Amelanotic Subungual Malignant Melanoma With Multiple Nodular Local Skin Metastases

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We present a 72-year-old man with a subungual amelanotic malignant melanoma (MM) on the right first toe with numerous local nodular metastases after trauma and without regional lymph node involvement. Most of the lesions were angiomatous (reddish blue), and some had a hyperkeratotic surface, clinically resembling Kaposi sarcoma. Results of biopsies performed on skin taken from the toe and from a metastatic lesion of the tibia revealed a classic case of amelanotic MM. This case has 2 interesting points: the clinical presentation of the metastatic lesions and the topical spreading of the lesions, which was initiated after traumatic injury of the prime lesion.

It is well known that over the past 50 years there has been an increased incidence of malignant melanomas (MMs). In the early 1970s, MM was the third most common source of skin metastases[1]; however, it is now the most common source in men[2-4] and the second most common source in women, after breast cancer.[2] Skin metastases from MM represent a grave prognostic sign and occur as a result of a delayed diagnosis.[2] The subungual region seems to be a common site for amelanotic melanomas,[5] and delayed diagnosis occurs more frequently with this type of melanoma.[6] We present a patient with an amelanotic subungual melanoma, which had been neglected, accompanied by multiple local nodular skin metastases after trauma.

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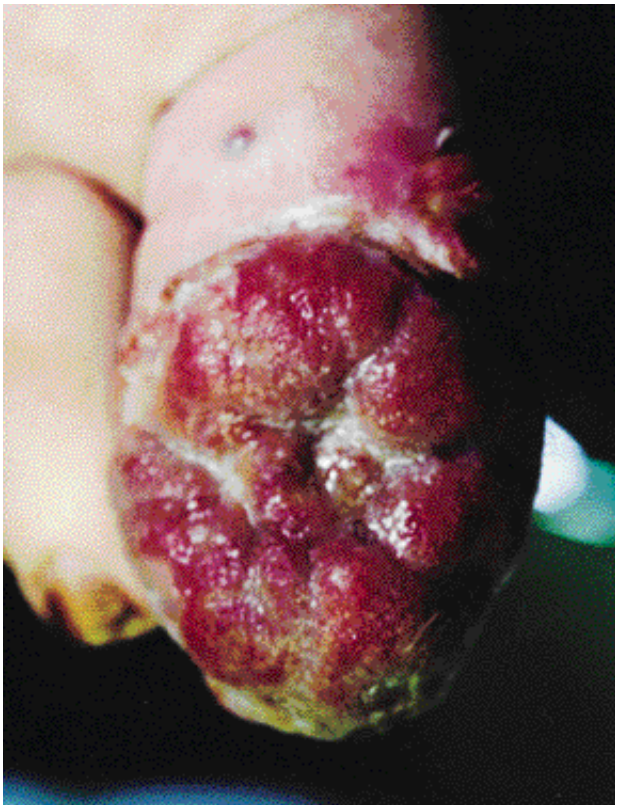

Figure 1. Primary subungual amelanotic melanoma on the big toe.

Case Report

A 72-year-old white man presented to our clinic with a 2-month history of multiple nodules on his right foot. On examination, we noticed an elevated, papillomatous, hard tumor that was eroded and inflamed on the nail bed of the right first toe (Figure 1). It bled readily and was about 3.5×4 cm. Numerous nodules from 0.5 to 1.5 cm in diameter were seen on the dorsal acral foot and on the

