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Reflectance confocal microscopy features of BRAF V600E mutated thin melanomas detected by immunohistochemistry.

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ABSTRACT

The classification of melanoma into four histological subtypes has been questioned regarding its clinical validity in providing relevant information for treatment for metastatic tumors. Specific genetic alterations are associated with particular clinical and histopathological features, suggesting that these could be helpful in refining existing melanoma classification schemes. We analyzed BRAF V600E mutated melanomas to explore the Reflectance confocal microscopy (RCM) utility as a screening aid in the evaluation of the most appropriate patients for genetic testing. Thus, 32 melanomas were assessed regarding their BRAF V600E mutational status. Experts blinded to dermoscopic images and V600E immunohistochemistry results evaluated RCM images regarding previously described melanoma features. BRAF positive melanomas were related to younger age ($p = 0.035$), invasive melanomas ($p = 0.03$) and to the presence of hyporreflective cells ($p = 0.02$), epidermal nests ($p = 0.02$), dermal-epidermal junction nests ($p = 0.05$), edged papillae ($p = 0.05$), and bright dots ($p = 0.05$), and to absence of junctional thickening due to isolated cells ($p = 0.01$) and meshwork ($p = 0.02$). This study can not characterize other mutations in the BRAF, because the immunohistochemistry is specific to the type V600E. The findings should encourage the genetic evaluation of BRAF mutation. This study highlights the potential of RCM as a supplementary tool in the screening of BRAF-mutated melanomas. PMID:28662062 DOI:10.1371/journal.pone.0179745 Free full text