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ORIGINAL ARTICLE

Cyclin D1 expression in acral melanoma: a case control study in Sarawak

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Abstract

Acral melanoma has been reported to have distinctive clinical presentation and ethnic distribution compared to other histological types of malignant melanoma. Acral melanoma also exhibits distinctive focused gene amplifications, including cyclin D1 overexpression. We reviewed archived histological material of malignant melanoma in the Sarawak General Hospital from year 2004 to 2010. 43 tumours, comprising 28 acral melanoma and 15 non-acral melanoma, had sufficient material to be included in the study. The majority (36%) of acral melanoma tumours occurred in the heel. The tumours were analyzed for cyclin D1 expression by immunohistochemistry. 68% of acral melanoma were cyclin D1 positive compared to a positivity of 33% in non-acral tumours. This difference was statistically significant ($p < 0.05$). This finding may improve the histological diagnosis of acral melanoma and detection of positive resection margins.

Keywords: cyclin D1, acral melanoma

INTRODUCTION

Traditionally, morphological and histopathological features of malignant melanoma (MM) have been the mainstay for classification and prognostic evaluation in MM. The availability and the increasing number of molecular markers for MM have potentiated improvement in diagnosis, prognostic factor determination and therapeutics options. They have also enabled the disease to be further categorized in a more detailed and objective manner.

There are established ethnic variations in the incidence and anatomical distribution of MM. Generally, non-Caucasian populations including Malaysians face a lower risk of MM compared to Caucasians.[1,2] Within the Asian population, MM exhibits unique characteristics whereby it is regularly found at non-pigmented areas of the skin i.e. on the palm, soles and under the nail. This distinct variant of MM is known as acral melanoma (AM). AM is defined by the World Health Organization as MM located on the non-hair bearing skin of the palms and soles or the nail bed (Figure 1).[3]

FIG. 1 A subungual acral melanoma of the big toe affecting the nail bed. The arrow points to the dark pigmented tumour mass which occupied and destroyed the nail bed.

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