

Materials and Methods

Sample Selection

Participating centers (9 institutions from Spain, France, and Italy) contributed clinical and dermoscopic images of histopathologically proven melanomas that included “seborrheic keratosis” in the routine presurgical clinical differential diagnosis. The dermoscopic set contained either polarized or nonpolarized images, most of them being polarized; however, technical data were not required from the contributors. The Institutional Review Board exempted this study from review because all images of lesions remained anonymous, patients consented for photography at their respective clinical centers, and data were deidentified by numbers.

Clinical and Dermoscopic Evaluation of Tumors

In order to keep the blinded evaluation and to enrich the series of tumors, the collected SK-like MM cases were admixed with a representative sample of other melanomas and benign skin lesions obtained from the image archives of the University Hospital in Barcelona and randomly divided into 2 test sets.

The first set was presented in powerpoint format on a large screen to participants attending a scientific dermatology meeting at the University Dermatology Department in Barcelona, Spain. The second set was presented in the same way during another unrelated meeting at the University Dermatology Department in Barcelona, Spain. In both meetings, attendees were mainly dermatologists and dermatology residents.

For each test set, participants were asked to define the lesion in each image shown as either benign or melanoma on an individual answer sheet, assessing as a first step the clinical image and in a following second step, the clinical and dermoscopic image. The participants were not aware of the study’s aim or the inclusion criteria of the tumor images shown. Since tests evaluated different collections of tumors on different days, they were considered as independent evaluations. The participants’ diagnostic accuracy was assessed by means of clinical and dermoscopic sensitivity and

specificity, respectively. Both years of clinical and dermoscopic experience, gender, and age of respondents were also gathered. To get 2 comparable groups of participants in terms of statistical issues and to assure a homogeneous group of quite well-trained dermoscopists by experts, it was decided to use a cutoff of 6 years of experience. Dermoscopically trained practitioners were defined as “experienced in dermoscopy” if they had practiced dermoscopy for 6 or more years, including dermoscopic courses and training by experts for several years. “Novices” were defined as those with less than 6 years of dermoscopy experience, without sufficient training by experts in dermoscopy.

Statistical Analysis

Statistical analysis was performed using SPSS 22.0 software (IBM, Chicago, IL, USA). The mean (and standard deviation) number of respondents who made a correct diagnosis of each lesion was recorded; additionally, the mean number of misdiagnoses of SK-like melanomas was evaluated. Levels of sensitivity and specificity of clinical and dermoscopic evaluations given by respondents were assessed. The Student *t* test mean comparisons for independent groups and for paired groups (with and without dermoscopy) were tested. Linear correlation was applied to evaluate differences in diagnostic accuracy according to years of clinical and dermoscopic experience both as continuous variables.