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Real-time in vivo confocal laser scanning microscopy of melanin-containing cells: A promising diagnostic intervention.

Xiang W, Song X, Peng J, Xu A, Bi Z, Microsc Res Tech. 2015 Dec;78(12):1121-7. doi: 10.1002/jemt.22594.

ABSTRACT

The use of noninvasive imaging techniques to evaluate different types of skin lesions is increasing popular. In vivo confocal laser scanning microscopy (CLSM) is a new method for high resolution non-invasive imaging of intact skin in situ and in vivo. Although many studies have investigated melanin-containing cells in lesions by in vivo CLSM, few studies have systematically characterized melanin-containing cells based on their morphology, size, arrangement, density, borders, and brightness. In this study, the characteristics of melanin-containing cells were further investigated by in vivo CLSM. A total of 130 lesions, including common nevi, giant congenital pigmented nevi, vitiligo, melasma, melanoma, and chronic eczema, were imaged by in vivo CLSM. This research helps dermatologists understand the characteristics of melanin-containing cells and facilitate the clinical application of melanin-containing cells in the investigation of dermatological disease. In summary, melanin-containing cells include keratinocytes, melanocytes, macrophages, and melanocytic skin tumor cells. Our study presents the CLSM characteristics of melanin-containing cells to potentially facilitate in vivo diagnosis based on shape, size, arrangement, density, borders, and brightness. *Microsc. Res. Tech.* 78:1121-1127, 2015. © 2015 Wiley Periodicals, Inc. © 2015 Wiley Periodicals, Inc. Keywords: confocal laser scanning microscopy; melanin; melanoma; nevus; vitiligo PMID: 26515646