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A lesion suspected of melanoma by dermoscopy: we must trust this diagnostic tool

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Abstract

Background: The incidence of cutaneous melanoma is increasing worldwide and early diagnosis is essential since the prognosis is poor in advanced stages of disease. Dermoscopy emerged as an additional and important diagnostic procedure for the early diagnosis of cutaneous melanoma.

Main observation: We report a case of a 52-year-old man, who developed a pigmented lesion in the right pretibial region. Dermoscopy highly suggestive of melanoma. The initial histopathological evaluation suggested a benign lesion. Since dermoscopy was very suspicious, a more extensive histopathological study of the excised skin fragment was performed. This led to a change of diagnosis to a melanoma with partial regression.

Conclusions: The present case shows that occasionally dermoscopy may be more informative for diagnosis of melanoma than an initial histopathology result. (*J Dermatol Case Rep*. 2013; 7(3): 88-92)

Introduction

Melanoma is the most malignant skin tumor and affects predominantly adults, from 30 to 60 years of age. Despite all the advances in the field of prevention, the incidence of cutaneous melanoma is increasing significantly around the world,[1] configuring an important public health problem.[2]

In the vast majority of cases cutaneous melanoma presents an extended superficial horizontal phase, with the malignant cells confined to the epidermis. These are considered early diagnoses and lead to cure rates of up to 90% in patients with thin melanomas (Breslow < 1 mm).[2,3]

Dermoscopy emerged as an in vivo auxiliary examination and has now a fundamental role in the early diagnosis of melanoma.[4]

Also known as surface microscopy or epiluminescence microscopy, dermoscopy is a non-invasive technique that allows observation of pigmented skin lesions down to the beginning of the reticular dermis. The dermoscope has a special lens that generates a ray of light that reaches the surface of the skin on an angle of 20°. With the use of an interface fluid between the skin and the lens, such as oil, water, gel, alcohol gel or glycerin, the reflection of light is eliminated, allowing the observation of the dermoscopic characteristics of the lesion, which will vary according to the presence of melanin and hemoglobin in the various layers of the epidermis and dermis.[5] Dermoscopy can then be seen as an interface between the clinical and the histopathological aspects of lesions.[6] The technique is useful to differentiate melanocytic lesions, which may have a differential diagnosis with melanoma, mainly seborrheic keratosis and clotted hemangioma, thus avoiding a biopsy. With dermoscopy it is possible for the doctor to confirm a suspicious lesion increasing his(her) safety to indicate a biopsy. Among its information

the most vital is to show melanoma aspects in lesions they are clinically melanocytic nevi.[7]

We report the case of a phototype IV patient, who had a pigmented lesion with a highly suggestive dermoscopy of melanoma.

Case Presentation

A 52-year-old man, Fitzpatrick phototype IV, from Rio de Janeiro, was hospitalized due to intramuscular hematoma in his right posterior leg. The dermatological examination showed a pigmented lesion in right pre tibial region, which had not been noticed by the patient. It was a pigmented macule discreetly asymmetrical with a regular border, displaying single, uniform color (dark brown), measuring 4 mm (Fig. 1). Clinically the lesion was diagnosed as a melanocytic nevus but dermoscopy showed it to be highly suspicious for melanoma.

By the ABCD rule the lesion showed asymmetry of color and structures in 2 axes (Fig. 2A), borders ending abruptly in 6 segment (Fig. 2B), 4 different colors (light and dark brown, bluish gray and black) (Fig. 2C), and 4 different structures (pigment network, dots, streaks and amorphous area > 10%) (Fig. 2D), leading to a total dermoscopic score of 7.2, which classifies the lesion as highly suspicious for malignancy. The lesion had two additional criteria for malignancy, blue-white veil and pseudopods (Fig. 3). By the pattern analysis methodology, the lesion exhibited more than three different structures (pigment network, pseudopods, dots, streaks and blue-white veil) compatible with multicomponent pattern (Fig. 4).

