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Infantile melanoma: early diagnosis by total body mapping in dysplastic nevus syndrome

Melanoma infantil: diagnóstico precoce pelo mapeamento corporal total em síndrome do nevo displásico

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ABSTRACT

Melanoma is a rare neoplasm in the pediatric population, and it is even rarer in children under 10 years of age. Total body mapping constitutes a low-cost and non-invasive method that increases diagnostic accuracy in evaluating pigmented lesions, especially in high-risk patients. We reported the case of a 9-year boy with dysplastic nevus syndrome, in which one lesion presented a subtle change (asymmetry of structures) within a 6-months follow-up. Its excision resulted in melanoma with a Breslow thickness of 1 mm and a negative sentinel lymph node. Total body mapping reduces the number of unnecessary excisions. It allows diagnosis of melanomas in early and potentially curable stages, especially in children and patients with risk factors such as dysplastic nevus syndrome. We report this case due to the rarity of the neoplasia in this age group and also to demonstrate the importance of sequential digital dermoscopy in early diagnosis of melanoma in this population.

Keywords: Dermoscopy; Melanoma; Dysplastic nevus syndrome

RESUMO

O melanoma é uma neoplasia rara na população pediátrica, sendo ainda mais rara em crianças menores de 10 anos. O mapeamento corporal total constitui método não invasivo e de baixo custo, capaz de aumentar a acurácia diagnóstica na avaliação de lesões pigmentadas, principalmente em pacientes de alto risco. Relatamos um paciente de nove anos de idade com síndrome do nevo displásico, no qual uma lesão apresentou mudança sutil (assimetria de estruturas) no seguimento de seis meses. A exérese da lesão resultou em melanoma com Breslow 1mm e linfonodo-sentinela negativo. O mapeamento corporal total reduz o número de exéreses desnecessárias e permite o diagnóstico de melanomas em estágios iniciais e potencialmente curáveis, especialmente em crianças e pacientes com fatores de risco como síndrome do nevo displásico. O caso foi reportado devido à raridade da neoplasia na faixa etária e para demonstrar a importância da dermatoscopia digital seriada no diagnóstico precoce de melanoma nessa população.

Palavras-chave: *Dermoscopia; Melanoma; Síndrome do nevo displásico*

Case Report

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INTRODUCTION

Melanoma is the second leading cause of cancer in adolescents and young adults. Its incidence significantly increases with age, but it is infrequent in children.[1]

Interactions between sun exposure, nevi development, and family history are the main determinants of melanoma development during the first decades of life.[1,2] Predisposing factors such as giant congenital melanocytic nevus, xeroderma pigmentosum (XP), or genetic mutations have been reported in rare cases of childhood melanoma.[1,2]

Early recognition is essential to prevent disease progression. Therefore, a high index of suspicion is necessary when evaluating children.[1,3] Dermoscopic examination is vital to visualize pigmented lesions' morphological characteristics and differentiate melanoma from melanocytic nevi.[3] However, early melanomas may show extremely discrete or absent signs on dermoscopy in the first exam, being only detected through morphological changes during the follow-up.[3] Thus, body mapping can detect incipient melanomas.[3]

CASE REPORT

A nine-year-old boy, white, was referred to the Dermatology Service two years ago for follow-up due to multiple melanocytic nevi. The patient denied a family or personal history of melanoma.

During the initial follow-up, dermoscopy presented nevus identity with homogeneous areas without structure, hyperpigmented, in a more centralized location (Figures 1-3). We performed exeresis, whose histopathology was compatible with a dysplastic nevus. The patient was referred to follow-up with body mapping (sequential digital dermoscopy).

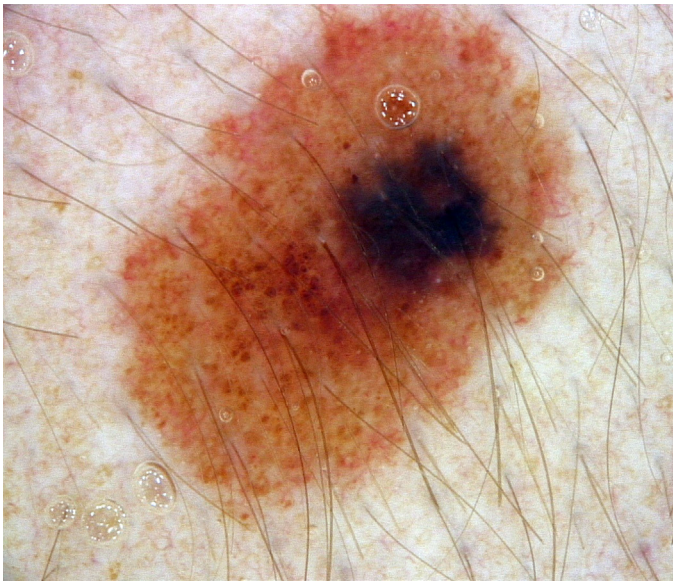

Figure 1: Dysplastic nevus syndrome. Dermoscopy of a lumbar lesion with 20x magnification. Ellipsoid lesion, with homogeneous globular pattern with central hyperpigmentation (fried-egg type)

