TELEDERMATOLOGY

A TELEDERMATOLOGY WEB PLATFORM FOR EARLY MELANOMA DETECTION: THE IDSCORE PROJECT

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Introduction: The clinical diagnosis of melanoma could be challenging and dermoscopy increases the diagnostic accuracy of clinical examination. The iDScore checklist was designed as an integrated clinical-dermoscopic risk scoring system aimed to support dermatologists dealing with clinically and dermoscopically difficult melanocytic skin lesions suggestive for melanoma. The training and first testing set were developed with expert dermoscopists over a dataset of 435 lesions (134 early melanomas and 301 atypical nevi) with a high diagnostic accuracy (area under the ROC curve of 0.90).

Objective: We aimed to test the iDScore in a tele-dermatology setting.

Materials and Methods: The iDScore was tested over a large dataset of 980 standardized images (namely, 317 early melanomas and 663 atypical nevi) in a tele-dermatology setting. A total of 106 participants with different dermoscopy skill levels were recruited from different European countries. Through a dedicated web platform, participants were required to test their diagnostic ability of 30 randomly assigned images, using both iDScore-aided diagnosis, pattern analysis, ABCD rule and 7-point-checklist.

Results: The iDScore resulted to have the higher diagnostic accuracy (area under ROC

curve: 0.78).

Conclusions: The iDScore is a new approach combining clinical and dermoscopy information for the diagnosis of melanoma. The iDScore web-platform that was used to test the iDScore in a tele-dermatology setting could be a useful tool for dermoscopic education and training of dermatologists.