REVIEW ARTICLE

Meta-analysis of digital dermoscopy follow-up of melanocytic skin lesions: a study on behalf of the International Dermoscopy Society

G. Salerni,[1,*] T. Terán,[2] S. Puig,[3,4] J. Malvehy,[3,4] I. Zalaudek,[5,6] G. Argenziano,[6] H. Kittler[7]

[1]Department of Dermatology, Hospital Provincial del Centenario de Rosario, Universidad Nacional de Rosario, and
[2]Chair of Biostatistics, Facultad de Ciencias Veterinarias, Universidad Nacional de Rosario, Rosario, Argentina
[3]Melanoma Unit, Department of Dermatology, Hospital Clinic of Barcelona, and
[4]Centre of Biomedical Research on Rare Diseases (CIBERER), ISCIII, Barcelona, Spain
[5]Department of Dermatology, Medical University of Graz; Graz, Austria
[6]Dermatology and Skin Cancer Unit, Arcispedale Santa Maria Nuova IRCCS, Reggio Emilia, Italy
[7]Department of Dermatology, Medical University of Vienna, Vienna, Austria
*Correspondence: Gabriel E. Salerni. E-mail: gabrielsalerni@hotmail.com

Abstract

It has been demonstrated that dermoscopic monitoring of melanocytic lesions allows for the recognition of melanoma in early stages while minimizing the excision of benign lesions. However, it is still pending to determine the real impact of digital follow-up in the clinical management of pigmented lesions. To assess the evidence of follow-up of melanocytic skin lesions with digital dermoscopy in the management of individuals at risk for melanoma by performing a meta-analysis. *Medline* database was screened, no limits in terms of date or language were applied. Original studies were selected when the following criteria were met: performed in clinical setting with clinical and dermoscopic evaluation made by physicians, data regarding population characteristics included, follow-up strategy used described. Fourteen of 145 retrieved references were retained. Included studies account for a total of 5787 patients (mean 445 per study) and 52 739 lesions monitored (mean per study 4057; range 272–11 396) with a mean of 12 lesions monitored per patient; a total of 4388 lesions (8.3%) were excised. The mean length of follow-up was 30 months. A mean of <1 lesion was excised per patient along the surveillance period. The number needed to monitor (NNM) ranged from 31 to 1008 (mean: 348) among eligible studies. For every additional month of monitoring, 1additional melanoma was detected. Using digital dermoscopy follow-up, the proportion of *in situ* melanoma and thin melanomas are higher than expected in general population. Chances to detect a melanoma during surveillance increase as the length of follow-up extends.

Received: 29 August 2012; Accepted: 9 October 2012

Conflict of interest

None reported.

Funding source

The work of J. Malvehy and S. Puig is partially supported by Fondo de Investigaciones Sanitarias (FIS grant 09/1393).

Introduction

Early recognition is the most effective intervention to improve melanoma prognosis.[1] It has been demonstrated that dermoscopy improves the diagnostic accuracy of cutaneous neoplasms, and to date, three meta-analyses concluded that dermoscopy is more accurate than naked eye examination for the diagnosis of cutaneous melanoma.[2–4] Nevertheless, melanoma may be not only clinically but also dermoscopically indistinguishable from melanocytic nevi, especially in incipient lesions in which specific criteria for malignancy may not be present.[5]

On the basis that benign lesions remain stable whereas melanoma tend to change over time, digital follow-up of melanocytic lesions has been proposed as a strategy to recognize melanomas that may lack distinct dermoscopic features at baseline.[6]

Over the last few years, several studies have been published concerning digital follow-up of melanocytic lesions, and their results