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Case Report

# Pyogenic granuloma-like lesion in children: Should we wait?

**Lai Kuan Chooi, Arman Zaharil Mat Saad, Shamala Durairajanayagam[1]**

Department of Surgery, Reconstructive Science Unit, Universiti Sains Malaysia, Kelantan, [1]Department of Plastic and Reconstructive Surgery, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

**Address for correspondence:** Dr. Lai Kuan Chooi, Reconstructive Science Unit, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia. E-mail: lai_kuan88@hotmail.com

## ABSTRACT

Malignant melanoma is a potentially lethal cutaneous malignancy. Melanoma in paediatrics is rare as compared to adult melanoma. The clinicopathological characteristics of paediatric melanoma are different from adult melanoma, and the presence of melanoma mimics which occurs frequently in children (Spitz naevi) resulted in diagnosis uncertainty. We reported a 9-year-old girl who presented with a slow-growing, pyogenic granuloma-like lesion which was diagnosed with melanoma. It is important to have a high index of suspicion in paediatric skin lesion that would usually be deemed benign. Early tissue biopsy in a suspicious lesion prevents delayed diagnosis and treatment.

## KEY WORDS

Melanoma; paediatrics; pyogenic granuloma; spindle cell nevus

## INTRODUCTION

Malignant melanoma is considered as one of the most serious cutaneous malignancies due to its aggressive behaviour and metastatic potential. The Surveillance, Epidemiology, and End Results (SEER) Programme estimated that the number of new cases for melanoma in the United States in 2016 is 21.8 in 100,000 population, ranking as the sixth most common cancer. On the other hand, melanoma is rare in Malaysia with 320 new cases reported in the Malaysia Cancer Registry from 2007 to 2011. Paediatric population only accounts for 3 out of 61 reported cases in 2007, with the age group between 15 and 19 years.

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Melanoma usually occurs in people of older age group, fair skin complexion and history of prolonged sun exposure. There is also significant risk in those who have personal or family history of melanoma. Melanomas in older children (>10 years) were found to behave similarly to adult melanomas, whereas younger children tend to lack conventional criteria adopted in adults.[1] Clinical diagnosis of paediatric melanoma is challenging as it was demonstrated that dermatologists could only accurately distinguish melanomas from benign lesions in 56.3% of cases.[2] Benign lesions which typically occur in children, particularly Spitz naevi, can histologically mimic melanoma and posing risk of misdiagnosis.[3]



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Even though there are established management guidelines for cutaneous melanoma in adults, melanoma in children is extremely rare and very little information is known of its clinicopathological variations. Fortunately, survival was found to be significantly better in children younger than 10 years, despite having higher median tumour thickness.[3]

## CASE REPORT

A 9-year-old girl presented with a slow-growing lesion at her right posterior forearm for 5 years duration. The lesion was neither preceded by any trauma nor growing from a pre-existing nevus. There was no family history of skin malignancy. The lesion was pedunculated and not pigmented [Figure 1]. Due to increasing pain and contact bleeding, excision biopsy was done by the dermatology team. The histopathological examination (HPE) revealed as malignant melanoma (Breslow thickness T4 and Clark's Stage 4), and the residual tumour was found at the stalk of the lesion.

She was referred to our centre for tumour clearance. Clinically, there was no regional lymph nodes involvement. We performed a wide local excision with 2 cm margin around the previous surgical scar measuring 1 cm × 1 cm at the posterior right arm [Figure 2]. The HPE confirmed residual tumour with clear surgical margins. She is disease free for 2 years with no evidence of local or distant metastasis.

## DISCUSSION

Malignant melanoma in paediatric population is extremely rare and represents 1.3% of all melanoma cases in the United States, with higher incidence among female and non-white patients. The overall increase in the incidence of melanoma in childhood and adolescent was possibly results from UV exposure (both sunlight and tanning facilities), increased case ascertainment due to heightened awareness and overdiagnosis.[1]

The ABCDE criteria for diagnosis of adult melanoma (asymmetry, border irregularity, colour variability, diameter >6 mm, evolution) was found to be inadequate in paediatric group as the features in children are different. Cordoro *et al*.[4] found that 86% of children younger than 10 years had >6 months in delay in diagnosis. This is most likely due to low index of suspicion and atypical presentations. The modified ABCD criteria[4] for children (amelanotic, bleeding, bump, colour uniformity, *de novo* and any diameter) were proposed to facilitate early recognition and treatment in childhood melanoma. E for 'evolution' was found in nearly 100% of the melanomas in children, making it the most important feature. In children younger than 10 years, melanomas were most commonly found in extremities. The features of amelanosis raised lesion and lesional bleeding often lead to an inaccurate pre-biopsy diagnosis of pyogenic granuloma.[3,4]

