desmoplastic subtype. The lesion was totally excised with 2 cm clear margins. A diagnosis of nonulcerated nodular melanoma with a Breslow thickness of 4 mm and a mitotic index 1/mm^2 was established. Sentinel lymph node biopsy revealed no metastases. No systemic metastases were detected in PET-CT scanning and cranial magnetic resonance imaging. The patient remained under follow-up and has been free of any local recurrence or primary or systemic metastasis for 3 years.

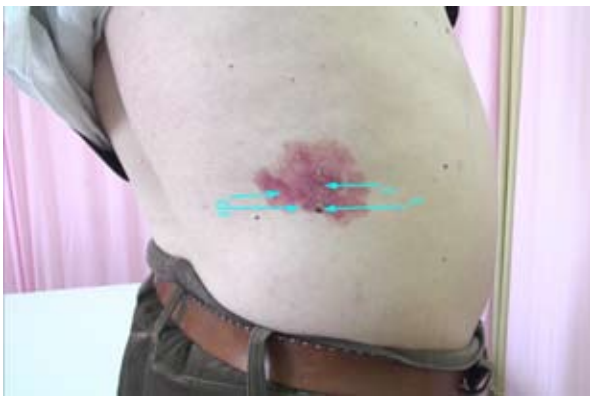

Figure 1. A 5×5cm, pink/red infiltrated plaque accompanied by a 6 mm dark-brown melanocytic lesion.

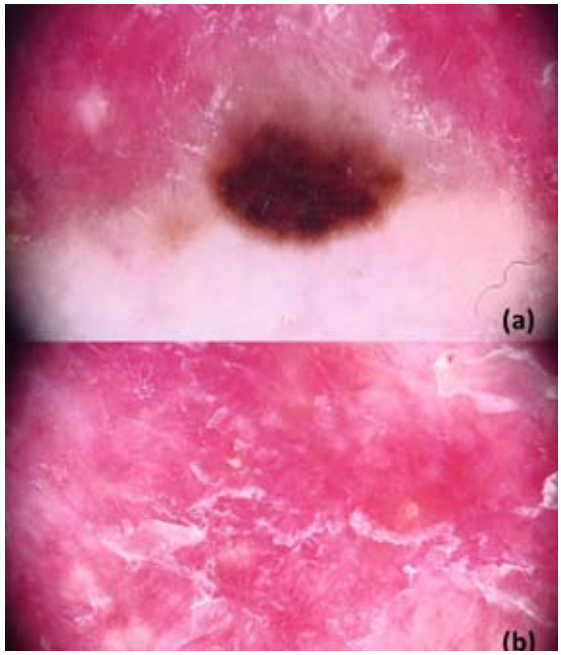

Figure 2. Dermoscopically observed atypical vascular structures in the form of linear, irregular, and dotted vessels, milky-red areas, and atypical pigment network, and streaks. Red circle: irregular vessels; Black circle: dotted vessels.