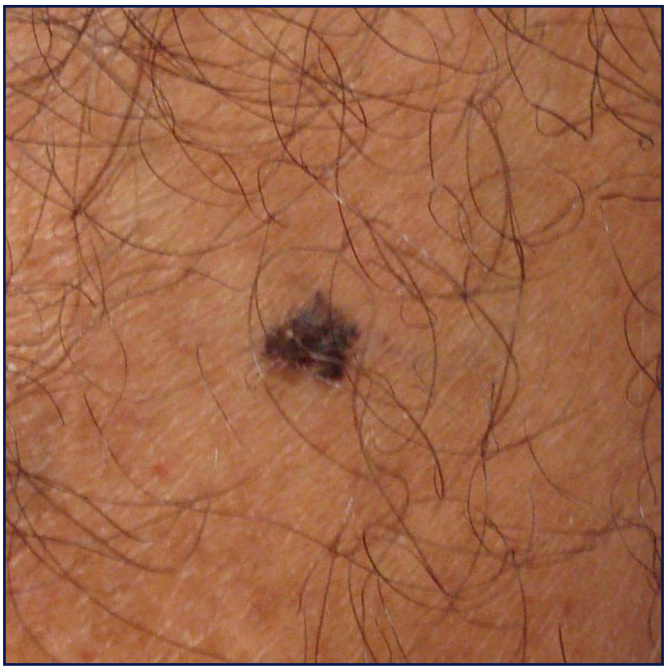

Figure 1

Discrete asymmetry, regular border, brown color 4mm.

With this dermoscopic picture, the only diagnostic hypothesis was cutaneous melanoma. Excisional biopsy was performed in an ellypse shape with a margin of 2 mm in the longitudinal direction on the right leg. In the histopathologic exam with low magnification, nests of melanocytes at the periphery of the lesion, and an exuberant inflammatory infiltrate with many melanophages in the dermis were observed (Fig. 5). At higher magnification, an irregular atypical melanocytic proliferation was seen at the dermo-epidermal junction (Fig. 6), more evident at the periphery of the lesion, with some cells appearing to “drop off” into the dermis and a heavy inflammatory infiltrate with numerous melanophages consistent with partial regression of a thin melanoma. All these changes had a good correlation with the dermoscopic findings described above. Immunohistochemistry for melanocytic markers failed to identify melanoma cells in the dermal infiltrate.

The initial histopathological diagnosis of dysplastic melanocytic nevus. was changed to melanoma associated with histological changes suggestive of partial regression, after correlation with dermoscopy and a new discussion of the case by the Dermatopathology staff, who valued the peripheral melanocytic proliferation and the dermal inflammatory infiltrate, as well as the probable superficial dermal involvement, indicated by the regression phenomenon changes and corroborated by the dermoscopy images. Even though histopathology and immunohistochemistry showed only the intraepidermal component of the melanocytic lesion this is most certainly not a "true melanoma in situ". The patient was staged as ZERO, and another surgery to increase the safety margins to 1 cm was performed. The patient is scheduled to return to the hospital for follow-up every six months for two years and after that annually.

Discussion

Cutaneous melanoma is the skin cancer with greatest mortality rate. It is responsible for 70% of deaths by cutaneous tumour in the USA.[8] Its incidence is rising among white individuals in recent decades, although the mortality rate has increased with smaller significance; this could be attributed to methods that allow earlier diagnosis of more superficial lesions,[2] which includes dermoscopy.

Various melanocytic and non melanocytic lesions may present clinical and/or histological aspects that simulate cutaneous melanoma. Differential diagnosis is thus crucial for the proper therapeutic approach.[9]

Suspicious melanocytic lesions should be submitted to dermoscopy. If there is suspicion of malignancy or doubts about the benignity of the lesion, a biopsy should be performed.[10] Whenever possible an excisional biopsy should be performed,[2,10] so prognostic factors of the primary lesion can be obtained.[10] Margins can be narrow,[11] from 1 to 2 mm, since margins larger than 5 mm hamper the achievement of sentinel lymph node exam.[10] On the trunk the incision should be directed by the lines of force, and longitudinally on the limbs, in order to not interfere in a possible sentinel lymphnode exam.[12]

