

Epiluminescence microscopy for the diagnosis of doubtful melanocytic skin lesions: Comparison of the ABCD rule of dermatoscopy and a new 7-point checklist based on pattern analysis (Article)

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Abstract

Objective: To compare the reliability of a new 7-point checklist based on simplified epiluminescence microscopy (ELM) pattern analysis with the ABCD rule of dermatoscopy and standard pattern analysis for the diagnosis of clinically doubtful melanocytic skin lesions. **Design:** In a blind study, ELM images of 342 histologically proven melanocytic skin lesions were evaluated for the presence of 7 standard criteria that we called the 'ELM 7-point checklist.' For each lesion, 'overall' and 'ABCD scored' diagnoses were recorded. From a training set of 57 melanomas and 139 atypical non-melanomas, odds ratios were calculated to create a simple diagnostic model based on identification of major and minor criteria for the '7-point scored' diagnosis. A test set of 60 melanomas and 86 atypical non-melanomas was used for model validation and was then presented to 2 less experienced ELM observers, who recorded the ABCD and 7-point scored diagnoses. **Settings:** University medical centers. **Patients:** A sample of patients with excised melanocytic lesions. **Main Outcome Measures:** Sensitivity, specificity, and accuracy of the models for diagnosing melanoma. **Results:** From the total combined sets, the 7-point checklist gave a sensitivity of 95% and a specificity of 75% compared with 85% sensitivity and 66% specificity using the ABCD rule and 91% sensitivity and 90% specificity using standard pattern analysis (overall ELM diagnosis). Compared with the ABCD rule, the 7-point method allowed less experienced observers to obtain higher

diagnostic accuracy values. Conclusions: The ELM 7-point checklist provides a simplification of standard pattern analysis because of the low number of features to identify and the scoring diagnostic system. As with the ABCD rule, it can be easily learned and easily applied and has proven to be reliable in diagnosing melanoma.