nevi lesions.

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Primary Granulocytic Sarcoma of the Skin without Hematologic Disorders

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Dear Editor:

A 78-year-old Japanese woman noticed a subcutaneous nodule on her neck. On physical examination, we found a reddish tumor, measuring 25×20 mm, on her neck and multiple small nodules on her chest and back (Fig. 1A). There were no enlarged lymph nodes. Her white blood cell count was normal, and other routine biochemical tests also yielded normal results. The bone marrow aspiration sample showed no evidence of increased blast cell count. Computed tomographic scan of the whole body showed no lymphadenopathy. Histopathological examination of tumor in the neck showed diffuse infiltration of histiocyte-like tumor cells with remarkable dyskaryosis in the dermis (Fig. 1B, C). Immunohistochemical studies revealed that tumor cells were positive for leukocyte common antigen, CD43, CD56, CD68 (Fig. 1D), and myeloperoxidase (MPO) (Fig. 1E) and negative for keratin, terminal deoxynucleotidyl transferase, CD34, c-kit, CD3, CD4, CD5, CD7, CD8, CD20, CD21, CD138, granzyme B, S-100, and CD1a. Based on these findings, the diagnosis of primary granulocytic sarcoma (GS) without hematologic involvement was established. Patient was administered local irradiation (total, 30 Gy) and chemotherapy with etoposide. After 1 cycle of chemotherapy, the skin tumor on her neck regressed. During 5-week follow-up period, she did not develop acute mye-

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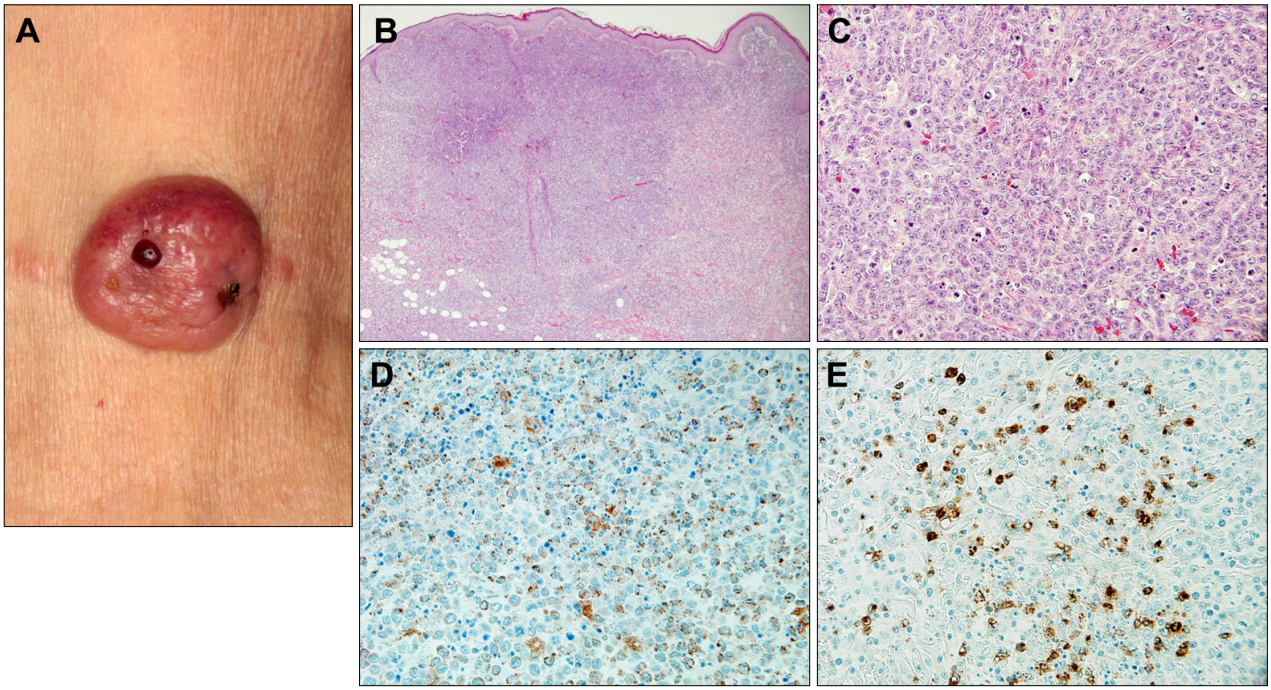

Fig. 1. (A) Reddish tumor, measuring 25×20 mm, on the patient's neck. (B, C) Histological findings of the tumor: diffuse infiltration of histiocyte-like tumor cells with remarkable dyskaryosis in the dermis and adipose tissue (H&E; B: ×40, C: ×400). (D, E) Immunohistochemical findings of the tumor in the neck (×400): tumor cells were positive for CD68 (D) and myeloperoxidase (E).

loid leukemia (AML).