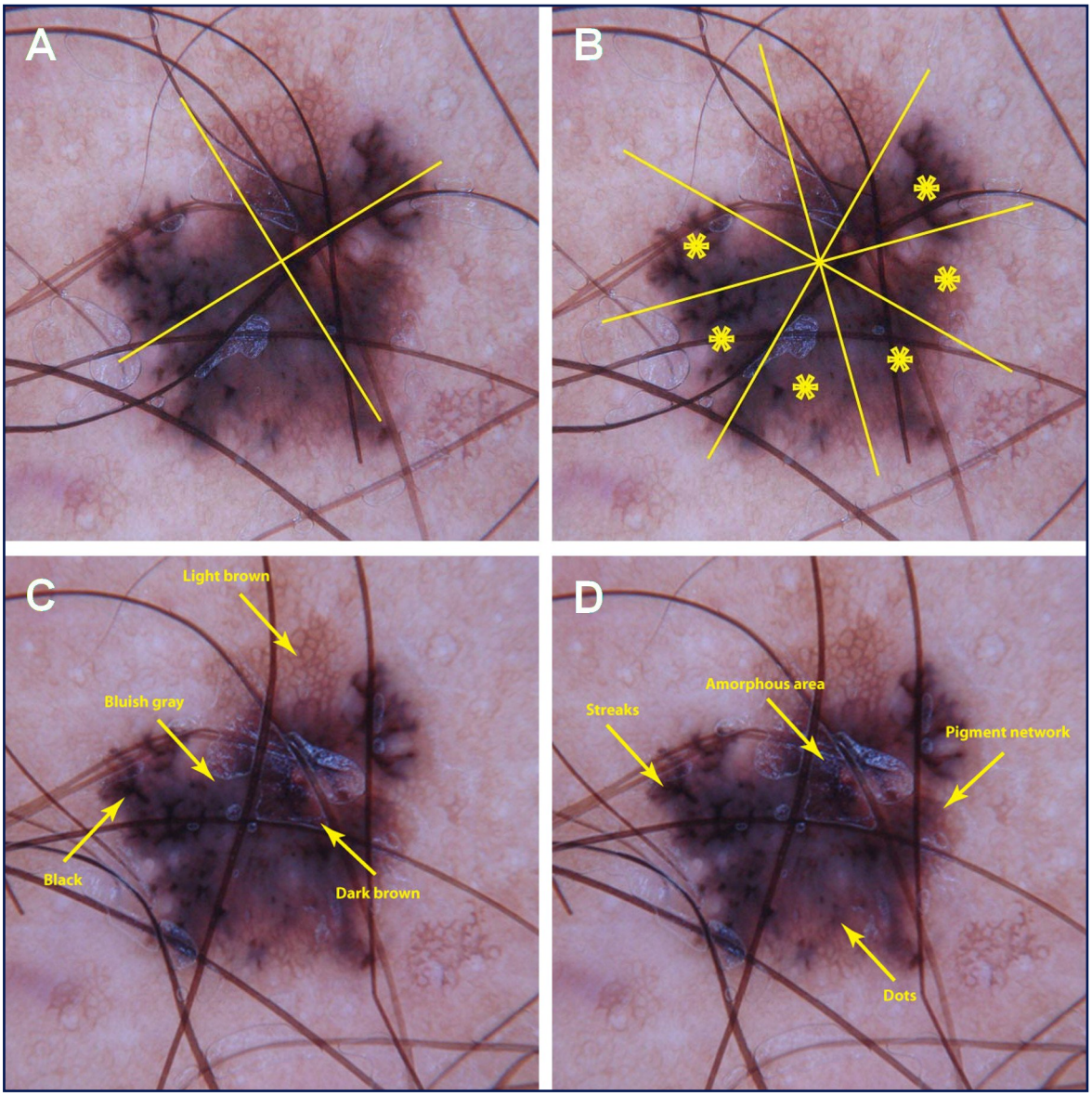

Figure 2
Asymmetry (A); Borders (B); Colors (C); Different structures (D).