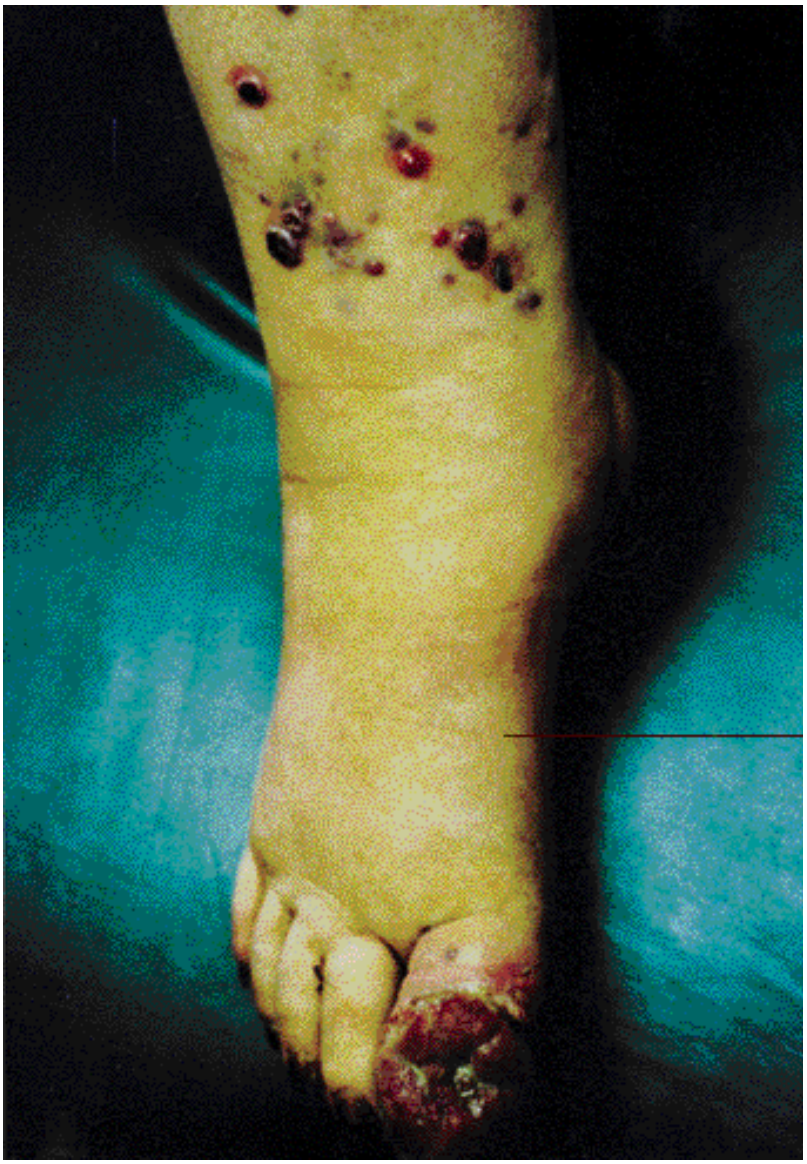

Figure 2. Primary lesion of amelanotic melanoma on the big toe and multiple nodular skin metastases resembling Kaposi sarcoma.

unilateral leg (Figure 2). All the nodules were moderately hard and reddish blue. Some nodules had a hyperkeratotic collarette on their surface that resembled Kaposi sarcoma. The whole leg was edematous. The patient mentioned that the first amelanotic tumor appeared 2 years ago as a hyperkeratotic lesion that started from the inner lateral nail fold. The tumor gradually increased in size and destroyed the nail plate. He experienced trauma to the prime lesion 2 months previously. It subsequently increased in size, and multiple nodules suddenly appeared on his leg. The nodules then seemed to stabilize in number and size. There were no palpable regional or remote lymph nodes.

The patient's only reported medical history was hypertension, which was treated with captopril and amlodipine. Family history was negative for MM and other diseases.

Full blood count and routine hematological and biochemical tests were normal. The patient's erythrocyte sedimentation rate was 12 mm/hour. Urine analysis results were normal, as were results of an x-ray of the thorax. Results of an x-ray of the right foot showed no bone lesions. Results of a bone scan showed increased uptake at the terminal phalanges of the big toe. Computerized tomography of the abdomen and groin lymph nodes was normal.

Smear culture results from the big right toe revealed *Enterococcus faecalis*, *Staphylococcus*, and *Pseudomonas aeruginosa*, which were treated with oral ciprofloxacin 500 mg 2 times daily for 10 days with good response.