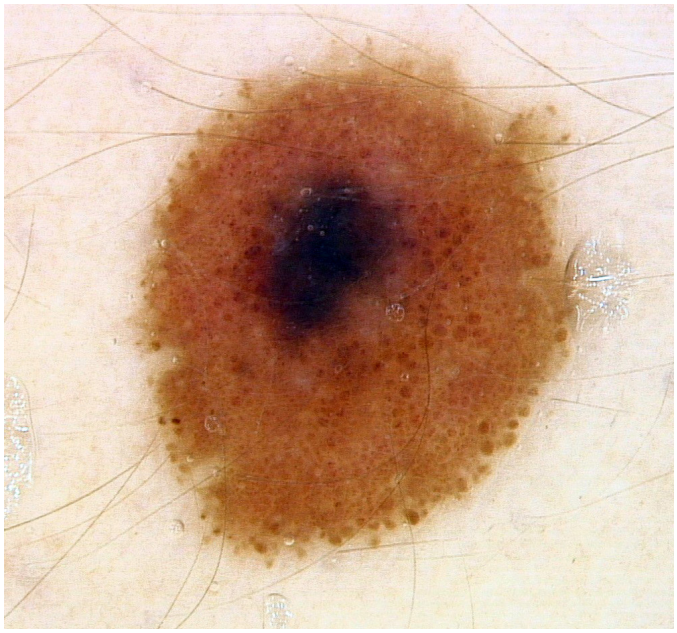

Figure 2: Dermoscopy of a thoracic lesion with 20x magnification. Circular lesion, with homogeneous globular pattern with central hyperpigmentation (fried-egg type)

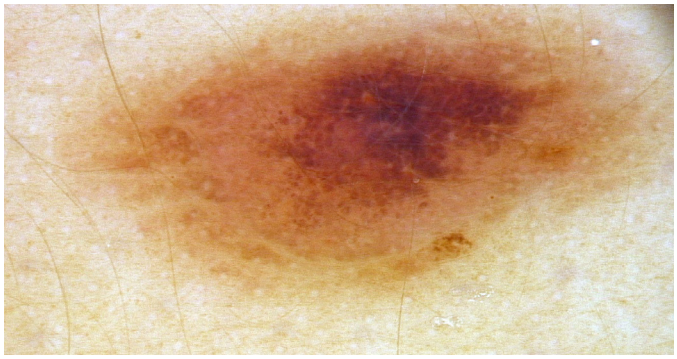

Figure 3: Dermoscopy of dorsolumbar lesion showing an ellipsoid lesion with a homogeneous, symmetrical pattern and central hyperpigmentation (20x magnification)

In the follow-up, the lesion evolved on the lower dorsum, which initially had characteristics similar to its nevus identity, with a homogeneous globular pattern and a central area without a hyperpigmented structure (Figures 4 and 5).

After six months, the lesion evidenced eccentric pigmented blur and atypical central vessels (Figure 6). We conducted the exeresis, and the histopathological examination revealed melanoma in the vertical growth phase, with a Breslow thickness of 1.0 mm, without ulceration, mitosis, or perineural invasion. We performed enlargement of the lesion margins and searched for sentinel lymph nodes, negative for neoplasia.

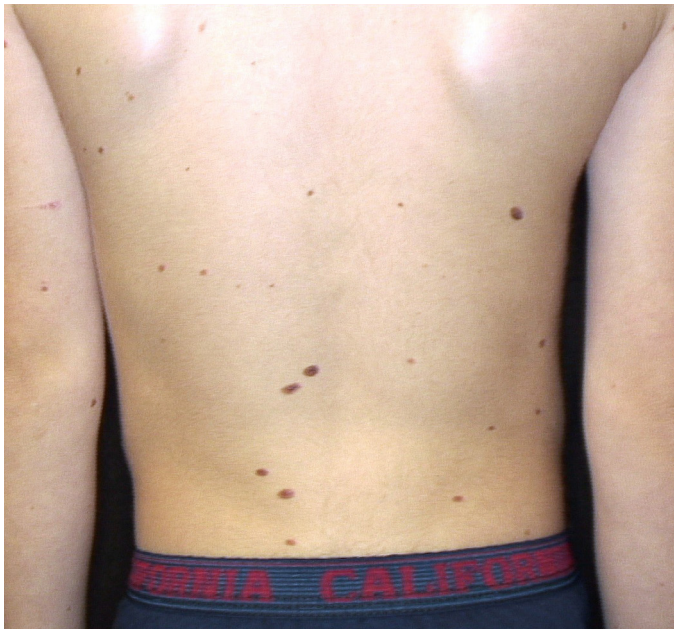

Figure 4: Panoramic photograph of the dorsal region, with no new lesions compared to the previous exam (six months ago)