GS is manifested as a tumor at the extramedullary site and consists of immature granulocytes. The skin lesions of GS are generally manifested as papules, nodules, tumors, or plaques. GS occurs in only 3% to 8% of leukemia patients and is often associated with AML and chronic myeloproliferative disorder[1,2]. GS can occur in one of the following 3 patterns: (1) with AML or other bone marrow and blood involvement, (2) as an isolated recurrence of AML or as a sign of blast transformation in patients with chronic myeloid leukemia or myeloid dysplasia, (3) before the development of systemic leukemia, as a harbinger of AML[3]. Primary GS in the absence of any past history of leukemia is rarely reported[1-4]; in these cases, systemic leukemia developed after the emergence of primary GS[3].

Primary GS without hematologic disorders is commonly misdiagnosed as lymphoma or histiocytic, lymphoblastic, or lymphocytic leukemia. One study stated that the rate of misdiagnosis was 46% (71/154 cases)[5]. Therefore, immunohistochemical analysis should be performed to arrive at a correct diagnosis. MPO is the marker of myeloid lineage and is a useful marker of GS. Antibodies to lysozyme and chloroacetate esterase can also be used to arrive at a diagnosis. CD68 positivity of the tumor cells indicates that they are monocytic and of granulocytic lineage.

The prognosis of GS is poor, especially when associated with AML[3]. Byrd et al.[5] stated that 97% of all primary GS patients who did not receive systemic chemotherapy later developed AML. Furthermore, 66% of the patients who received chemotherapy for the primary GS never developed AML[5], suggesting that early systemic therapy is helpful in preventing AML development and increasing the overall survival[5]. Therefore, establishing an early, correct diagnosis and administering appropriate treatment are important aspects that dermatologists and hematologists need to bear in mind.

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A Case of Subungual Melanoma with Tumor Invasion Sparing the Nail Matrix Dermis

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Dear Editor:

The nail unit is one of the most specialized organs in the body and composed of specialized epithelial tissue, which includes the nail matrix, nail bed, nail plate, and specialized mesenchymal tissue. The nail plate mainly originates from the nail matrix and is firmly attached to the nail bed, which may contribute to formation of the nail plate[1]. The specialized nail mesenchyme—onychodermis—is located below the nail matrix and nail bed and differs from the skin dermis[2].

Subungual melanoma (SUM) is an uncommon variant of melanoma that occurs in the nail unit. It usually arises from the nail matrix but may involve other components of the nail unit, such as the proximal nail fold, nail matrix, nail bed, and hyponychium[3]. As SUM progresses in the nail unit, it tends to spread into the nail bed, hyponychium, and proximal nail fold, with the clinical presentation of Hutchinson's sign[4]. Previously, Izumi et al.[4] reported that in early SUM proliferation, atypical melanocytes are more prominent in the hyponychium than in the nail bed or nail matrix. However, the frequency of dermal invasion in each part of the nail unit and progression pattern of SUM is not yet known. Here, we report a case of SUM showing tumor invasion with sparing of the nail matrix dermis.

A 51-year-old man presented with a pigmented lesion on his finger, which persisted for 8 years. Skin examination showed total melanonychia with dark brown macules around the 4th fingernail (Fig. 1A). Although we recommended biopsy, the patient did not comply with it. Approximately 6 months later, he returned to our department with a large tumor on the 4th finger (Fig. 1B). However, the nail deformity was not apparent even with the presence of a large tumor with black pigmentation and smaller tumors on the skin of the 4th finger. Punch biopsy from the tumor revealed invasive melanoma. The patient was transferred to the Department of Plastic Surgery, and the finger was amputated. Subsequently, several sections were taken for evaluation of the finger specimen. Transverse sections on the proximal nail matrix showed melanoma *in situ* without dermal invasion (Fig. 1C, D). A transverse section through the nail plate showed melanoma *in situ* on the nail bed and large invasive melanoma on the lateral side of the finger (Fig. 1E).

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