COMMENTARY

Unsatisfactory agreement using current classification of maculopapular cutaneous mastocytosis

Mastocytosis is a disease characterized by abnormal accumulation and expansion of tissue mast cells in the skin, bone marrow or other organs.[1] Cutaneous (CM) and systemic forms (SM) of mastocytosis have been distinguished.[1] CM is usually diagnosed in childhood and has a good prognosis with regression of skin lesions during puberty. Recently, many adults with mastocytosis are identified because of hymenoptera venom anaphylaxis together with increased baseline serum tryptase levels, even without skin lesions. However, in most adults, mastocytosis is still diagnosed because of their cutaneous manifestations.[2] The 2001 WHO classification divided CM into maculopapular CM (urticaria pigmentosa, UP, MPCM), the most common form in children and adults, diffuse cutaneous mastocytosis (DCM) and solitary mastocytoma in childhood-onset mastocytosis, which is still valid. Skin lesions differ between children and adults with mastocytosis[3] and may have some value in making a prognosis for disease progression or regression[2]: although the extent and maximum density of MPCM skin lesions are comparable between children and adults, children have a significantly higher diameter of lesions, a different predominant distribution more often involving the head and show a more variable clinical picture.[3] Based on dermatological morphological criteria, a plaque and a nodular form have been delineated in children and a telangiectatic subvariant (also referred to as telangiectasia macularis eruptiva perstans, TMEP) in adults.[4] The existence of the latter as singular entity has meanwhile been questioned by our expert group, but has brought attention to the existence of more erythematous less pigmented lesions in adult MPCM.

In 2016, a prognostic simplistic consensus subclassification for MPCM has been proposed defining two variants: (i) a monomorphic variant, typically seen in adult patients, presenting with macules or papules of 3–5 mm diameter or (ii) a polymorphic variant with larger lesions of variable size, colour and shape, often asymmetric and typically seen in children.[5] The hypothesis, backed up by initial evidence, is that monomorphic lesions in children indicate the presence of systemic disease and persistence of mastocytosis into adulthood, whereas polymorphic lesions might correspond to a good prognosis.

The study by Torrelo *et al.*[6] in this issue of the Journal describes their experience with the validation of this classification. They presented pictures of 19 sample cases with childhood mastocytosis to 10 European or US experts experienced with mastocytosis and asked them to classify these cases. Pictures were also displayed to 129 general dermatologists after explaining, reading and discussing the relevant text in the consensus report for 15 min and showing the examples presented in it. The value of kappa interobserver variability coefficient for the 10 experts was 'fair' and for the group of 129 dermatologists 'slight'. This has been considered inadequate because of missing agreement among experts and dermatologists far below expectations for a satisfactory classification system. This is highly disturbing as unambiguity is needed for a good classification.

The outcome signals a need for readjustment or for a different classification system. The definition of polymorphic and monomorphic variants has been insufficiently explained, is mostly intuitive and may be misleading. Clear instructions on how (i) shape, (ii) colour and (iii) size should be measured objectively and exactly which criteria clearly distinguish polymorphic from monomorphic are lacking. For dermatologists, this terminology may be confusing. 'Polymorphism' describes the occurrence of two or more clearly different morphs or forms. The diagnosis 'polymorphic light dermatosis' depicts that the same disease may show different morphological patterns in different patients. The term 'polymorphic lesions' describes lesions of different shapes and sizes in one given patient. However, the degree of difference needed to call lesions 'polymorphic' remains undefined, as reflected by the results of the study.[6]

We dermatologists make our diagnoses based on morphology and on our nomenclature of patterns and features. Thus, we specify distribution and lesion morphology, such as macules, papules, plaques, nodules or tumours, often with objective parameters such as sizes, colours and shapes to describe a patient precisely. Although using monomorphism versus polymorphism of shape, colour and/or size in the same patient may be a key for MPCM classification, it may not present the best possible system, as it does not follow the dermatologist's way of thinking and leads to disagreement among observers. For dermatologists, it would come much more natural to use the commonly used terminology defining subcategories of macular, papular, nodular or plaque forms for describing the phenotype of a given patient. One simple possibility for a two-category approach might be by size alone, for example small-sized individual lesions ≤6 mm also allowing confluence to larger patches versus individual lesions >6 mm, which at least would be measurable, understandable and lead to a better agreement among observers.

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