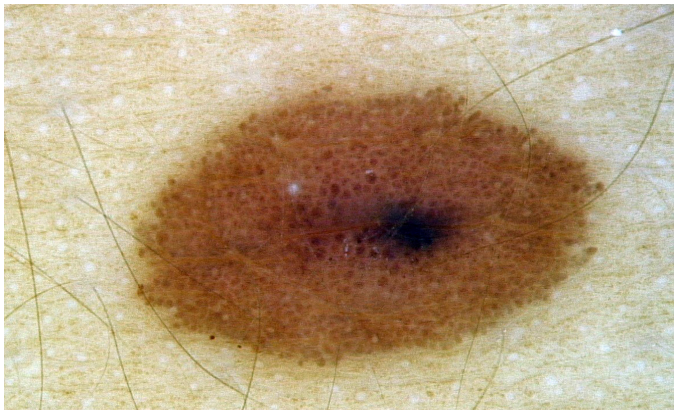

Figure 5: Dermoscopy of the lesion on lower dorsum lesion, six months before the melanoma diagnosis, showing an ellipsoid lesion, with a homogeneous globular pattern with central hyperpigmentation (fried-egg type), consistent with the patient's nevus identity (20x magnification)

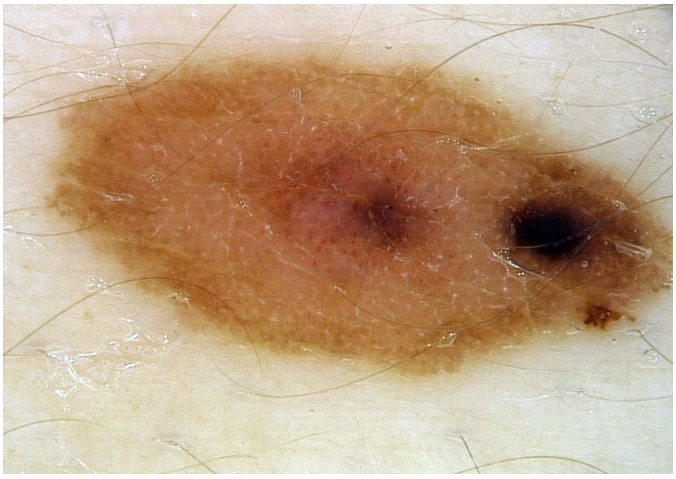

Figure 6: Melanoma in dysplastic nevus syndrome. Dermoscopy of the lesion on the lower dorsum showing an ellipsoid lesion with a homogeneous pattern and asymmetric hyperpigmentation, with a rudimentary atypical focal network, which appeared after six months of follow-up (20x magnification)

DISCUSSION

Melanoma is the most common skin neoplasm in children, although it is infrequent in this population, being even rarer in children under 10 years of age. Diagnosis is often tricky and late due to its rarity in this age group.[3,4]

Compared to adults, children have thicker primary lesions, often nodular and amelanotic, with atypical vascular structures or chrysalis, evidenced only by dermoscopy, in addition to not meeting the traditional ABCDE criteria.[4,5] Furthermore, in contrast to melanoma in adults, a significant proportion of neoplasms arise from preexisting nevus (80%), and regular monitoring of lesions is essential for early diagnosis.[4,5,6]

Body mapping, or sequential digital dermoscopy, presents as a low-cost and non-invasive method capable of increasing the diagnostic accuracy in assessing pigmented skin lesions.[7] The exam is based on the analysis of digital dermoscopic images sequenced throughout the time to find specific dynamic criteria that indicate a change in the biological behavior of the lesion.[7,8] Thus, body mapping reduces the number of unnecessary excisions and allows the early diagnosis of early-stage and potentially curable melanomas.[7,8]

The importance of the examination is mainly due to young patients in whom the different pigmented lesions do not present typical characteristics at initial dermoscopy.[6,7,8] Thus, when comparing the same lesion at different times, sequential digital dermoscopy allows the early detection of subtle changes that may suggest the diagnosis of melanoma.[8,9]

The nevus identity of the reported patient is composed of several dysplastic lesions with very similar or even more atypical dermoscopic characteristics than the lesion in which melanoma was diagnosed, making early diagnosis even more difficult.

In conclusion, this case confirms the importance of sequential body mapping as a fundamental tool for the early diagnosis of incipient melanoma in this population. ●

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