



MELANOMA AND MELANOCYTIC NAEVI

MORPHOLOGICAL CLASSIFICATION OF MELANOMA METASTASIS WITH REFLECTANCE CONFOCAL MICROSCOPY

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Introduction: Cutaneous malignant melanoma metastases (CMMMs) differential diagnosis is challenging, as clinical and dermoscopic features can simulate primary melanoma or other benign or malignant skin neoplasms, and in-vivo reflectance confocal microscopy could assist.

Objective: To identify specific reflectance confocal microscopy features for cutaneous malignant melanoma metastases, and epidermal and dermal involvement.

Material and methods: A retrospective, multi-center, observational study of lesions with proven CMMM diagnosis between January 2005 and December 2016. Lesions were retrospectively assessed according to dermoscopic characteristics and morphological features observed at reflectance confocal microscopy. Potential homogeneous subgroups of epidermal or dermal involvement were investigated with cluster analysis.

Results: Cutaneous malignant melanoma metastases (51 lesions in 29 patients) exhibited different frequencies of features according to metastasis dermoscopy patterns. Lesions classified at dermoscopy with nevus-like globular and non-globular patterns are more likely to be epidermotropic, showing characteristics of epidermal and dermal involvement and other dermoscopy pattern classifications were more likely to be dermotropic, in the majority of cases displaying diagnostic features. Distinguishing features at reflectance confocal





microscopy included irregular (78%) and altered (63%) epidermis, pagetoid infiltration (51%), disarranged junctional architecture (63%), non edged papillae (76%), dense and sparse, and cerebriform nests in the upper dermis (74%), and vascularity (51%). Cluster analysis identified 3 groups, which were retrospectively correlated with histopathological diagnoses of dermotropic and epidermotropic diagnoses ($p < 0.001$). The third cluster represents lesions with deep dermis morphological changes, which were too deep for evaluation with reflectance confocal microscopy.

Conclusions: Specific reflectance confocal microscopy features of cutaneous malignant melanoma metastases for correct diagnosis, and subtype diagnosis, seems achievable in most cases where morphological alterations are located above the deep dermis.

