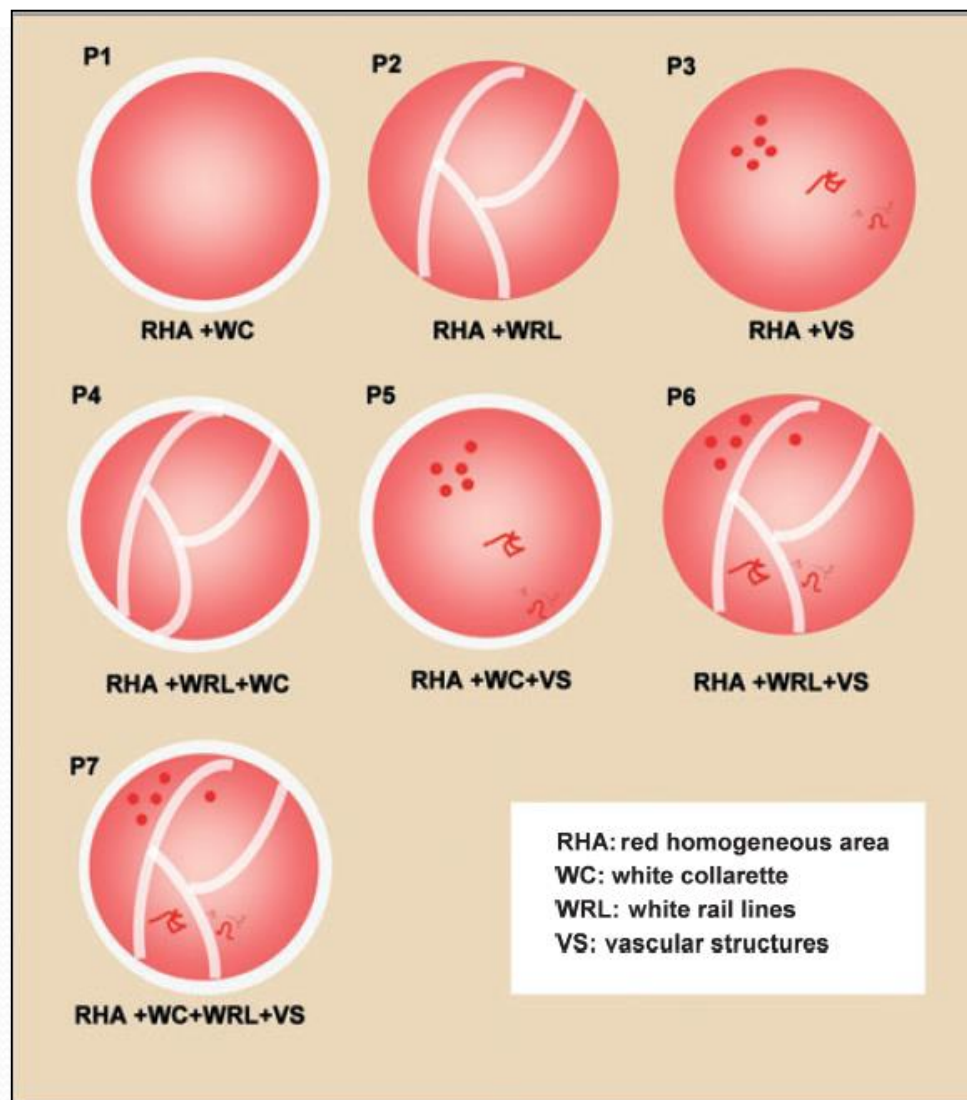


# Dermoscopy of pyogenic granuloma: a morphological study

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# The Ringlike Pattern in Vulvar Melanosis

## A New Dermoscopic Clue for Diagnosis

Angela Ferrari, MD; Pierluigi Buccini, MD; Renato Covelto, MD; Paola De Simone, MD; Vitaliano Silipo, MD; Giustino Mariani, MD; Laura Eibenschutz, MD; Luciano Mariani, MD; Caterina Catricalà, MD

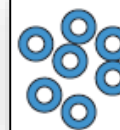
**Background:** Vulvar melanosis is a benign pigmented lesion that may clinically mimic melanoma. Whereas the dermoscopic features of other pigmented skin lesions have been extensively described, little is known about vulvar melanosis.

