Acral melanoma with hyperkeratosis mimicking a pigmented wart

Misaki Ise, M.D., Fumiyo Yasuda, M.D., Izumi Konohana, M.D., Keiko Miura, M.D., Masaru Tanaka, Ph.D.

1Division of Dermatology, Hiratsuka City Hospital, Kanagawa, Japan
2Division of Diagnostic Pathology, Faculty of Medicine, Tokyo Medical and Dental University Hospital, Tokyo, Japan
3Department of Dermatology, Tokyo Woman’s Medical University Medical Center East, Tokyo, Japan

Key words: acral, melanoma, hyperkeratosis, wart


Received: June 6, 2012; Accepted: November 8, 2012; Published: January 31, 2013

ABSTRACT

Acral lentiginous melanoma (ALM) of the sole sometimes has a hyperkeratotic appearance and mimics a pigmented wart. We report a case of an 81-year-old woman with an ALM on the left sole with hyperkeratosis. Due to its presentation it was difficult to make a correct diagnosis at the beginning. Finally we noticed several small, pigmented macules around the wart-like lesion with the parallel ridge pattern on dermoscopy, strongly suggesting acral melanoma. When a hyperkeratotic pigmented lesion on the sole is encountered, one should rule out melanoma by careful examination of the periphery of the lesion. Dermoscopy is a helpful adjunct for the diagnosis of an unusual case like this.

Case presentation

An 81-year-old Japanese woman presented with a pigmented skin lesion on the left heel (Figure 1). It had been noticed for at least one to two years. She had no specific symptoms. She had a habit of rubbing her soles with pumice. Physical examination revealed a dark brown-to-black hyperkeratotic plaque of 10 mm with a sharply demarcated, symmetrical border. Dermoscopic examination demonstrated a scaly surface and regular brown-to-black dots/globules (Figure 2). At first the diagnosis of a pigmented wart was made an incisional biopsy was performed.

Histopathologically the lesion was characterized by nests of melanocytes with considerable nuclear atypia and mitoses. We thus established a diagnosis of melanoma. A detailed inspection of the remaining lesion revealed surrounding pigmented macules with different shades of brown-to-black and diffuse irregular hypopigmentation (Figure 1B). The pigmented macules showed the parallel ridge pattern on dermoscopy (Figure 2B). We performed a re-excision with a 5 mm margin from all the surrounding pigmented macules. Conventional histopathologic staining with hematoxylin and eosin of the central lesion revealed marked hyperkeratosis and proliferating nests composed of atypical melanocytes.
son for hyperkeratosis might be that our patient had tinea pedis. Coexistence of tylosis, clavus, human papilloma virus (HPV) infection, or other hyperkeratotic disorders may have an influence on keratinization of melanoma. We performed anti-HPV staining of the specimen but with a negative result. Furthermore, similar to previous cases [2,4], hyperkeratosis was conspicuous since melanoma cells mainly proliferated in the epidermis rather than the dermis. Melanoma cells may directly affect overlying epidermis and induce keratinization.

Hyperkeratotic cases of melanoma have often been misdiagnosed. For example, two cases [2,4] in Japan showed amelanotic melanoma, one of which was diagnosed as a hematoma at first. An additional two cases [3] were diagnosed as warts at first and treated by curettage or cryotherapy. Since misdiagnosis and inadequate treatment may lead to dissemination of the disease, it is essential to diagnose melanoma correctly without any delay.

Dermoscopic findings were very helpful for a correct diagnosis in this case. Aggregated dots/globules strongly indicate melanocytic lesion. Their color depends on the amount and depth of melanin. Therefore we estimated that black dots/globules correspond to aggregated nests in the stratum corneum.

Discussion

ALM is the most common type of melanoma in the Japanese population. In Japan about one-half of cases of cutaneous melanoma affect acral skin and approximately 30% of them occur on the sole [1]. ALM on the sole sometimes can be hyperkeratotic [2,3,4]. In previous reports, hyperkeratotic lesions were seen at sites on which acute pressure was exerted. Our case was not necessarily at a site of acute pressure, but the patient had been habitually rubbing it. This might have caused hyperkeratosis in our case. Another reason for hyperkeratosis might be that our patient had tinea pedis. Coexistence of tylosis, clavus, human papilloma virus (HPV) infection, or other hyperkeratotic disorders may have an influence on keratinization of melanoma. We performed anti-HPV staining of the specimen but with a negative result. Furthermore, similar to previous cases [2,4], hyperkeratosis was conspicuous since melanoma cells mainly proliferated in the epidermis rather than the dermis. Melanoma cells may directly affect overlying epidermis and induce keratinization.

Hyperkeratotic cases of melanoma have often been misdiagnosed. For example, two cases [2,4] in Japan showed amelanotic melanoma, one of which was diagnosed as a hematoma at first. An additional two cases [3] were diagnosed as warts at first and treated by curettage or cryotherapy. Since misdiagnosis and inadequate treatment may lead to dissemination of the disease, it is essential to diagnose melanoma correctly without any delay.

Dermoscopic findings were very helpful for a correct diagnosis in this case. Aggregated dots/globules strongly indicate melanocytic lesion. Their color depends on the amount and depth of melanin. Therefore we estimated that black dots/globules correspond to aggregated nests in the stratum corneum.
corneum and brown dots/globules to nests in the epidermis. Furthermore, surrounding pigmented macules exhibited the typical parallel ridge pattern, which played a key role in the correct diagnosis of this melanoma.

**Conclusion**

ALM on the sole sometimes shows the feature of hyperkeratosis. Whenever we encounter a hyperkeratotic, pigmented macule on the sole, we should observe carefully not only the main lesion but also the circumference of the lesion so as not to miss subtle pigmentation with parallel ridge pattern on dermoscopy. Dermoscopy often plays an important role in the diagnosis of pigmented skin lesions.

**References**