Clin Oncol Cancer Res (2009) 6: 374-376
DOI 10.1007/s11805-009-0374-6

Amelanotic Malignant Melanoma Mimicking Hemangioma of the Hand: One Case Report and Literature Review

Lei Ma[1, 2]
Xinghua Gao[1]

[1] State Key Department of Dermatology, No.1 Hospital of China Medical University, Shenyang 110001, Liaoning Province, China.
[2] Department of Dermatology, Binzhou Medical College Hospital, Binzhou 256603, Shandong Province, China.

Correspondence to: XingHua Gao
E-mail: gaobarry@hotmail.com

This work was supported by a grant from the Program for Changjiang Scholars and by the Innovative Research Team in University, Ministry of Education, China (No. IRT0760).

Received December 24, 2008; accepted March 12, 2009.

E-mail: 2008cocr@gmail.com
Tel (Fax): 86-22-2352 2919

KEY WORDS: malignant melanoma, amelanotic, lymph node metastasis.

Introduction

Malignant melanoma (MM) is one of the most deadly cancers[1]. Although the disease accounts for only about 4% of skin cancer related cases, it is responsible for about 79% of skin cancer deaths[2]. Early diagnosis of MM is, therefore, essential for appropriate treatment decision and, in turn, may give patients the best chance for prolonged survival[3-5]. About 6% to 8% of malignant melanomas lack typical pigmentation and tend to be managed as benign lesions, making accurate early diagnosis difficult[6]. Though subungual MM is rare, representing between 0.7% to 3.5% of all malignant melanomas in the general population[7], delays in diagnosis and misdiagnosis result in a poorer prognosis than MM at other sites[8]. We report a case of amelanotic subungual melanoma with distant lymph nodes metastasis which mimicked hemangioma. The clinical features and differential diagnosis should alert both dermatologists and other physicians to this infrequently seen malignancy.

Case Report

A 29 year-old female patient was admitted to the clinic, complaining of a pink mass on her left thumbnail bed for one and a half years. According to her medical history, 2 years previously, the patient had a minor injury to her left thumb while sewing at work in the factory. Subsequently, the patient presented with a rough, thickened and deformed left thumbnail plate. A diagnosis of onychomycosis was made by her first physician, and she was treated by surgical excision of the nail plate. Approximately 6 months later, the patient noted that the new nail plate had spontaneously become distorted and raised on one side. During the intervening few months, the nail plate became more raised, and a mass was found underneath it. The mass had increased progressively in size, and was subject to episodic bleeding following minor trauma as well as poor healing. At that time, the patient was seen and treated by a second doctor who removed the damaged nail plate and the mass. The patient was given a diagnosis of hemangioma, although routine histological examination was not performed. However, 7 months following this resection, the tumor regenerated. The patient reported that there was no significant change regarding color of the nail plate, the skin around the nail and the mass beneath the nail plate since the beginning of her disease, and she denied any

associated pain. Her own past medical history and her family history were unremarkable.

Physical examination showed a pink-tan mass under the distorted and partial destructed nail plate of her left thumb. The mass was 1.5 cm × 1.5 cm × 1.3 cm in size, with a relatively smooth yet friable surface, which caused the formation of a superficial crust. No significant pigmentation in association with the nail plate and the mass was found. Telangiectasia could be observed through the nail plate (Fig.1). Regional lymphadenectasis was absent, but an egg-sized enlarged superficial lymph node was palpated in the patient's left axilla. Systemic examination and routine investigation including CBC, urinalysis, BSL, EKG, X-ray of the chest and hands, abdominal ultrasound, serum tumor markers AFP, CEA, CA125, CA199 were all within normal limits. Molybdenum target radiography of the breast revealed a 3.5 cm × 3.0 cm × 2.5 cm swollen lymph node in the left axilla. Based on the clinical appearance, a diagnosis of amelanotic malignant melanoma (AMM) was suspected. An incisional biopsy was performed, and the histopathologic findings were consistent with malignant melanoma. The tumor was composed of nests of markedly atypical epithelioid melanocytic melanocytes, oval to spindle in shape and having pleomorphic nuclei and large nucleoli. Melanin pigment was absent (Fig.2). Positive staining for vimentin and HMB-45 (Fig.3) on immunohistochemical analysis confirmed the diagnosis of AMM. Extensive lymphadenectomy of the left axilla and dactylolysis were performed by the general surgery department. By gross examination, greater than 4 lymph nodes showed involvement; the largest was 3.0 cm × 3.0 cm × 3.0 cm in size. Pathologic examination of the enlarged lymph node was consistent with metastatic malignant melanoma. The patient was referred to the oncology department for biotherapy, and in 18-month follow up, there were no signs of recurrence or metastasis.

