Actas Dermosifiliogr. 2008;99:44-53

ORIGINAL ARTICLE

Dermoscopic Study of Cutaneous Malignant Melanoma: Descriptive Analysis of 45 Cases

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Abstract. *Introduction*. Dermoscopy or epiluminescence microscopy is a novel in vivo technique that can be used for the diagnosis of pigmented cutaneous lesions. The aim of this study was to analyze the dermoscopic patterns observed in a consecutive series of primary cutaneous melanomas.
Material and methods. A cross-sectional study was carried out in which clinical, histological, and dermoscopic characteristics were analyzed in 45 primary melanomas.
Results. Two thirds of the series were thin melanomas and 50 % were in situ melanomas. According to the ABCD rule, there was clinical suspicion of melanoma in 72 % of the lesions. Specific dermoscopic patterns were observed in 93 %. A multicomponent pattern was the most commonly observed (71 %). A nonspecific pattern was observed in 7% of lesions. The most noteworthy local findings were irregular pigmented patches (80 %), irregular dots and globules (68 % and 62 %), atypical pigmented network (57 %), blue-gray veil (42 %), and radial streaming and pseudopods (20 %). In addition, hypopigmented areas (86 %), regression structures (80 %), and vascular abnormalities (73 %) were also often seen. Acral lesions presented patterns characteristic of these sites.
Conclusion. Analysis of dermoscopic patterns aids early definitive diagnosis of melanoma and is particularly useful in the case of clinically indolent lesions. Dermoscopic findings provide information complementary to that obtained by conventional histology.

Key words: dermoscopy, epiluminescence microscopy, malignant melanoma.

ESTUDIO DERMOSCÓPICO DEL MELANOMA MALIGNO CUTÁNEO: ANÁLISIS DESCRIPTIVO DE 45 CASOS

Resumen. *Introducción.* La dermatoscopia o microscopía de epiluminiscencia es una novedosa técnica de microscopía *in vivo* útil para el diagnóstico de las lesiones pigmentadas cutáneas. El objetivo del presente trabajo es analizar los patrones dermoscópicos de una serie consecutiva de melanomas cutáneos primarios.
Material y métodos. Se trata de un estudio de corte transversal, en el que se analizan las características clínicas, histológicas y dermoscópicas de 45 melanomas primarios.
Resultados. Las dos terceras partes de la serie eran melanomas de espesor fino y el 50% melanomas *in situ*. Clínicamente, el 72 % de las lesiones eran sospechosas de melanoma (regla ABCD). Dermoscópicamente, el 93% presentaron patrones dermoscópicos específicos. El patrón global más frecuente fue el multicomponente (71 %). El 7% de las lesiones mostraron un patrón inespecífico. Los hallazgos locales más destacables fueron las manchas de pigmento irregulares (80 %), el retículo pigmentado atípico (57 %), los puntos y glóbulos irregulares (68 y 62 %), las proyecciones radiales/pseudópodos (20 %) y el velo azul-gris (42 %). Además, destacó la presencia de áreas hipopigmentadas (86 %), estructuras de regresión (80 %) y vascularización atípica (73 %). Las lesiones acras mostraron patrones característicos de estas localizaciones.
Conclusión. El análisis de patrones dermoscópicos facilita el diagnóstico de certeza del melanoma en estadios precoces, y es particularmente útil en lesiones poco expresivas clínicamente. La identificación de hallazgos dermoscópicos ofrece información complementaria al estudio histológico convencional.

Palabras clave: dermatoscopia, microscopía de epiluminiscencia, melanoma maligno.

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Manuscript accepted for publication June 12, 2007.

Introduction

Malignant cutaneous melanoma is 1 of the tumors whose incidence and mortality have risen most rapidly during the last few decades in Spain.[1] Early diagnosis of melanoma is a key objective, given the malignant potential of the tumor and the lack of effective treatments for advanced disease.[2]

Clinicians can diagnose 65% to 80% of melanomas correctly using the ABCD (asymmetry, border, color, diameter) rule.[3] However, the onset of some melanomas seems to have little clinical relevance and can go undetected by an expert.

Dermoscopy, or epiluminescence microscopy, is a simple in vivo technique that enables us to visualize submicroscopic structures that are not visible to the naked eye.[T] The diagnostic accuracy of dermoscopy in melanoma is between 5% and 30% better than that of visual inspection, as was recently confirmed in evidence-based publications including 1 meta-analysis.[4,5]

Dermoscopy is based on the identification of colors and structures that show a surprisingly strong histological correlation.[6] The Consensus Meeting on Dermoscopy held via the Internet has recently standardized the terminology and designed a 2-stage dermoscopic diagnostic method that allows us to ascertain, first, whether a pigmented lesion is melanocytic or not (based on the presence or absence of specific criteria) and, second, whether the lesion is benign or malignant.[7] The validity of 4 algorithms for the differential diagnosis of melanocytic lesions (pattern analysis,[8] the 7-point checklist,[9] the Menzies method,[10] and the ABCD rule[11]) has been studied. The pattern analysis proposed by Pehamberger[8] in 1987 is the most complete diagnostic system and offers the highest diagnostic yield according to the results of the virtual consensus meeting.[7]

We studied the dermoscopic patterns of a series of primary cutaneous melanomas and evaluated the contribution of dermoscopy to the conventional histological and clinical analysis of this tumor.

Materials and Methods

We undertook a cross-sectional study of 45 primary cutaneous melanomas diagnosed consecutively between August 2004 and December 2005 at the dermatology unit of the Hospital Costa del Sol in Marbella, Spain. The preoperative diagnosis was based on clinical criteria (ABCD rule) and dermoscopic criteria using the 2-stage diagnostic procedure standardized at the virtual consensus meeting (Figure 1). All the melanomas were confirmed by histopathology. The clinical characteristics (age, sex, site, size, and height), histological characteristics (histologic type, Breslow thickness, Clark level, regression, ulcerations, and nevus), and dermoscopic characteristics of the melanomas were studied.

We analyzed the dermoscopic images of all the primary melanomas obtained at consultation using the Dermlite foto system (magnification ×10) and evaluated the presence or absence of global and local dermoscopic patterns as defined by the virtual consensus meeting (Table 1).[7]

Statistical analysis was by calculation of the absolute and relative frequencies of the different clinicopathological and dermoscopic variables.

Results

Clinicopathologic Characteristics

The mean age was 57 years and the ratio of men to women 1:1. The most frequent melanoma site was the trunk (51%), followed by the lower limbs (17%). The most common histological type was superficial spreading melanoma (64%). Two-thirds were thin melanomas (1 mm or less) and half were melanoma in situ. Lesions were suspected to be malignant in 73% of cases according to the ABCD criteria (Table 2).

Dermoscopic Characteristics

In 93% of cases, the lesions presented melanoma-specific dermoscopic patterns (Table 3).

Overall Characteristics

A multicomponent pattern was observed in 71% of the melanomas, although other patterns were also found: homogeneous (8%), reticular (6%), globular (4%), and parallel (2%). The pattern was nonspecific in 7% of the lesions.

Local Characteristics

We observed irregularly pigmented patches (80%), hypopigmented areas (86%), atypical pigment network (57%), irregular globules and dots (68% and 62%), radial streaming and pseudopods (20%), and blue-gray veil (42%). Regression structures were also found (blue-gray dots and/or white scar) in 80% of the lesions, and this was significant in 20% of cases. Abnormal vascularization was observed in 74% of cases, and this involved erythema (64%) and/or vascular structures (35%). The acral lesions had their own patterns: pseudonetwork on the face and parallel on the soles.