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Second primary melanomas treated with BRAF blockers: study by reflectance confocal microscopy.

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ABSTRACT

Background: New primary melanomas arising in patients with stage IV melanoma and receiving BRAF inhibitors have recently been reported. This raises the question of the nature of the earliest cellular events identifiable within pre-existing moles.

Objectives: To use reflectance confocal microscopy (RCM) to investigate changing moles in patients using vemurafenib. **Methods:** In the first part of the study 23 lesions were examined by RCM before excision (performed because of digital dermoscopy changes) and histopathological examination. In the second part, 10 randomly chosen lesions in two patients were examined before and after 3 months of vemurafenib treatment. **Results:** The first step permitted the highlighting of an unusual RCM pattern identified in five lesions characterized by areas of marked atypia in otherwise nondysplastic lesions. In the second step, four initially nondysplastic lesions developed focal or multifocal areas of marked atypia under treatment, which were not always correlated with digital dermoscopy changes, but did correlate with histopathology. All four lesions were finally diagnosed as melanomas. **Conclusions:** Although the clinical relevance of such findings remains questionable, RCM allowed us to observe, at the cellular level, the earliest events occurring within vemurafenib-induced changing moles. Moreover, repeated RCM examinations permitted to confirm that microscopic marked atypia that led to the histopathological diagnosis of melanoma appeared under treatment and were not pre-existing.