**Observations:** A retrospective dermoscopic study was conducted on 87 lesions with histopathologically proved melanosis. We describe and define, for the first time to our knowledge, a ringlike pattern, found in 28 of 87 melanotic lesions (32%), characterized by multiple round to oval structures, white to tan, with dark brown, well-defined regular borders. The structureless and globular-like patterns were observed in 18 of 87 lesions (21%), the parallel pattern in 15 (17%), and the cobblestone-

like and reticularlike patterns in 4 (5%). A significant association was found between the distribution of multifocal lesions showing a ringlike vs a nonringlike pattern (82% vs 52%;  $P = .008$ ), whereas a weak association was found between anatomical site and the different patterns ( $P = .55$ ). The ringlike pattern was frequently combined with multifocality and simultaneous occurrence at the labia majora and the labia minora.

**Conclusion:** Dermoscopy can be useful for the clinical detection of vulvar melanosis, and the ringlike pattern may represent a new dermoscopic clue for the diagnosis of this lesion.

*Arch Dermatol.* 2008;144(8):1030-1034



**V**ULVAR MELANOSIS (VM) (also called genital melanosis/lentiginosis and vulvar melanotic macule) is a benign pigmented lesion that usually takes the shape of multiple flat asymmetrical macules, with a tan-brown to blue-black color, irregular borders, and variable size. In most cases, it develops on the labia minora, but it can also occur on the labia majora, perineum, introitus, vagina, and cervix.<sup>1-3</sup>

Although VM is a benign lesion, its correlation with mucosal melanoma is still under debate. It often poses a diagnostic challenge because it shows many clinical features consistent with those of melanoma.<sup>3,5</sup> In such cases, biopsy and histopathologic examination are necessary to define a correct diagnosis.

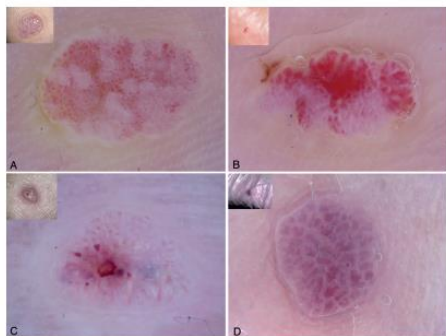
The improved accuracy of dermoscopy in diagnosing pigmented skin lesions has been widely demonstrated.<sup>6-9</sup> Despite this, the role of dermoscopy in the diagnosis of mucosal pigmented lesions has been investigated in few studies. The structureless and parallel patterns have been described as the most frequent dermoscopic findings of melanosis with a vulvar location.<sup>10-15</sup> Other dermoscopic patterns, such as cobblestonelike and reticularlike, have occasionally been reported at this same site and on the lip, re-

spectively.<sup>14</sup> The aims of this study are to describe the dermoscopic patterns of VM in a database of pigmented lesions and to investigate the age of the patients, the clinical appearance as a single or multifocal macule, and the distribution of the lesions in specific sites of the vulvar region for each pattern.

## METHODS

We performed a multidisciplinary, retrospective, dermoscopic study of histopathologically proved pigmented vulvar lesions collected at the Melanoma Unit of Santa Maria and San Gallicano Dermatological Institute between January 1, 2004, and December 31, 2006, and selected after a gynecologic visit to Regina Elena National Cancer Institute. The computerized digital imaging system consisted of a videodermoscope with a fiberoptic probe connected to a video terminal with 2 magnification lenses ( $\times 20$  and  $\times 50$ ) and a 17-in Pentium IV personal computer (Videocap 200; DS-Medigroup, Milan, Italy). The dedicated software allows the storage of clinical and dermoscopic digital images of the lesions and access to the patient's database for entering personal information and data concerning the patient's own history of melanoma and nonmelanoma skin cancers and that of his or her family. This technique allows evaluation of the lesion's border and its minimum and maximum diameters; in this way, it is possible to calculate its area and its circumference. All the lesions were ob-

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Acta Derm Venereol 2009; 89: 160-164

## CLINICAL REPORT

Acta Dermatol Venereol 2009;89:160-4

## Eccrine Poroma: A Clinical-Dermoscopic Study of Seven Cases

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## Dermoscopic Findings in Biopsy-Proven Poromas

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Dermatologic surgery 2012;38:1091-96



