COMMUNICATION

Histogenetic categorization of atypical melanocytic tumor of uncertain biological malignant potential*

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DOI: http://dx.doi.org/10.1590/abd1806-4841.20187608

Abstract: Several reports have demonstrated difficulties and lack of agreement in the histopathological diagnosis of particular melanocytic lesions, with problems in their management. A histogenetic approach to the study of these lesions originated the following classification: 1. superficial atypical proliferation significance; 2. melanocytic tumor of uncertain potential; 3. pigmented epithelioid melanocitoma of uncertain potential; 4. microinvasive radial growth phase of uncertain potential. The terminology remains controversial, reflecting the uncertainty of the diagnosis and the biological potential of these atypical melanocytic lesions.

Keywords: Dysplastic nevus syndrome; Melanoma; Nevi and melanomas

Although precise histopathological criteria for distinguishing benign from malignant melanocytic lesions have already been established, a precise diagnosis is not always possible. This problem is reflected in the use of various terms coined over the years, such as 'atypical', 'ambiguous' and 'borderline'.[1,2]

The term "atypical melanocytic proliferation of uncertain (oncogenic) biological significance" is the most appropriate terminology to categorize melanocytic proliferations that cannot be classified as benign or malignant. Such a diagnostic uncertainty should be communicated clearly and directly to physicians and to their patients in the histological report. Indeed, such communication is necessary to ensure patients are offered appropriate management options.

Based on the histogenesis of melanocytic lesions, pathologists can classify the lesions into four categories:

1. Superficial atypical melanocytic proliferation of uncertain significance (SAMPUS).[3] This descriptive term may be applied to lesions showing conflicting or borderline features between melanoma and its benign stimulants, such as pigmented spindle cell nevus of Reed accompanied with atypia, a superficial atypical Spitz tumor, actinic lentigines with atypia, and dysplastic nevi with focal areas of confluent or continuous basal lentiginous growth. However, the features of these lesions are insufficient to reach a more definitive diagnosis of benignancy or of a malignant fate. In the histological report, lesions considered in the differential diagnosis must be described so that an optimal, definitive treatment can be performed.

A SAMPUS is characterized by focal invasion of papillary dermis without evidence of tumorigenic nodule and mitogenicity. Consequently, the lesion is not associated with competence for metastasis, and the prognosis is excellent after complete excision of the lesion.

2. Melanocytic tumors of uncertain malignant potential (MELTUMP) include dermal lesions that cannot be classified by morphology as either benign nevi or malignant melanomas, because the mass shows features of both. Several lesions may be classified as

Received 31 August 2017.
Accepted 01 January 2018.
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Financial Support: None.
Conflict of interests: None.

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MELTUMP: atypical Spitz tumor, dysplastic nevi, deep penetrating nevi, congenial nevi, cellular nodules in congenital nevi, possible nevoid melanoma and cellular blue nevi. In such cases, the second opinion of an expert dermatopathologist is necessary. In the histological report, tumor thickness, mitogenicity, and other microstaging attributes must be described.

3. Pigmented epithelioid melanocitoma of uncertain malignant potential (PEMUMP). Pigmented epithelioid melanocytic tumors include three main subtypes: true epithelioid blue nevus, PEMUMP, and tumoral melanosis mimicking the pigmented epithelioid melanoma.[4] This last lesion is similar to the pigmented epithelioid melanocitoma described by Zembowicz at al.[5] In the series of cases analyzed by these authors, the incidence of sentinel lymph node involvement was found in 41% of all cases.

4. Microinvasive radial growth phase of uncertain malignant potential (MRGPUMP). Melanoma may be in a radial or a vertical growth phase. Two categories of radial growth phase (RGP) are recognized: i) *in situ* and ii) microinvasive. The latter category is defined by focal invasion of papillary dermis (Clark level 2 or 3), and by single cells and small nests in the absence of a tumor nodule and mitogenicity. The lesion does not display metastasizing capacity. In our experience, the presence of partial regression may be associated with metastases. For this reason, we consider the microinvasive RGP of uncertain malignant potential when the partial regression is > 75% of the tumor volume. The MRGPUMP corresponds to a clinical thin melanoma of uncertain metastasizing potential (THIMUMP).[6]

The behavior of these lesions is potentially malignant, but features allowing a conclusive diagnosis related to melanocytic malignant tumors are very difficult to find. For this reason, we prefer to use the term PEMUMP. All clinical-pathological attributes and the potential malignant nature of the lesion must be described in the histological report.

In conclusion, this histogenetic categorization of melanocytic borderline tumors should be reported in WHO melanoma classification.[7-10] ❑

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AUTHORS CONTRIBUTION

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Approval of the final version of the manuscript; Conception and planning if the study; Elaboration and writing of the manuscript; Obtaining, analyzing and interpreting the data; Critical review of the literature; Critical review of the manuscript

How to cite this article: Pusiol T. Histogenetic categorization of atypical melanocytic tumour of uncertain biological malignant potential. An Bras Dermatol. 2018;93(**4**):608-9.