Net Letter

Cutaneous combined desmoplastic melanoma

Sir,

Desmoplastic melanoma (DM) is a rare variant of primary cutaneous melanoma first proposed by Conley *et al*.,[1] as an invasive melanoma starting from an inconspicuous superficial malignant melanoma surrounded by abundant fibrous stroma. Due to the lack of characteristic clinical features, it is hard to be diagnosed at an early stage. Compared with conventional melanoma, DM has a higher local recurrence rate and a less potential of metastasis to regional lymph nodes, and its clinical behavior is similar to that of sarcoma.

A 40-year-old woman presented with an asymptomatic pigmented plaque over her left shin for several years. In the recent 6 months, the lesion enlarged gradually. Then she called at our dermatologic department. Physical examination showed a well-demarcated, 1.5 × 1-cm, highly pigmented plaque in her left shin [Figure 1]. Dermoscopy showed asymmetrically arranged radial streaming [Figure 2]. The clinical differential diagnoses include dermal scar, dermatofibroma, melanocytic nevus, and melanoma.

Histopathological examination revealed dispersed tumor cells in the abundant fibrotic stroma in dermis (desmoplasia is less than 90%). The overlying epidermis showed atypical melanocytic lentiginous hyperplasia with pagetoid spreading [Figure 3a]. The tumor cells with enlarged, irregular, and hyperchromatic nuclei were pleomorphic and aggregated into small nests in the fibrous stroma [Figure 3b]. Breslow's thickness was 2.3 mm, and Clark's level was IV (invasion to reticular dermis). Immunohistochemical examination showed tumor cells were positive for S-100 protein. Combined desmoplastic melanoma was diagnosed, and she was referred to the department of plastic surgery for wide excision and sentinel lymph node biopsy. Pathological examination showed no residual tumor and no lymph node involvement. After the examination of positron emission tomography (PET) scan, no distant metastasis was reported. The clinical stage was stage IIA.

The clinical presentation of DM is an indurated plaque or nodule with varied pigmentation. The median age of DM cases is approximately 60 years, and it is about 10 years later than that of conventional melanoma.[2] Besides DM occurs more often in men, and a male-to-female ratio is 2.3 in the United States.[2] It has a predilection for sun-damaged skin, and about 50% of DM are found on the head and neck, including face, ears, and scalp.[2]

Dermoscopy is a convenient tool for the diagnosis of pigmented skin lesions. Debarbieux *et al*.,[3] analysed six cases of DM and found several features, including figures of regression and melanoma-associated vascular patterns in the absence of a pigmented network. In our case, asymmetrical radial streaming was observed, and it was an important feature of invasive melanoma.

Histologically, most DMs are fibrosing spindle cell tumors. It is characterized by spindle–shaped malignant melanocytes with abundant collagenous stroma. Lymphocytic aggregations are often surrounding or infiltrating within tumors. Besides, *in situ* melanoma component was also observed in more than 80% DM.[4] Cytological atypia of DM is quite variable, ranging from a fairly bland spindle form to marked nuclear pleomorphism. According to the different proportion of desmoplastic components in tumors, DM could be subdivided into pure DM (pDM, desmoplasia is more than 90%) and combined DM (cDM, desmoplasia is less than 90%).[4] This classification correlates with clinical prognosis. Cases with pDM are associated with longer disease-free survival than those with cDM.[4,5] In clinical, DM type (pDM and cDM) should be described in pathology reports. Our case, in which the proportion of desmoplasia is less than 90%, should be classified as cDM. Most DMs are strongly positive for S-100 protein, and negative or focal positive for other melanocytic stains including HMB-45, and Melan-A/Mart-1. These features could help us to differentiate DM from desmoplastic