## DERMATOLOGY PRACTICAL &amp; CONCEPTUAL

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2012

## Dermoscopy of non-pigmented eccrine poromas: study of Mexican cases

Ana Elena Domínguez Espinosa, M.D.<sup>1</sup>, Blanca Carlos Ortega, M.D.<sup>2</sup>, Ricardo Quiñones Venegas, M.D.<sup>3</sup>, Roger González Ramírez, M.D.<sup>4</sup>

## JAAD ONLINE: DERMOSCOPY CASES OF THE MONTH

## The challenging diagnosis of eccrine poromas

Albert Brugués, MD,<sup>a</sup> Mañélio Gamboa, MD,<sup>a</sup> Lluís Alós, MD,<sup>b,c,d</sup>  
Cristina Carrera, MD, PhD,<sup>b,c,d</sup> Josep Malvehy, MD, PhD,<sup>b,c,d</sup> and  
Susana Puig, MD, PhD,<sup>b,c,d</sup>  
Barcelona, Spain**Key words:** confocal; dermoscopy; eccrine; gland; microscopy; poroma.

2016

We report 2 cases of eccrine poromas with their corresponding clinical, dermoscopic, confocal, and histopathologic findings.

## Dermoscopy of Adnexal Tumors

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## KEYWORDS

• Dermoscopy • Adnexal tumors • Sebaceous tumors • Follicular tumors  
• Eccrine and apocrine tumors

## KEY POINTS

- Many uncommon adnexal tumors have been described only sporadically.
- Arborizing telangiectasias are common in adnexal tumors.
- Adnexal tumors are usually mimickers of basal cell carcinomas.
- Yellow structures are very suggestive of sebaceous tumors.
- Sweat gland tumors usually display great dermoscopic variability.

## INTRODUCTION

Cutaneous adnexal tumors are classified according to their adnexal differentiation as sebaceous, follicular, eccrine, and apocrine. These tumors often cause immense diagnostic difficulty. Dermoscopy is a noninvasive technique that has greatly improved the diagnostic accuracy of pigmented and nonpigmented skin tumors. In this article, we provide a review of the literature on the dermoscopic structures and patterns associated with adnexal tumors along with representative examples from our database.

## DERMOSCOPY OF SEBACEOUS TUMORS

Sebaceous tumors are traditionally classified as sebaceous nevus, sebaceous hyperplasia, sebaceous adenoma, sebaceoma, and sebaceous carcinoma.

## Sebaceous Nevus

Sebaceous nevus is considered a complex hamartoma that presents at birth and commonly affects

the head and neck, particularly the scalp. The natural history of sebaceous nevus is traditionally divided into 3 evolutionary and overlapping stages.

The first is the infancy and childhood stage, characterized by underdeveloped adnexal structures and, clinically, by the presence of a round, oval, or linear smooth, yellowish patch or plaque of alopecia.<sup>1-3</sup> Bright yellow dots not associated with hair follicles (Fig. 1), corresponding to incipient sebaceous glands, may be seen on dermoscopy at this stage.<sup>1-3</sup> This finding can be very useful in differentiating sebaceous nevus from aplasia cutis congenital in newborns.<sup>1</sup>The second stage or the puberty stage is characterized by proliferative lesions involving adnexal and epidermal structures, in which the lesion transforms from a smooth into an incipient verrucous plaque. At this stage, dermoscopy reveals yellowish globules that can be arranged in cobblestone pattern (see Fig. 1) that correspond to dermal conglomerations of numerous, hyperplastic sebaceous glands in the histopathology.<sup>1-3</sup>

Disclosure: None.

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# Dermoscopic Patterns of Acral Melanocytic Nevi and Melanomas in a White Population in Central Italy

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**Objective:** To investigate the dermoscopic features of acral melanocytic lesions in a white population in central Italy.

**Design:** Retrospective review.

**Setting:** University dermatology department.

**Patients:** Six hundred fifty-one Italian subjects, ranging in age from 6 months to 78 years.

**Main Outcome Measures:** We retrospectively investigated all digital dermoscopic images of acral melanocytic lesions included in our database from January 1996 to May 2005.

