

Case Report

Multiple Primary Melanoma in a Thai Male: A Case Report

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Melanoma is a malignant tumor of melanocytes and the most threatening skin cancer documenting one of the highest in mortality rates in comparison to other non-skin cancers due to its potential to metastasize. Although the global incidence of melanoma has increased, the melanoma-related deaths decreased owing to the fact that melanoma is curable under the condition that early diagnosis is made and treatment is undertaken as soon as possible. Patients with primary melanoma developing a second primary melanoma are less common compared to the general population developing the first. Not only is melanoma less commonly found in Thai patients but multiple primary melanomas (MPM) are rarely reported. The present report of a 48-year old Thai male who presented with asymptomatic black patch on the right big toe nail and an atypical mole on the back, both of which were histologically confirmed melanomas. Treatment included amputation of the right big toe and wide excision of melanoma on the back, which cleared the malignancy without recurrence until present. Although MPM are rare in Thais, the authors should be alert in cases displaying multiple moles for the possibility of melanomas. The total body examination, early diagnosis and regular follow-up are important to decrease the mortality rate in melanoma patient.

Keywords: Multiple primary melanoma, Melanoma, Hutchinson's sign, Dermoscopy, Menzies method

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Melanoma is a malignant tumor of melanocytes. Melanoma is the most lethal skin cancer and while most commonly involves the skin, it can also occur in the eyes, ears, gastrointestinal tract, leptomeninges, oral cavity and genital mucosa. The incidence of melanoma has increased significantly worldwide over the last several decades. It is more frequently found in Caucasians with higher incidence in males, and often related to sun exposure. There are four major subtypes of primary cutaneous melanoma: superficial spreading melanoma; nodular melanoma; lentigo maligna melanoma and acral lentiginous melanoma.

Multiple primary melanoma (MPM) is rare and is present in 1.2-5.3% of patients with primary malignant melanoma. The criteria for diagnosis of MPM in patients with multiple lesions depend on the histological feature. MPM differ from secondary (metastatic) melanoma by epidermotropism, distention of dermal papillae by malignant melanocytes, dermal infiltrative

component and thinning of the epidermis. The prognoses of MPM vary according to various factors and the stage at presentation.

The incidence of melanoma was about 10.8% of skin cancer in Thailand during 1988-1991. The most common locations are the lower limbs (50%), particularly the sole of foot and reports on the trunk (25%)⁽¹⁾. However, the incidence of MPM in Thailand has not been documented.

Melanoma is diagnosed by histological features and immunohistochemistry staining. Unfortunately, inspection is difficult when multiple moles are present. Therefore, dermoscopy (epiluminescence-microscopy), a non-invasive screening by a hand-held magnifying tool is mandatory. Dermoscopy allows early detection of melanoma by increasing the specificity and sensitivity of malignant transformation in a lesion. In suspicious lesions, biopsy must be taken for definite diagnosis and prompt treatment.

The present case presented with an asymptomatic black patch on the right big toe nail and multiple moles on the body, where biopsy was confirm for melanoma from the primary site. We report a case of MPM in a Thai patient exhibiting superficial spreading and acral lentiginous melanoma subtypes. With the aid

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of a dermoscopy, early malignant transformation was detected leading to immediate diagnosis and management.

Case Report

A 48-years-old Thai man presented at the dermatological department after noticing an asymptomatic black patch under right big toe nail for 3 years. The lesion gradually enlarged and spread to the tip of the right big toe (Fig. 1). He denied a history of sunburn and family history of skin cancer.

Physical examination revealed a dark in homogeneous pigmented patch 1.5x1.5 cm covering the entire right big toe nail with periungual extension of black pigmentation towards the hyponychium, contributing to longitudinal melanonychia of the big toe (Hutchinson's sign). Multiple hyperpigmented macules and patches varying in size were also present on the trunk and extremities. Some lesions were asymmetrical, while others on the upper neck, back and thighs displayed varigate pigmentation and diameter greater than 6 mm (Fig. 2). Inguinal lymph nodes and other group nodes were not palpable. Dermoscopic examination with Dermlite (Dermlite 3 Gen,

LLC, Dana point, CA, USA) at 10-fold magnification coupled with a Nikon Coolpix 995 digital camera (Nikon Corporation, Tokyo, Japan) was performed for pigmented lesions bearing atypical presentations (Fig. 3). Excisional biopsies were done where possible except at the nail bed, where incisional biopsy was preferred.

