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### 216 | The Diagnostic Accuracy of In Vivo Confocal Scanning Laser Microscopy Compared to Dermoscopy of Benign and Malignant Melanocytic Lesions: A Prospective Study

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#### ABSTRACT

**BACKGROUND:** The diagnosis of melanoma at an early, curable stage is an important challenge for clinicians. Confocal scanning laser microscopy (CSLM) is a high-resolution, noninvasive technology that may facilitate improved diagnostic accuracy over clinical examination. The aim of this study was to evaluate the diagnostic accuracy of CSLM compared to dermoscopy in a prospective examination of benign and malignant melanocytic lesions.

**METHODS:** 125 patients with suspicious pigmented lesions were prospectively recruited to undergo a clinical, dermoscopic and CSLM examination. A diagnosis was made preoperatively with each technique, and the lesion was then excised and diagnosed using histopathology.

**RESULTS:** 125 patients with 125 lesions were studied comprising 88 melanocytic nevi and 37 melanomas. Dermoscopy had a sensitivity of 89.2%, a specificity of 84.1%, a positive predictive value of 70.2% and a negative predictive value of 94.9%. CSLM was found to have a sensitivity of 97.3%, a specificity of 83.0%, a positive predictive value of 70.6% and a negative predictive value of 98.6%. No melanomas were misidentified when both techniques were used together.

**CONCLUSIONS:** CSLM had a relatively higher sensitivity than dermoscopy; however, the specificity was similar with CSLM and dermoscopy. These results suggest that dermoscopy and CSLM are complementary.