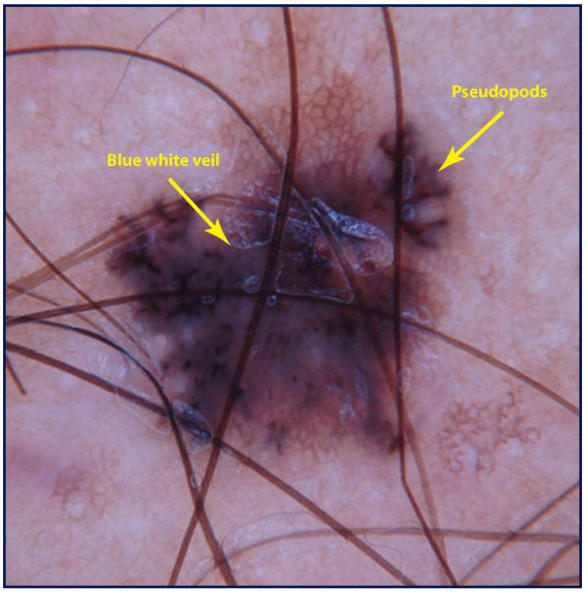

Figure 3
Additional criteria of malignancy.

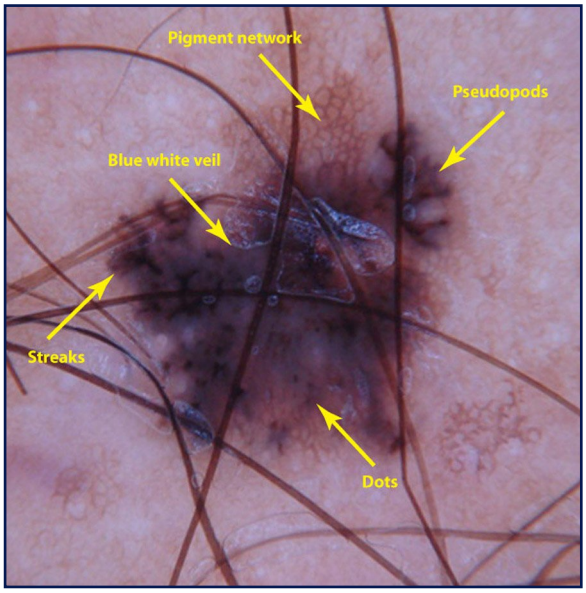

Figure 4
Multicomponent pattern.

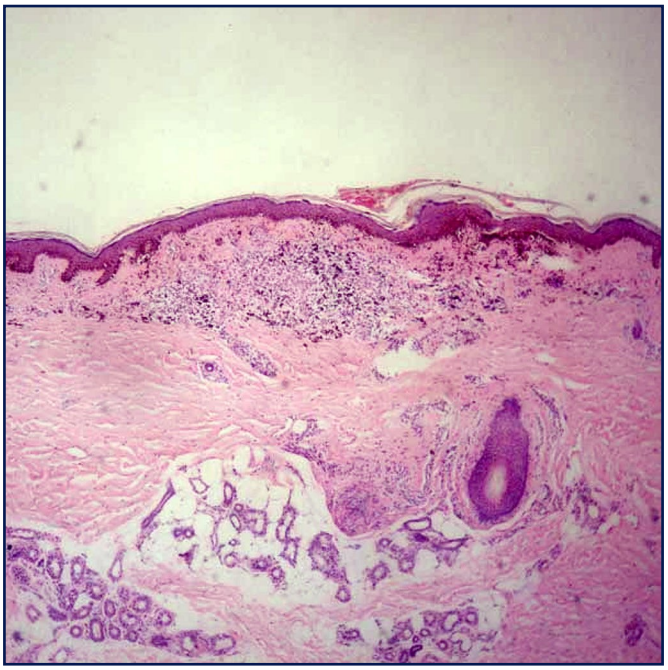

Figure 5

Small and irregular intraepidermal melanocytic proliferation and exuberant inflammatory infiltrate with numerous melanophages in the dermis (H&E, X40).