The differential diagnosis of an asymptomatic patch on the entire nail included melanoma, blue nevus and black heel. Nail bed biopsy revealed nests of melanocytes with cytological atypia in the dermis and dermoepidermal junction, graded as Clark 4 stage. On the other hand, a skin biopsy of the atypical mole on the back was benign (Fig. 3A-D) where pathology demonstrated in Fig. 3E showing acanthosis, fusion and elongation of the rete ridges with melanocytic hyperplasia in nests, individual cells in the basal cell layer and atypia, without dermal infiltration (Fig. 4). HMB-45 staining was positive (Fig. 5) and melanoma in situ was confirmed. Laboratory investigations were normal but genetic analysis was not done in the present case.

The diagnosed was MPM, comprising of acral lentiginous melanoma at right big toe (TMN stage 1A) and in situ melanoma on the back. Amputation of the



Fig. 1 Acrallentiginous melanoma at right foot.



Fig. 2 Atypical mole at back.

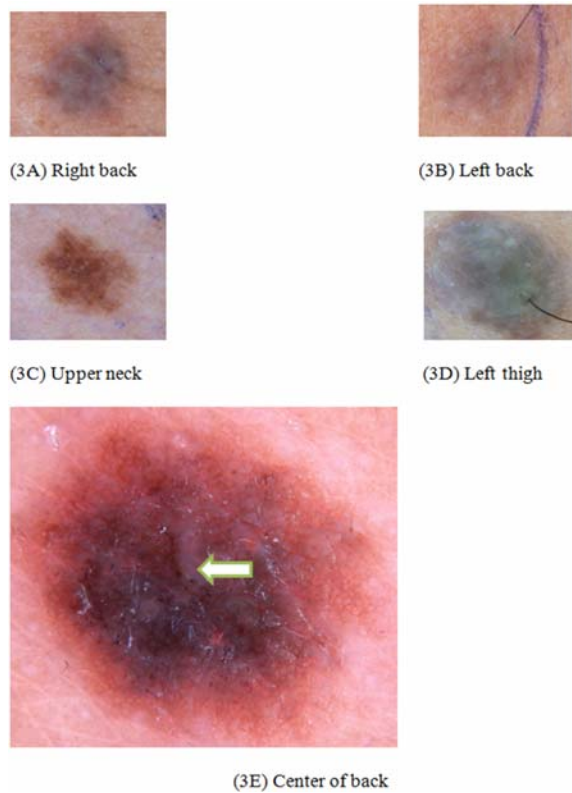


Fig. 3 Dermoscopy of atypical lesions. Asymmetrical melanocytic lesion, size 8 mm with irregular pattern, multiple colors with blue-white structures and irregular dots according to pattern analysis are as displayed.

right big toe with groin node resection was executed, while wide excision with 1 cm margin was done for melanoma on the back. Both lesions were devoid of lymphatic vascular and nerve invasion. No complication occurred after the operation and no adjuvant chemotherapy was given. The patient had been followed-up by full body examination at our hospital regularly until present and remained free of atypical lesions.

Discussion

Melanoma is a malignancy of melanocytes and the most lethal of skin cancers. Although melanoma is found in only 4% of all skin cancers, it is responsible for the highest number of skin cancer-related deaths worldwide. It is categorized into four major clinical subtypes: superficial spreading melanoma, nodular melanoma, lentigo maligna and acral lentiginous melanoma. Acral lentiginous melanoma is not related to sun exposure and is more common in Asians than

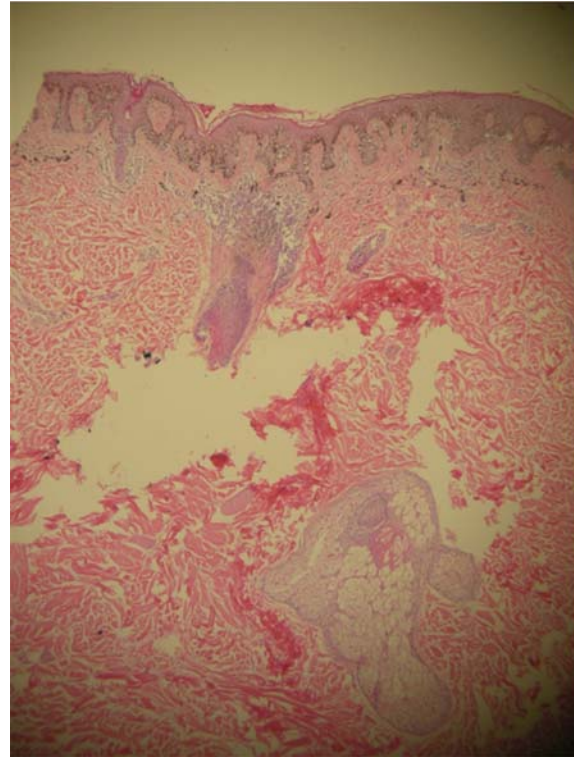


Fig. 4 Lesion 3E showed nest of melanocytes at DEJ without epidermotropism (H&E staining, X10).

