Perioperative confocal microscopy of the nail matrix in the management of in situ or minimally invasive subungual melanomas.


ABSTRACT

BACKGROUND: Although dermoscopy of the nail plate is helpful to discriminate between benign and malignant causes of nail pigmentation, there remain ambiguous cases in which a matricial biopsy is required. When a subungual melanoma is diagnosed histopathologically, a complementary surgical treatment is performed secondarily, the duration of postoperative disability being accordingly prolonged.  

OBJECTIVES: The purpose of our study was to evaluate the feasibility of an intraoperative diagnosis by reflectance confocal microscopy (RCM).  

PATIENTS AND METHODS: Our series included nine consecutive patients who underwent a matricial biopsy for an acquired melanonychia (one benign lentigo and eight melanomas). RCM examination was performed in vivo on the nail matrix after retraction of the nail plate, and/or ex vivo on the fresh tissue biopsy. RCM data were compared with histopathology.  

RESULTS: There was a good correlation between confocal and histopathological features. Seven melanoma cases were unequivocally diagnosed intraoperatively according to the confocal features, whereas the lentigo was correctly classified as a benign lesion according to RCM. The remaining lesion could not be unequivocally classified by RCM and corresponded histopathologically to an early melanoma that required immunostaining to be diagnosed.  

CONCLUSIONS: Intraoperative RCM examination of the nail matrix is an efficient diagnostic approach of melanonychia striata that permits an extemporaneous diagnosis of malignancy and therefore a one-step surgical treatment of in situ or minimally invasive melanoma, reducing dramatically the duration of postoperative disability.