Malignant melanoma in a 9 year old Sri Lankan girl mimicking pyogenic granuloma

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Abstract

Malignant melanoma is rare in pigmented skin. Rarely it can resemble a Spitz naevus or a pyogenic granuloma. A nine year old girl presented with a pigmented pedunculated lump at the right medial thigh, which morphotogically resembled pyogenic granuloma. However its histo-pathology was consistant with diagnosis of malignant melanoma, nodular type, Clarke's level IV, involving deep margins. Further immunohistochemical assay of S100 was positive.

Case report

A nine year old girl presented to us with a pigmented pedunculated lump at the right medial thigh. This longstanding lesion, which was considered as a birth mark had progressively enlarged over last 3 months. It had become pedunculated and showed profuse bleeding on minor trauma.

On examination it was an irregular lump with 1cm diameter and a wide based peduncle. It was brown in colour. Surface was irregular with some areas of necrosis. Base of the peduncle had an irregular margin and the surrounding skin was apparently 'normal'. A clinical diagnosis of pyogenic granuloma was made and the lesion was excised under local anesthesia and the base was cauterized.

Histopathology of the lesion was consistent with malignant melanoma, nodular type, Clarke's level IV, involving deep margins (Figure 1A). Immuno-histochemical assay of S100 was positive.

On direct inquiry we found that there had been a pigmented lesion of 0.5 cm diameter at the site from the time the parents remember. There was no family history or past history of melanoma. The child was Fitzpatrick skin type V. Her skin was apparently normal and there was no evidence of photosensitivity. On examination, perilesional skin showed slightly dark brown, well demarcated patch on right medial thigh extending from right inguinal margin to 5 cm below the right knee (Figure 2). There was no lymphadenopathy, no hepatosplenomegaly. Histo-pathologic examination of the biopsy from the perilesional skin showed lentigenous proliferation of melanocytes in the basal layer with increased pigmentation. There was no nuclear atypia or naevus cells (Figure 1B).

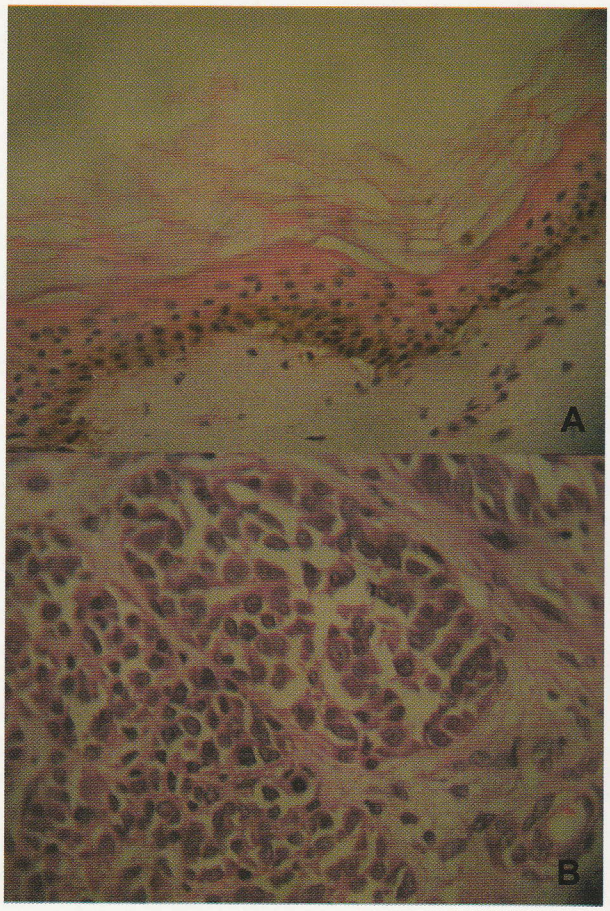

Figure 1A. *(Haematoxylin and Eosin stain × 400) Histology was consistent with malignant melanoma, nodular type, Clarks level IV, involving deep margins. Immunohistochemical assay of S100 was positive.*

Figure 1B. *(Haematoxylin and Eosin stain × 400) Skin biopsy performed from the surrounding pigmented macular lesion showed lentigenous proliferation of melanocytes in the basal layer with increased pigmentation. There were no nuclear atypia or naevus cells.*

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Previous excision scar was re-excised with 1.5 cm margin and infra inguinal block dissection performed. Residual tumour was not identified in any of those tissues. The child had been followed up at the oncosurgery department.