**Results:** We retrieved digital images of 723 benign acral melanocytic lesions in 641 patients (235 males and 406 females; mean age, 26.5 years) and of 10 acral melanomas in 10 patients (7 males and 3 females; mean age, 65 years). Individual lesions were located on the soles (n=520),

fingers (n=146), and palms (n=67). Among acral nevi, the parallel furrow (42.1%) was the most common pattern, followed by the latticelike (14.9%), nontypical (13.7%), fibrillar (10.8%), homogeneous (9.3%), globular (5.4%), and reticular (2.1%) patterns. The frequency of distribution of the latticelike, nontypical, fibrillar, and homogeneous patterns significantly differed ( $P<.001$ ,  $P=.03$ ,  $P<.001$ , and  $P=.03$ , respectively) between anatomical sites. Also, 13 acral nevi (1.8%), mainly located on the fingers, showed a new combined pattern (transition pattern) consisting of a brownish black network associated with a parallel furrow or latticelike pattern. All 10 acral melanomas showed a multicomponent dermoscopic pattern.

**Conclusions:** In our series of acral nevi, we observed 8 dermoscopic patterns, with varying distribution by anatomical site. Identification of a specific pattern is highly suggestive of the benign or the malignant nature of any given acral melanocytic lesion.

Arch Dermatol. 2006;142:1123-1128

**B**ENIGN MELANOCYTIC LESIONS on acral sites, which are common in all populations, may be difficult to differentiate clinically from early acral melanoma.<sup>1-3</sup> For this reason, Saida et al<sup>4</sup> recommended surgical excision of any acquired melanocytic lesion larger than 7 mm in diameter on the volar skin. Dermoscopy is a noninvasive technique that enables clinicians to differentiate nevi from melanomas in the early stage.<sup>5-7</sup> Specific dermoscopic patterns of nevi and melanomas located on the palms and soles were initially described in Japanese studies showing that dermoscopic examination can increase accuracy in the diagnosis of pigmented acral melanocytic skin lesions.<sup>8,12</sup> Acral melanoma was described as having a multicomponent dermoscopic pattern, characterized by the following features: parallel ridge pattern, irregular diffuse pigmentation, abrupt

edges, serrated pattern, peripheral irregular dots and globules, and/or blue-white veil.<sup>9,12</sup> The presence of the parallel ridge pattern, in which pigmentation is seen on the ridges of the skin markings, was associated with acral melanoma in situ, and the presence of irregular diffuse pigmentation was considered highly suggestive of invasive acral melanoma.<sup>9,12</sup>

## For editorial comment see page 1211

By contrast, 4 distinctive dermoscopic patterns were described for acral melanocytic nevi: (1) the parallel furrow pattern, in which pigmentation is seen on the parallel sulci of the skin markings (variants of this pattern are the globular subtype and the double-lined subtype); (2) the latticelike pattern, which is characterized by pigmented lines that follow and

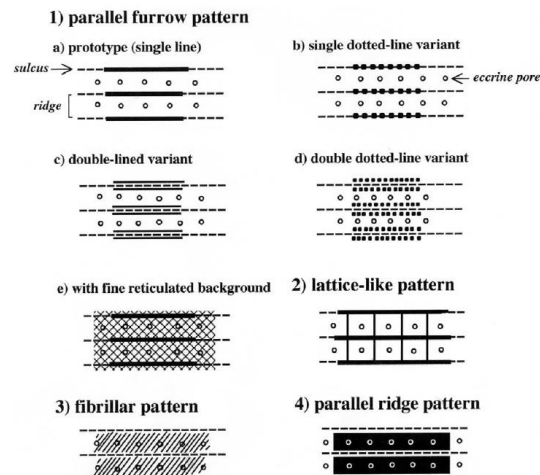


Figure 1. Schematic diagrams of the major dermoscopic patterns observed in melanocytic lesions on volar skin. At this anatomic site, the surface skin markings are arranged in a parallel fashion. The eccrine pores are indicated by small open circles, which help us to distinguish the ridges of the surface skin markings from the sulci. Major dermoscopic patterns observed in melanocytic nevi on volar skin are the parallel-furrow pattern, the latticelike pattern, and the fibrillar pattern. In the parallel-furrow pattern, parallel linear pigmentation along the sulci of the skin markings is observed; subtle variations (a-e) are recognized in this pattern (see text). The latticelike pattern shows linear pigmentation following and crossing the surface sulci. The fibrillar pattern exhibits numerous fine fibrillar or filamentous pigmentation running in a slanting direction to the skin markings. In malignant melanoma, including melanoma in situ, the most characteristic dermoscopic pattern is the parallel-ridge pattern, which is characterized by band-like pigmentation on the ridges of the surface skin markings.

