

Medical > In Vivo > Melanoma & Pigmented Lesion Research

224 In Vivo Confocal Scanning Laser Microscopy of a Series of Congenital Melanocytic Nevi Suggestive of Having Developed Malignant Melanoma

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ABSTRACT

OBJECTIVE: To determine the utility of confocal scanning laser microscopy (CSLM) in the in vivo evaluation of congenital melanocytic nevi (CMNs) that are suggestive of having developed melanoma.

DESIGN: The CMNs suggestive of melanoma by clinical and dermoscopic examination were imaged by CSLM, and the findings correlated with the features seen on dermoscopic and histologic examination.

SETTING: Dermatology clinic specializing in pigmented lesions.

PATIENTS: Seven patients with clinically irregular small to medium CMNs.

INTERVENTIONS: The areas imaged by CSLM were sampled with 3-mm punch biopsy specimens. The entire lesion was subsequently excised. The punch biopsy specimens were step sectioned horizontally to correlate with the CSLM images. Excised samples were step sectioned and processed routinely. Histologic features observed on CSLM were correlated with the features seen on dermoscopic and light microscopic examination.

MAIN OUTCOME MEASURE: Correlation of the structures seen using CSLM with the dermoscopic and histologic features of CMNs and melanoma.

RESULTS: The CSLM illustrated histologic characteristics of CMNs, including the presence of hyperpigmented keratinocytes, nevus cells, melanophages, and a normal "honeycomb" epidermal architecture. Features suggestive of melanoma were not evident by CSLM in 6 histologically proven benign CMNs. Histologic features associated with melanoma, such as an increased number of intraepidermal atypical melanocytes (pagetoid) and loss of normal epidermal cellular architecture, were identified by CSLM in 1 lesion, which on histologic analysis revealed melanoma in association with a

CMN.

CONCLUSION: Our results illustrate that CSLM may be useful for clinicopathologic correlations and for the preliminary noninvasive diagnosis of pigmented neoplasms in vivo.