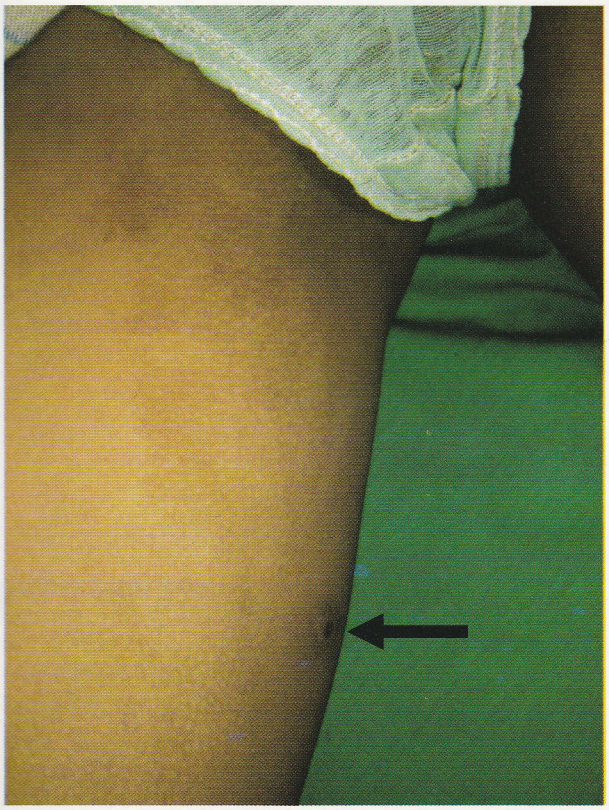

Figure 2. *An arrow shows the excision scar of the melanoma prior to surgical block dissection.*

On close examination of the surrounding skin, slightly dark brown, well demarcated macular area was noticed on right thigh extending from right inguinal margin to 5cm below knee.

Histology of this lesion showed lentigenous proliferation of melanocytes in the basal layer with increased pigmentation. There were no nuclear atypia or naevus cells (Figure 1B).

Discussion

Cutaneous malignant melanoma occurs less frequently among non-pigmented areas. As a result, little is known about the incidence and epidemiology of melanoma among the other racial and ethnic groups. According to California Cancer Registry data, average, annual, age-adjusted incidence rates per 100,000 population were 0.9 for men (M) and 0.8 for women (W) for Asians compared to 17.2 (M) and 11.3 (W) for non-Hispanic Whites[1]. Hispanic, Asian and Black patients were more likely to have been diagnosed with acral lentigenous melanoma[1]. The lower incidence of melanoma in Hispanics, Asians and Blacks can be attributed to the protective effect of darker skin pigmentation. Risk factors for melanoma among non-Whites have not been identified but are believed to be unrelated to sun exposure[2,3].

Malignant melanoma is extremely rare before puberty: however, recent studies show that the incidence may be increasing. 1-4% of all melanomas occur before the age of 20 and 0.3-0.4% of those are before puberty[4-7].

This child presented with a skin nodule clinically resembling a pyogenic granuloma. Several studies have shown that young people often have amelanotic melanomas resembling pyogenic granuloma[6]. Histopathologically high number of nodular melanomas are found in this age group. This may be attributable to a delay in the clinical diagnosis of malignant melanoma in children and young adults. Both pyogenic granuloma and malignant melanoma enlarge rapidly and develop into juicy nodular lesions. Pyogenic granuloma is usually more vascular and bleeds more rapidly. The presence of a pre-existing pigmented lesion in which the nodule has developed is strongly suggestive of an amelanotic malignant melanoma. Because of the clinical similarity between the two lesions, all pyogenic granulomas should be excised urgently and histology report should be evaluated carefully.

Spitz nevi are frequently misdiagnosed as melanomas[8], and the course of the nevi is benign. Spitz nevi are more common in children than in adults and preferentially involve the head and neck. They are almost always less than 1cm across, dome shaped and pink in colour. A Spitz nevus often resembles a verruca or haemangioma. Microscopically, Spitz nevus shares many features with melanomas. Lack of maturation, presence of mitoses in the deeper portion, marked nuclear pleomorphism and hyperchromasia, and expansile architecture in the dermis, strongly support the diagnosis of malignant melanoma.

According to data from the literature including these from German central registry. During the first 10 years of life the occurrence of a melanoma is extremely rare. However the incidents slowly increases after the first decade[6]. Approximately half of all the reported cases of prepubertal melanoma appear to have arisen in giant congenital naevi. The risk of degeneration of a congenital naevus into a melanoma is approximately 0.7%[5].

A high index of suspicion is necessary in order to make a timely diagnosis of melanoma in children. Careful review of all specimens by an experienced dermatopathologist is important. Prompt surgical treatment by individuals with expertise in care of patients with melanoma with potentially curative excision and appropriate lymph node evaluation is important to optimize survival.

References

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