

## Medical > In Vivo > Melanoma & Pigmented Lesion Research

### 2019 In Vivo Confocal Microscopic and Histopathologic Correlations of Dermoscopic Features in 202 Melanocytic Lesions

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#### ABSTRACT

**OBJECTIVES:** To identify in vivo microscopic substrates of the dermoscopic patterns of melanocytic lesions and to correlate them with histopathologic features.

**DESIGN:** Before excision, lesion areas that showed characteristic dermoscopic patterns were imaged by dermoscopy and confocal microscopy and directly correlated with histopathologic features.

**SETTING:** Departments of Dermatology of the University of Modena and Reggio Emilia and Hospital Clínic of Barcelona,

between July 2006 and March 2007. Patients with 202 melanocytic lesions, corresponding to 76 melanomas, 114 nevi, and 12 Spitz or Reed nevi.

**MAIN OUTCOME MEASURES:** Correlation of dermoscopic

patterns in melanocytic lesions with confocal microscopic findings and conventional histopathologic findings.

**RESULTS:** Characteristic architectural and cytologic substrates were identified in vivo with the use of confocal microscopy and correlated with histopathologic features. Pigment network atypia was evidenced through confocal microscopy as a disarrangement of dermoepidermal junction architecture and cellular atypia. Pigmented globules consisted of cell clusters, corresponding to melanocytic nests identified on histopathologic analysis. Black dots correlated with intraepidermal reflective spots or with large pagetoid cells in nevi and melanoma, respectively. Blue structures usually consisted of numerous pleomorphic cells, corresponding to malignant melanocytes and inflammatory cells in melanomas, whereas plump bright cells, corresponding to melanophages on histopathologic analysis, characterized benign lesions. Within regression, a retiform distribution of collagen fibers, which sometimes intermingled with melanophages and rarely with nucleated cells, was observable.

**CONCLUSIONS:** The knowledge of the cytologic and architectural aspects of the different dermoscopic patterns, as they appear by in vivo confocal microscopy, may guide the user to the identification of specific substrates in melanocytic lesions and consequently the interpretation of the dermoscopic

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features.