Retrospective analysis of melanocytic lesions in children at the National Cancer Institute-RJ*

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Abstract: Skin cancer is the most common neoplasm in Brazil. Melanoma accounts for 4% of these neoplasms. Although childhood melanoma is rare, there is evidence that its incidence is increasing, placing it among the most important public health problems for the future. This work sought to conduct a retrospective review of cases of suspected melanocytic skin lesions in children, their diagnosis and management, and evaluate the sentinel lymph node biopsy method in some cases of cutaneous melanoma.
Keywords: Local lymph node assay; Melanoma; Nevus; Sentinel lymph node biopsy

Cutaneous melanoma accounts for 3–4% of malignant skin neoplasms worldwide. Although it is rare in childhood, evidence suggests its incidence in this age range is increasing.[1,2]

The cornerstone of treatment of primary cutaneous melanoma is wide local excision of the tumor. Excision can be curative in cases of localized disease, but the probability of lymph node involvement increases with lesion thickness. The sentinel lymph node (SLN) is the first lymph node of the lymphatic basin that drains a given area of the body, and nearly always corresponds to the first site of tumor implantation, as dissemination typically occurs in an orderly, sequential fashion. Therefore, SLN biopsy (SLNB) and analysis enables prediction of the status of the entire lymph chain.

In view of the rarity of melanoma in children, doubts remain as to the efficacy of SLNB in this population.[3]

A retrospective chart review study was conducted of all pediatric patients registered at this hospital for assessment of suspicious skin lesions from January 2000 through December 2010.

One hundred and two patients were admitted for assessment of skin lesions in this period and underwent clinical and dermatological examination followed by incisional or excisional biopsy for histopathological analysis as indicated.

Of the 102 charts reviewed, the following conditions were identified after initial assessment and biopsy: 4 cases of junctional melanocytic nevus, 13 cases of compound melanocytic nevus, 3 cases of intradermal melanocytic nevus, 12 cases of Spitz/Reed nevus, 4 cases of atypical nevus, 4 cases of congenital nevus, 1 case of blue nevus, and 22 cases of melanoma. Thirty-nine patients were excluded due to absence of melanocytic lesions (Graph 1).

The male-to-female ratio among patients with melanoma was 1:1. Mean patient age was 7.7 years (range, 8 months–15 years).

Regarding lesion site, the most common location was the trunk (45.5%), followed by the lower limbs (27.3%).

Among patients with melanoma, the Breslow depth ranged from 0.55 to 1.5 mm. SLNB was performed in patients with a Breslow depth of > 1.0 mm (Graph 2). Only one patient had a positive SLNB and subsequently underwent total lymphadenectomy (unilateral axillary lymph node dissection). All patients were receiving outpatient follow-up at the time of writing.

Melanoma is an unusual neoplasm in children, with an annual incidence of 0.7/1,000,000 between the

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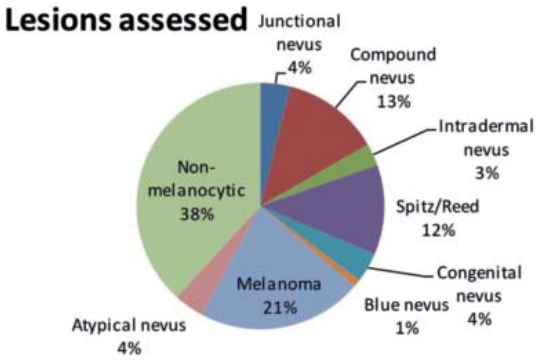
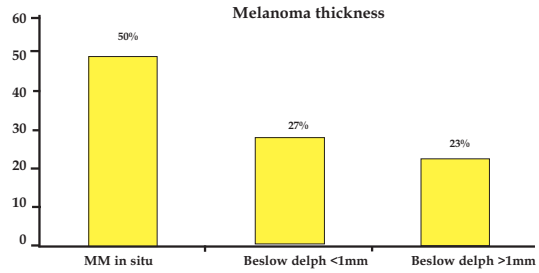


Graph 1: Lesions detected in the study



Graph 2: Distribution of melanoma thickness

ages of 0 and 9 years.

As in the adult population, changes in existing pigmented lesions are the main red flag for the diagnosis of melanoma in childhood. The main changes reported include rapid enlargement, bleeding, discoloration, itching, new-onset lymphadenopathy, and pain.[4,5]

The differential diagnosis of melanoma in children includes Spitz nevus, congenital or traumatized nevus, pyogenic granuloma, dysplastic nevus, traumatized wart, blue nevus, and hemangioma, among other lesions. There is usually no diagnostic suspicion of melanoma in children and adolescents with pigmented lesions, which often leads to a delay in diagnosis or misdiagnosis.[6,7]

As most cancers, melanomas typically have a long latency period, which makes the hypothesis of genetic rather than environmental factors more important in the development of melanoma in children.[8,9]

Although studies of risk factors for melanoma in childhood are limited by the small number of cases, the current evidence suggests a risk factor profile similar to that seen in adults. A sun-sensitive phenotype (fair skin, blond or red hair, light eye color), facial freckling, and proneness to nevus development are particular risk factors for melanoma both in the pediatric population and in adults.[10]

The risk of progression of congenital melanocytic nevus to melanoma is a matter of controversy. In a recent review, Paradela et al. reported that 11.8% of childhood melanomas arose from small congenital nevi and 3.5% from giant congenital lesions.[11] In the series reported herein, none of the cases of childhood melanoma was associated with congenital nevus.

Many reports have demonstrated an increased risk of developing melanoma among children with a large number of acquired melanocytic nevi.[12,13]

Melanoma thickness and invasion level are the most important predictors of long-term survival.[14] Lymph node metastases may develop in up to two-thirds of children with invasive melanoma (Clark level IV or V) or those with a Breslow thickness > 1.0 mm. Therefore, lymph node assessment should be considered.

Research into childhood melanoma is limited by the rarity of the condition. Although no results are available on the impact of SLNB on survival in this patient population, it is a reliable method for microstaging melanoma, bearing in mind that the histopathological status of the SLN is the most important prognostic factor in these patients. It is unquestionably difficult to safely distinguish between Spitz nevus or atypical nevus and melanoma in children, and lesions with this differential diagnosis require thorough assessment for correct management and prognostication. Changes in existing lesions and the development of new lesions must be carefully observed and evaluated both by family members and by physicians (pediatrician and dermatologist).

The assessment and management of children with pigmented skin lesions remain challenging. Multicenter cooperative studies may help elucidate the clinical and epidemiological characteristics and SLNB findings of cutaneous melanoma in children.❑

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