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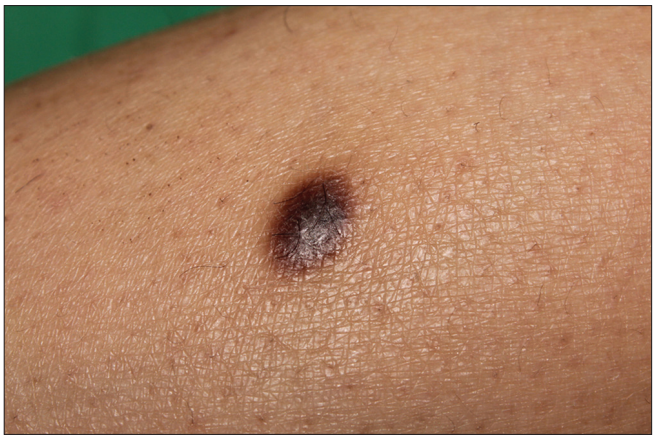

Figure 1: A well-demarcated, 1.5 × 1-cm, highly-pigmented plaque in her left shin

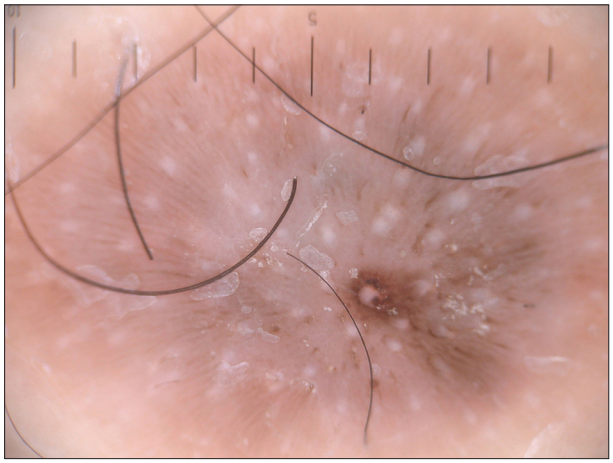

Figure 2: Dermoscopy: radial streaming arranged asymmetrically

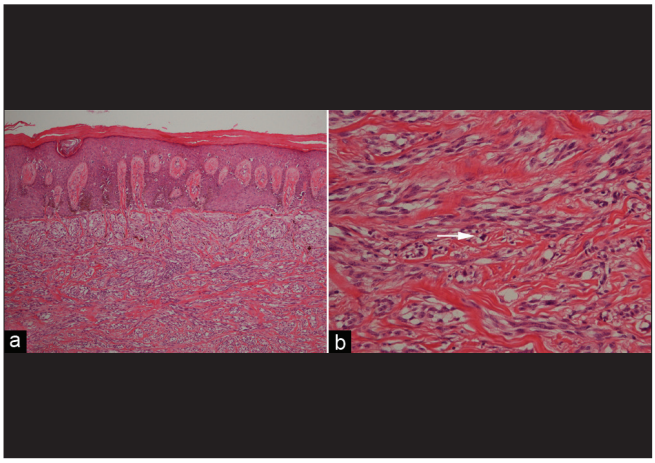

Figure 3: (a) Epidermis showed atypical melanocytic lentiginous hyperplasia with pagetoid spreading. Tumor cells aggregated and formed small nests dispersed in the fibrous dermis (H and E, ×100). (b) A mitotic figure (arrow) in deep dermis was observed (H and E, ×400)

tumors of other origins, such as desmoplastic leiomyosarcoma, sclerosing spindle cell squamous cell carcinoma, and fibrosarcoma, etc.

The main treatment is surgical complete excision. If nerve involvement is documented, a wide excision is preferable. Due to a less potential of metastasis to regional lymph nodes, sentinel lymph node (SLN) biopsy is still controversial. Pawlik *et al.*,[5] analyzed 1850 patients, and revealed that pDM has a lower incidence of positive SLN compared with cDM and other melanomas. They proposed that the treatment approach for the cDM should be similar to that for other melanomas, and the SLN biopsy for pDM may not be warranted.

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