The resemblance of pyogenic granuloma in childhood melanoma deceives the attending physician. In our case, it was fortunate that she presented with a bleeding pigmented lesion which managed by prompt tissue biopsy. Pyogenic granuloma could be treated with simple procedures such as electrocautery, cryotherapy, $CO_2$ laser vaporisation and pulsed dye laser therapy.[5] Any unsuspicious pigmented lesion in children which is treated with similar approach would be detrimental

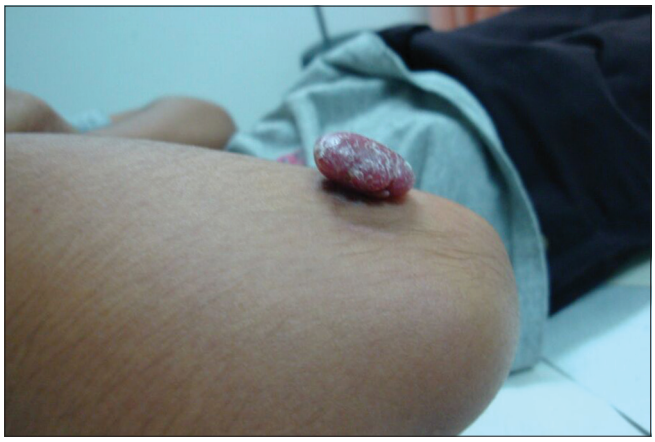

**Figure 1:** Initial lesion before biopsy. A pedunculated lesion at the right posterior forearm which resembled pyogenic granuloma

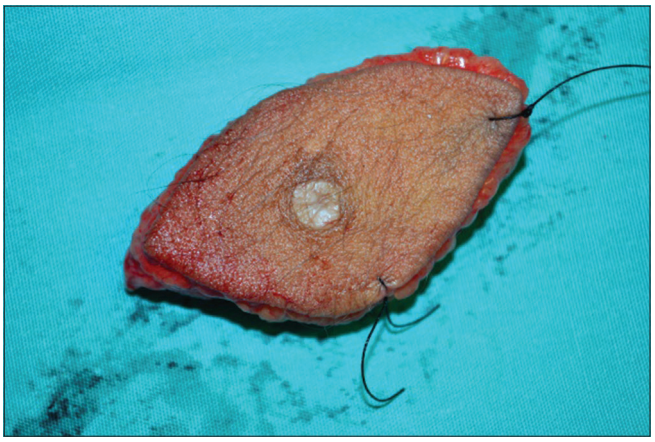

**Figure 2:** Scar from previous biopsy. Wide excision with 2 cm peripheral margin and depth until fascia level

as there would be no available tissue for histological diagnosis.

Paediatric melanomas often present with thicker lesions and nodal positivity than the adolescent and adult patients.[4,6] In younger children, the tumours are associated with more aggressive features such as increased mitotic rate and ulceration.[4] Most paediatric patients were not included in large trials, hence staging and management for paediatric melanoma are extrapolated from the adult guidelines. Sentinel lymph node biopsy (SLNB) has been found to be an important prognostic tool in adult melanoma as positive microscopic nodal involvement carries a poorer survival rate. Conversely, routine SLNB in children is still controversial. The SEER (2004–2011)[7] database showed worse survival in positive SLNB in paediatric melanoma while the National Cancer Data Base (1998–2011)[6] found no significant difference in 5-year overall survival rate. However, both studies found that in node positive melanomas, paediatric patients survived longer than adults.[6,7]

This case was the youngest patient being reported in Malaysia, and it illustrated all the atypical features described by Cordoro *et al*.; amelanotic, bleeding, nodular, uniform colour and arising *de novo*. The fact that she did not have any regional disease despite her delayed presentation (5 years) and higher tumour thickness (Breslow T4) suggested that melanoma in younger children might be a different entity from the adult melanoma or it could be less aggressive.

There is a little knowledge on the management of childhood melanoma in Malaysia due to its rare incidence. The atypical presentation of melanoma in the paediatric group and the uncertainty in the histological diagnosis leads to delayed treatment. We want to highlight the importance of early biopsy and always have a high index of suspicion in evolving skin lesion in children. In cases of doubt, a collaborative discussion with the pathologist is imperative. Meanwhile, the management of paediatric melanoma follows the adults' guidelines and surgical excision is the mainstay of treatment.

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### Conflicts of interest
There are no conflicts of interest.

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