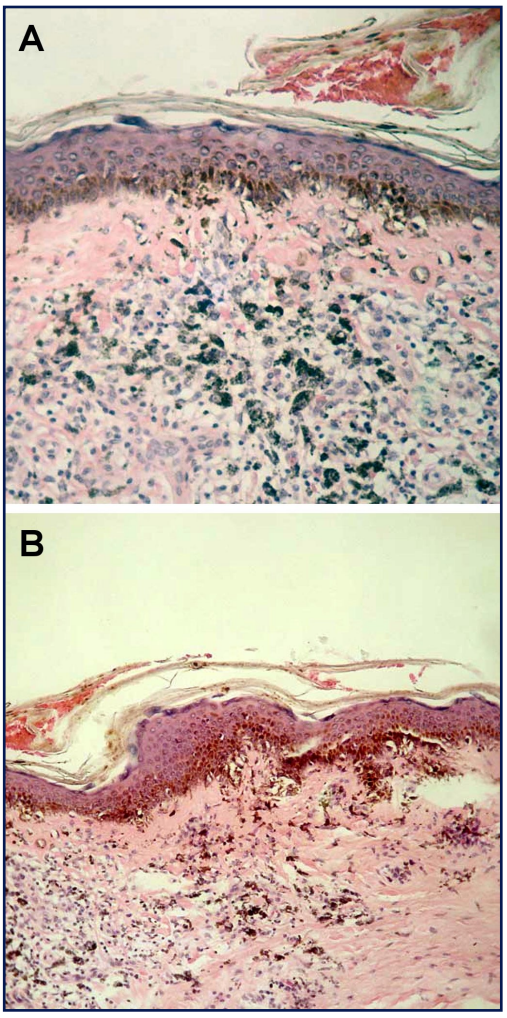

Figure 6

Very few atypical intraepidermal melanocytic cells in the central part of the lesion (A) and more numerous at the periphery (B), appearing to "drop off" into the heavy dermal infiltrate with numerous melanophages (H&E, X100).

Histopathology is fundamental for the prognosis and treatment of the patient. It gives us the following parameters: Breslow index, Clark invasion level, margins, histological subtype, presence or absence of ulceration, mitotic index, growth phase (radial vs. vertical), inflammatory response (including changes suggestive of partial regression) and neurotropism.[8]

After confirmation of the diagnosis, the patient should be staged.[13] For this, the patient must be examined without clothes and the lymphonode chains must be palpated. Additional tests must be carried out, as chest XR, abdominal USG and alkaline phosphatase and LDH dosage.[10]

According to the staging, therapy will be decided. The surgical margin may be set according to the Breslow index or the thickness of the tumor.

Dermoscopy increases by 5 to 30% the diagnostic accuracy when compared to the naked eye, depending on the type of lesion and experience of the doctor.[14] Dermoscopic assessment of a melanocytic lesion may be made by various methods, which may be quantitative (ABCD rule, 7 points rule, 3 points rule) or qualitative (method of patterns analyses and method of Menzies).[5] In our case we used a quantitative method (ABCD rule) and a method of qualitative analysis (patterns analyses) to evaluate the patient's lesion and in both methods we found criteria suggestive of melanoma.

Conclusion

Melanoma is the skin cancer with the worst prognosis and early diagnosis is absolutely crucial. With the advent of dermoscopy it is possible to distinguish suspicious lesions that would be clinically recognized as innocent. In the present case dermoscopic examination was critical for both clinical and histopathological diagnosis (slides review and discussion between peers), allowing early intervention, removal of the tumor still at an early stage and a posterior extension of margins This way, we suggest the dermoscopic examination for all cutaneous pigmented lesions, even those that with a benign clinical aspect. This case highlights the fact that suspected lesions lacking a clinico-histopathologic correlation should be managed in consensus between dermatologists and pathologists.

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