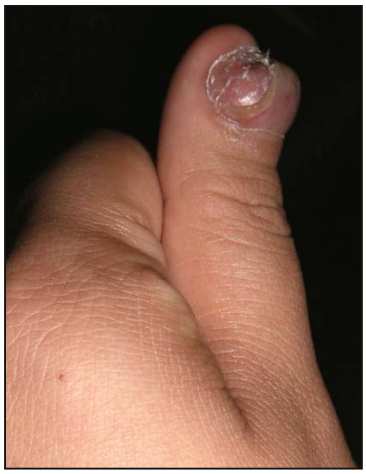

Fig.1. The tumor was 1.5 cm × 1.5 cm × 1.3 cm in size, with a relatively smooth surface and a superficial crust at the top of the thumb.

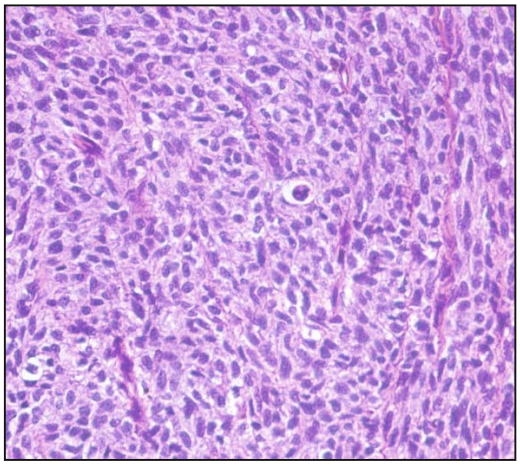

Fig.2. The tumor was composed of nests of markedly atypical epithelioid melanocytic melanocytes, oval to spindle in shape, with pleomorphic nuclei and large nucleoli. Melanin pigment was absent (H&E × 400).

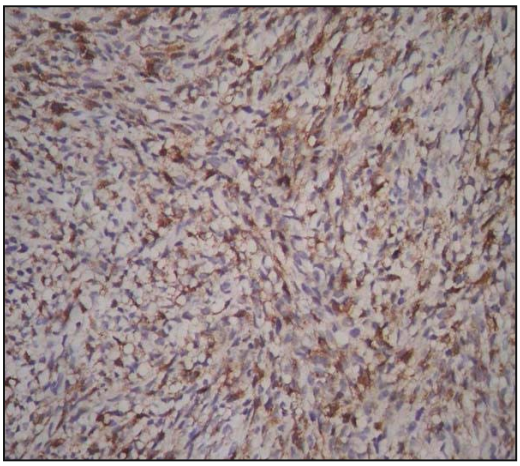

Fig.3. Positive immunohistochemistry stain for HMB45 (SP × 400).

Discussion

MM accounts for 1%-3% of all malignancies and 1%-2% of all cancer deaths with an increasing incidence worldwide[9,10]. AMM is a subtype of MM with little or no pigment on visual inspection[8,11]. Although AMM is rare, it is one of the easiest subtypes to misdiagnose[12]. This neoplasm may mimic benign and malignant variants of both melanocytic and nonmelanocytic lesions. The atypical appearance of AMM often leads to diagnostic delay which is further detrimental to an already poor prognosis. AMM usually presents as a vascular tumor or as an ulcerated nodule which fails to heal. The differential diagnosis usually includes BCC, Bowen's disease, keratoacanthoma, hemangioma, dermatofibroma, actinic keratosis, or pyogenic granuloma. In the case presented, the mass was misdiagnosed as a hemangioma. In comparison with hemangioma, the surface of AMM tends to have a dull red hue and has less bleeding. Pathologic findings are useful in the differential

