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Statistical evaluation of epiluminescence microscopy criteria for melanocytic pigmented skin lesions.

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BACKGROUND: Epiluminescence microscopy (ELM) is a noninvasive technique by which the clinical diagnosis of pigmented skin lesions (PSL) can be improved. Many ELM criteria have been described, but their significance in the differential diagnosis of PSL has not yet been established. OBJECTIVE: The purpose of this study was to determine the value of ELM criteria in the differential diagnosis of PSL. METHODS: Two hundred one melanocytic PSL (61 common nevi, 60 dysplastic nevi, and 80 melanomas) were investigated with ELM for the presence of certain ELM criteria; their significance was determined by calculating the odds ratios. RESULTS: Individual ELM criteria have different weights of significance in the differential diagnosis of melanocytic PSL. Selected patterns of ELM criteria adjusted to the distinct types of PSL considerably improve the diagnostic accuracy of melanocytic PSL. CONCLUSION: The prevalence of certain distinct ELM criteria in a given melanocytic PSL has statistical value in differential diagnosis.