DERMATOPATHOLOGY

CASE REPORT: INVASIVE MELANOMA IN A 5-YEAR-OLD CANADIAN PATIENT

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Background: The distinction of malignant Spitz lesions from the typically benign Spitz nevi is critical for prognosis and clinical management of pediatric patients. Because of morphologic heterogeneity, there is poor concordance amongst clinicians during diagnosis. To aid evaluation, immunostaining and molecular analysis such as comparative genomic hybridization can narrow the differential diagnosis. Due to the limited number of reports demonstrating CGH analysis in diagnosing melanoma in children less than 5 years old, we present a case of a 5-year-old with an atypical Spitzoid lesion on his back.

Observation: A 5-year-old Caucasian male with Fitzpatrick skin type 2 was referred for evaluation of a lesion on the midline of his upper back. The lesion was first discovered at 2 years of age. There was no family history of melanoma. An excisional biopsy was performed. Histologically, the lesion had mitotic figures and poor maturation with descent. HMB45 revealed faint positivity throughout the thickness of the lesion. There was a loss of p16 throughout the lesion, except in the region of the conventional nevus. Array comparative genomic hybridization revealed a gain in chromosome 7p, subthreshold gain in chromosome 7q, loss in chromosome 9, and subthreshold loss in 8p. The loss of chromosome 9 was the most prominent molecular result and directly correlated with the loss of p16 expression demonstrated by immunohistochemistry. These methods of analysis support a diagnosis of invasive melanoma (non-ulcerated, 1.2mm Breslow thickness, mitotic index 1/mm2, Clark's level unspecified, and Stage IB), arising in conjunction with a remnant of conventional melanocytic nevus.

Key Message: This case highlighted the complexity of diagnosing an atypical melanocytic tumour in a 5-year-old patient. To the best of our knowledge, this is the first in Canada to demonstrate the use of array comparative genomic hybridization for diagnosing melanoma in a young pediatric patient.