Dermoscopic difficult lesions: an objective evaluation of reflectance confocal microscopy impact for accurate diagnosis.


ABSTRACT

BACKGROUND: Early detection of melanoma is the main objective to ensure a high survival rate. In some cases melanoma diagnosis still remains difficult and this leads to unnecessary excisions.

OBJECTIVE: The aim of this study was to detect the most relevant Reflectance confocal microscopy (RCM) features for the detection of dermoscopic difficult melanomas. METHOD: A total of 322 lesions were selected from database and were evaluated on dermoscopy according to the 7-point checklist score, in blind from histological diagnosis. We classified the lesions into three categories: (i) 'featureless' lesions with score ranging between 0 and 2; (ii) 'positive-borderline' moles with score between 3 and 4 and (iii) 'positive-clear cut' lesions with score from 5 to 10. We evaluated confocal features of the 'featureless' lesions and of the 'positive-borderline' lesions. Evaluated confocal features were as follows: presence of pagetoid cells, cell shape (roundish or dendritic) and number (< 5 or >5 cells per mm2), overall architecture (ringed, meshwork, clods and non-specific pattern); architectural disorder, presence of cytological atypia (>5 cells per mm2) and cells arranged in nests. RESULTS: Among 322 lesions 70 were melanomas and 252 were nevi. According to the classification based on the 7-point checklist score, 130 'featureless lesions' (score 0-2) including six melanomas, and 102 'positive-borderline' moles (score 3-4) including 17 melanomas, were identified. Round pagetoid cells >5 cells per mm2 and/or architectural disorder on RCM were found in all of six melanomas and 102 'positive-borderline' moles (score 3-4) including 17 melanomas, were identified. Round pagetoid infiltration and five or more atypical cells at the DEJ were found in 16 positive 'borderline melanomas'. CONCLUSIONS: RCM represents a rapid non-invasive technique that can aid early diagnosis of dermoscopic difficult melanomas. Use of RCM on lesions with clinical and/or dermoscopic suspect of malignancy may reduce the number of unnecessary excision increasing the rate of accurate diagnoses.