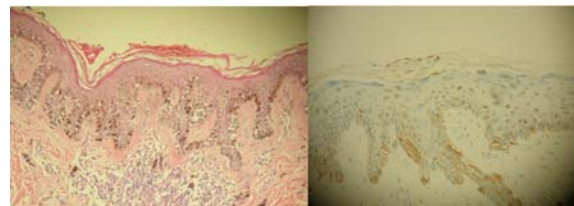


Fig. 5 Lesion 3E showed nests of nevus cells in the basal layer. Some individual melanocytes with atypia was found in upper and midepidermal level (HMB 45 staining, X40).

Caucasians. It can involve the palms, soles and nail plates.

Dermoscopy is an in vivo method reported as useful for early recognition of malignant melanoma and the differential diagnosis of pigmented lesion of the skin. Using the Menzies method, diagnosing malignant melanoma requires that a lesion must lack both negative features and comprise of 1 or more of the nine positive features as shown:

- Negative features (must not be present)**
- Symmetry of pattern

- Presence of a single color

Positive features (At least one must be present)

- Blue-white veil
- Multiple brown dots
- Pseudopods
- Radial streaming
- Scar-like depigmentation
- Peripheral black dots/globules
- Multiple (5-6) colors
- Multiple blue/gray dots
- Broadened network

Various criteria for the diagnosis of primary malignant melanoma in patients with multiple lesions are mentioned in literature. Mihm and Kornberg et al suggested histological criteria being helpful in distinguishing cutaneous metastasis from primary lesion. Cutaneous metastasis may show epidermotropism, thinning of the epidermis, distention of the dermal papillae by malignant melanocytes and a dermal infiltrative component that is present and lateral to the epidermal element and dermal lymphatic permeation⁽²⁾.

The prognosis of MPM and single melanoma differ. Several risk factors of MPM include Celtic phenotype (European), benign pigmented nevi, history of non-melanoma skin cancer and family history of melanoma⁽³⁾. In addition, to pigmentary characteristics or sun exposure⁽⁴⁾. Ironically, a study by Moseley et al found 5 years survival rate of multiple lesions is better than a single lesion. The presence of three or more primary melanomas is shown to exhibit a superior survival rate, as explained by the resistance to a second tumor from animal models carrying carcinogen-induced tumors. In recent years, many common tumor antigens are described in human melanoma but the role of immunological surveillance recognition antigen is unclear. The authors predict that the patients with 3 or more primary melanomas might develop a functional immunization to common melanoma tumor antigen, which may lead to prolonged survival⁽⁵⁾.

After total body examination, dermoscopy and melanoma staging in the present patient, the authors found many atypical pigmented lesions on the back and one lesion diagnosed as melanoma by Menzies method. Furthermore, multiple nodal enlargement at the groin was detected by ultrasound. Unfortunately, lymphatic mapping was not available in our institution;

however, sentinel lymph-node biopsy was achieved and showed no evidence of metastasis. After surgical treatment, there were no complications. The authors suggested routine self-examination and dermoscopically every 6 months in this patient.

The present report is a case of MPM in a Thai patient exhibiting superficial spreading and acral lentiginous melanoma subtypes. With the aid of dermoscopy, early malignant transformation was detected leading to prompt diagnosis and management. Although melanoma and MPM are rare cases in Thai, prognosis depends on the early diagnosis. Total body examination and use of a dermoscope are used in atypical lesions to find out the early malignant changes that significantly decreases mortality and morbidity.

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Potential conflicts of interest

None.

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รายงานผู้ป่วย *multiple primary melanoma (MPM)*

กิตติศักดิ์ พชัยวิภาพงศ, ภิญญาพัชร คเนจร ณ อยุรยา

Malignant melanoma เป็นมะเร็งที่อันตรายและมีอัตราการตายสูง การวินิจฉัยในระยะแรกสามารถรักษาให้หายขาดได้ รายงาน *multiple primary melanoma* ที่พบในผู้ชายอายุ 48 ปี ซึ่งมาด้วยรอยดำที่ใต้เล็บนิ้วเท้าขวา ผลตรวจร่างกายพบผื่นดำที่ใต้เล็บนิ้วเท้าขวา และไฟหนึ่งตำแหน่ง ที่หลังมีลักษณะผิดปกติจากการตรวจด้วย *dermoscope* ผลการตรวจทางพยาธิยืนยันการวินิจฉัย *malignant melanoma* ได้ทำการรักษาโดยการผ่าตัด รอยโรคที่เท้าและหลัง