diagnosis. However, the treatment of AMM and hemangioma differs dramatically, and diagnostic delay alters the prognosis for any patient with MM. For our patient, because the original resection specimen was not sent for histologic examination, the true nature of the tumor was not initially suspected by the second treating physician, and the correct diagnosis was delayed. MM grows rapidly and is prone to metastasis at an early stage of disease. Metastasis is not limited to regional lymph nodes, but also occurs in the gastrointestinal tract, the lungs, the brain, the paratesticular, the bone marrow and virtually any other site that can be seeded by the hematogenous route[13-18]. The overall prognosis for patients with metastatic MM remains poor. The present patient had more than 4 axillary lymph nodes with involvement. After extensive lymphadenectomy of her left axilla and dactylolysis, she received biotherapy. Though the patient was alive and well without evidence of recurrence or metastasis in 18-month follow up, the 5-year survival is still uncertain. As it is widely accepted that prognosis of MM is related to early diagnosis and effective treatment, any persistent nail bed lesion should be biopsied to exclude the possibility of MM. In conclusion, as AMM is a great masquerader, this case, once again, illustrates the importance of routine histologic examination of every nodular acral tumor. At the same time, while MM not only presents to dermatologists, but to other physician specialties as well, the clinical features and differential diagnosis should serve as an alert to all.

References

1 Hallberg O, Johansson O. Malignant melanoma of the skin: not a sunshine story! Med Sci Monit 2004; 10: 336-340.
2 Belhocine TZ, Scott AM, Even-Sapir E, et al. Role of nuclear medicine in the management of cutaneous malignant melanoma. J Nucl Med 2006; 47: 957-967.
3 Balch CM, Soong SJ, Atkins MB, et al. An evidence-based staging system for cutaneous melanoma. CA Cancer J Clin 2004; 54: 131-149.
4 Jost LM, ESMO Guidelines Task Force. ESMO minimum clinical recommendations for diagnosis, treatment and follow-up of cutaneous malignant melanoma. Ann Oncol 2003; 14: 1012-1013.
5 Kirkwood JM, Strawderman MH, Ernstoff MS, et al. Interferon alfa-2b adjuvant therapy of high-risk resected cutaneous melanoma: the Eastern Cooperative Oncology Group Trial EST 1684. J Clin Oncol 1996; 14: 7-17.
6 Elmets CA, Ceilley RI. Amelanotic melanoma presenting as pyogenic granuloma. Cutis 1980; 25: 164-168.
7 Levit EK, Kagen MH, Scher RK, et al. The ABC rule for clinical detection of subungual melanoma. J Am Acad Dermatol 2000; 42: 269-274.
8 Koch SE, Lange JR. Amelanotic melanoma: the great masquerader. J Am Acad Dermatol 2000; 42: 731-734.
9 Rigel DS, Friedman RJ, Kopf AW. The incidence of malignant melanoma in the United States: issues as we approach the 21st century. J Am Acad Dermatol 1996; 34: 839-847.
10 Rigel DS. Malignant melanoma: perspectives on incidence and its effects on awareness, diagnosis, and treatment. CA Cancer J Clin 1996; 46: 195-198.
11 Giuliano AE, Cochran AJ, Morton DL. Melanoma from unknown primary site and amelanotic melanoma. Semin Oncol 1982; 9: 442-447.
12 Morton CA, Mackie RM. Clinical accuracy of the diagnosis of cutaneous malignant melanoma. Br J Dermatol 1998; 138: 283-287.
13 Guida M, Cramarossa A, Gentile A, et al. Metastatic malignant melanoma of the gallbladder: a case report and review of the literature. Melanoma Res 2002; 12: 619-625.
14 Liang KV, Sanderson SO, Nowakowski GS, et al. Metastatic malignant melanoma of the gastrointestinal tract. Mayo Clin Proc 2006; 81: 511-516.
15 Nuzzo C, Zeuli M, Ferraresi V, et al. Unexpected clinical outcome in a patient with liver and brain metastasis from melanoma. Anticancer Res 2008; 28: 1429-1431.
16 Acar O, Akinci M, Uluocak N, et al. Paratesticular metastasis of malignant melanoma: a case report. Kaohsiung J Med Sci 2008; 24: 315-318.
17 Jain D, Singh T, Kumar N, et al. Metastatic malignant melanoma in bone marrow with occult primary site-a case report with review of literature. Diagn Pathol 2007; 2: 38.
18 Toorop R, Van Schil P, Hendriks J, et al. Pulmonary metastasectomy in a patient with malignant melanoma after a disease-free interval of 15 years. Int Surg 2000; 85: 116-117.