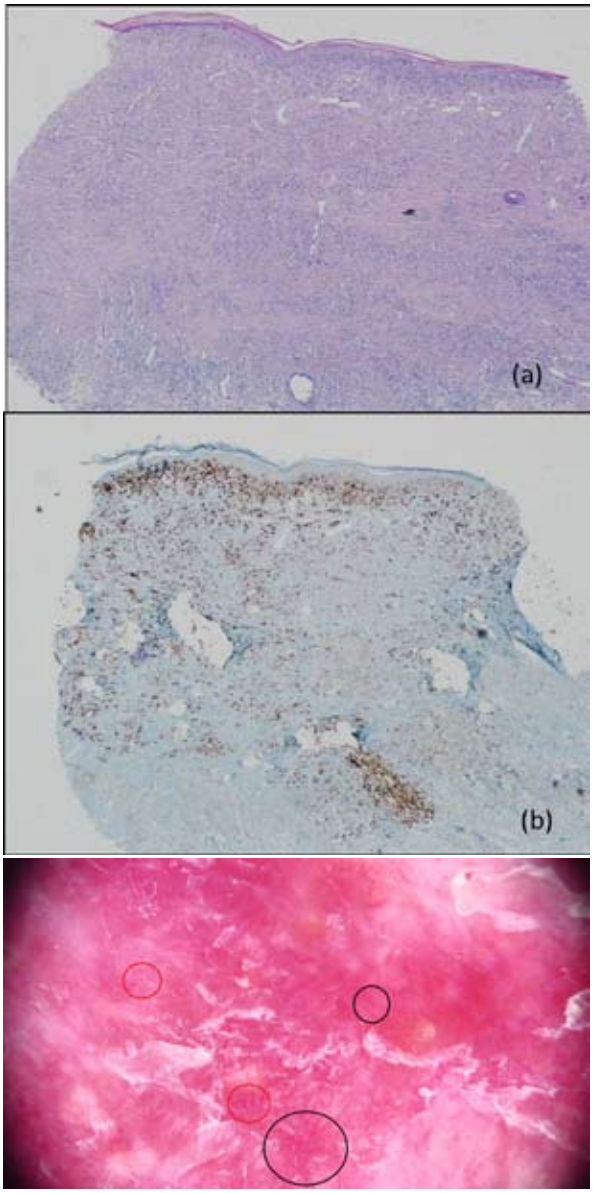

Figure 3. (a) Dermal-based, paucicellular proliferation of atypical spindle cells without melanin in a sclerotic stroma. (b) Immunohistochemically, dermal spindle cells were stained with S-100 and HMB45 antibodies.

Dermoscopic characteristics of DM are not well known, probably due to it not being considered a melanocytic lesion. Debarbieux *et al.* first reported the dermoscopic features of desmoplastic melanoma in six cases (5). They found that only half of the cases presented one classical feature of a melanocytic lesion, whereas the other cases were diagnosed based on the presence of figures of regression such as white scar-like and "peppering", multiple (>4) color, and melanoma-related vascular patterns (five out of six) such as linear-irregular vessels and milky-red areas (5). In the largest DM case series, Jaime *et al.* reported that all DM featured at least 1 melanoma-specific structure, with atypical vascular structures being the most common (6). Similarly, in our patient dermoscopy showed an atypical pigment network and streaks, atypical vascular structures, and milky-red areas, which is predictive for melanoma.

We reported this case to serve as a reminder to consider desmoplastic melanoma in the differential diagnosis of pink tumoral lesions despite its rarity and atypical localization.

References:

1. Manganoni AM, Farisoglio C, Bassissi S, Braga D, Facchetti F, Ungari M, *et al.* Desmoplastic melanoma: Report of 5 cases. Dermatol Res Pract. 2009;2009:679010.
2. Mauer S, Vogt T, Pföhler C, Müller CS. Errors in dermatology: desmoplastic melanoma - the amazing monster. J Dtsch Dermatol Ges. 2017;15:334-6.
3. Murali R, Shaw H, Lai K, McCarthy SW, Quinn MJ, Stretch J, *et al.* Prognostic factors in cutaneous desmoplastic melanoma: a study of 252 patients. Cancer. 2010;116:4130-8.
4. Maher NG, Solinas A, Scolyer RA, Puig S, Pellacani G, Guitera P. Detection of desmoplastic melanoma with dermoscopy and reflectance confocal microscopy. J Eur Acad Dermatol Venereol. 2017;31:2016-24.
5. Debarbieux S, Ronger-Salve S, Dalle S, Balme B, Thomas L. Dermoscopy of desmoplastic melanoma: report of six cases. Br J Dermatol. 2008;159:360-3.
6. Jaimes N, Chen L, Dusza S, Carrera C, Puig S, Thomas L, *et al.* Clinical and dermoscopic characteristics of desmoplastic melanomas. JAMA Dermatol. 2013;149:413-21.

Ilkin Zindanci[1], Ebru Zemheri[2], Tugba Kevser Uzuncakmak[1],Necmettin Akdeniz[1], Ayse Serap Karadag[1], Mukaddes Kavala[1], Burce Can[1], Zafer Turkoglu[1]

[1]Istanbul Medeniyet University Medical Faculty Goztepe Training and Research Hospital, Department of Dermatology and Venerology, Istanbul, Turkey; [2]Istanbul Medeniyet University Medical Faculty Goztepe Training and Research Hospital, Department of Pathology, Istanbul, Turkey