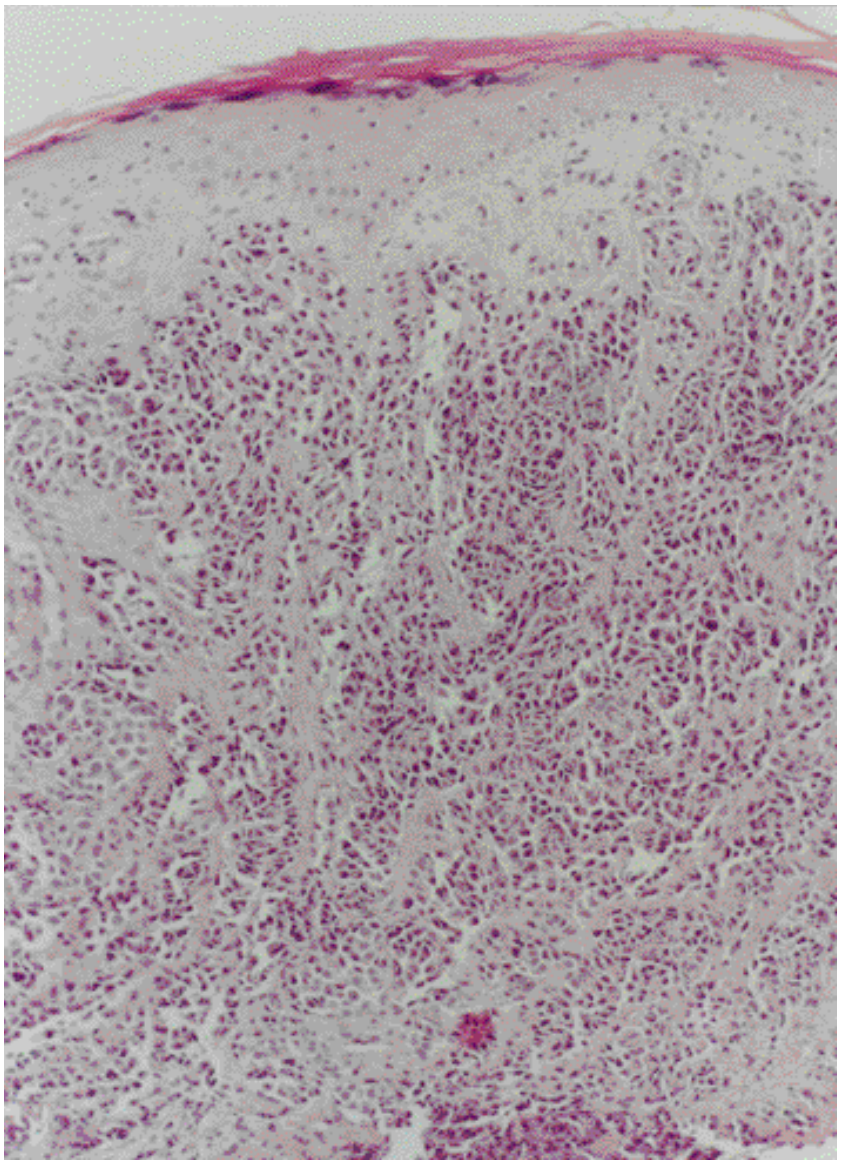

Figure 3. Biopsy of a metastatic lesion of the leg with nests of epitheliod type tumor cells in the dermis beneath a thin epidermis without atypical melanocytes (H&E, original magnification ×200).

Biopsies were performed on skin taken from the prime tumor and from a nodule on the leg. The first showed an MM with tumor cells of the epitheliod type beneath an ulcerative epidermis. No melanin was found within the tumor cells or within the macrophages. Results of a punch biopsy performed on a nodular metastatic lesion showed nests of the same tumor cells in the dermis without melanin. The overlying epidermis was thin without atypical melanocytes (Figure 3).

After the diagnosis, the patient went to Australia for further medical care.

Comment

The amelanotic type of MM represents approximately 2% of all MMs.[7,8] Primary amelanotic melanomas may result in a delayed diagnosis, for which about half of the cases are due to misdiagnosis by clinicians.[5,9,10] The delay in our case was due to the patient, who thought the prime lesion was a benign hyperplasia.

Generally, subungual MMs comprise 1% to 3% of all MMs,[11] and this site shows a predilection for amelanotic melanoma.[5] It is also known that the most common site of involvement of acral MM is the big toe.[11,12] The primary MM in our patient was amelanotic. It began as a hyperkeratotic lesion at the inner periungual site of the big toe, destroying the nail plate.

In addition to nodular amelanotic melanomas, other clinical types mimicking MM have been reported including verruca,[10,13] fibrous histiocytic tumors,[14] Merkel cell carcinoma, small cell

tumors,[15,16] basal cell carcinomas, seborrheic keratoses, nevi, keratoacanthomas, or Bowen disease.[10] We considered amelanotic MM clinically in our case but also included Kaposi sarcoma and squamous cell carcinoma in the differential diagnosis. The histologic study of the primary and metastatic lesion disclosed, without difficulty, amelanotic MM.

The most frequent lesions of MM metastases are pigmented nodules that are usually multiple and remote from the primary tumor. In a few cases they may be local, as in our patient. The clinical appearance of metastatic skin lesions can sometimes be unusual and misleading, such as pigmented macules,[2] inflammatory or erysipeloide MM,[17-22] or resemblance of vascular malignancy.[23] Some of the nodular lesions on our patient resembled Kaposi sarcoma, but they were unilaterally located (Figures 1 and 2). Histopathologic examination revealed no other findings except for those of MM.

In addition, skin metastasis such as those of Kaposi sarcoma lesions have been reported in renal, thyroid, hepatic, gastric, and cervical cancer with analogous histologic pictures.[4,24,25] These cases were excluded from the histologic results.

Since the time of Hutchinson's report in about 1886, trauma has been implicated as a triggering factor for malignant transformation. According to other authors, MM occurring after trauma is more than coincidental.[26] Our patient's injury occurred on an already existing MM, which resulted in (1) faster growth of the initial lesion, which had been growing slowly for 2 years, and (2) onset of a topical metastases. It is our belief that trauma to an MM can promote its growth as well as its rate of spread.

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