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## INVITED ARTICLE

# Key points in dermoscopic differentiation between early acral melanoma and acral nevus

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## The dermatoscopic universe of basal cell carcinoma

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Review | Dermatol Pract Concept 2013;4(3):2

Review article

CED  
Clinical and Experimental Dermatology

CPD

### Dermoscopy of basal cell carcinoma

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*Clinical and Experimental Dermatology* (2018) **43**, pp241–247

## Clinical and Laboratory Investigations

### Amelanotic/hypomelanotic melanoma: clinical and dermoscopic features

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## Arch dermatol, 2008;114(9):1120-27

### Dermoscopic Evaluation of Amelanotic and Hypomelanotic Melanoma

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Conflict of interest  
None.



## Minireview

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### Dermoscopy of amelanotic and hypomelanotic melanoma

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JAPANESE  
DERMATOLOGICAL  
ASSOCIATION

THE JOURNAL OF  
DERMATOLOGY

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Journal of Dermatology 2011; 38: 10–15

## INVITED ARTICLE

### Key points in the dermoscopic diagnosis of hypomelanotic melanoma and nodular melanoma

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## IMAGING IN DERMATOLOGY



### Dermoscopic clues in the diagnosis of amelanotic and hypomelanotic malignant melanoma \*

Pistas dermatoscópicas no diagnóstico de melanoma maligno amelanótico e hipomelanótico

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An Bras Dermatol 2012;87(6):920-3

### Dermoscopy features of melanoma incognito: Indications for biopsy

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# Dermatoscopy of flat pigmented facial lesions

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## Abstract

**Background** The diagnosis of flat pigmented lesions on the face is challenging because of the morphologic overlap of biologically different lesions and the unknown significance of dermatoscopic patterns.

**Objective** To better characterize dermatoscopic patterns of various types of flat pigmented facial lesions and to analyse their significance by calculating their relative risks and diagnostic values.

**Methods** We prospectively analysed dermatoscopic images of 240 flat pigmented facial skin lesions collected consecutively from 195 patients (41.5% females, mean age: 61 ± 14 years) between 2007 and March 2012 in a primary skin cancer practice situated in Queensland, Australia.

**Results** Histopathologically 114 (47.5%) lesions were malignant (24 lentigo maligna, 21 basal cell carcinomas and 69 pigmented actinic keratoses). Compared with all other patterns the positive predictive value for lentigo maligna was highest for a pattern of circles (31.3%, 95% CI: 11.1–58.6%). A pattern of clods was associated with basal cell carcinoma. If grey structures were present the relative risk for malignancy was 2.2 (95%CI: 1.4–3.4). The best clues to differentiate pigmented actinic keratosis from other lesions were the presence of scale (positive predictive value: 72.2%, specificity: 94.2%), white circles (positive predictive value: 68.8%, specificity: 94.2%) and a sharply demarcated border (positive predictive value: 44.2%, specificity: 86.0%).

**Conclusions** In flat lesions a pattern of circles bears the highest risk for facial melanoma but other patterns do not exclude it. Scale, white circles and a sharply demarcated border are clues to pigmented actinic keratoses. The presence of grey colour is a clue to malignancy regardless of pattern.

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## Conflicts of interests

None declared.

## Funding sources

None declared.

## Introduction

Dermatoscopy is a widely accepted method for the early diagnosis of skin cancer and has been proven to be accurate for melanoma and epithelial neoplasms.<sup>1,2</sup> Dermatoscopy of melanoma may vary depending on anatomic site and whether the lesion is flat or raised. Dermatoscopy characteristics of melanoma *in situ* on the face have been described before by Schiffrin,<sup>3,4</sup> Tanaka<sup>5</sup> and Pralong.<sup>6</sup> However, the knowledge about the significance of dermatoscopic patterns with regard to the differentiation of lentigo maligna (LM) from other flat pigmented facial lesions is limited. In particular, the differentiation of LM from facial epithelial neoplasms is mostly based on case reports.<sup>7</sup> Akay *et al.*, who published the largest series of consecutive cases, found that the value of dermatoscopy to differentiate between melanocytic lesions and pigmented actinic keratosis (PAK) is limited.<sup>8</sup> Caucasian skin chronically exposed to sun is susceptible to

benign and malignant pigmented facial lesions. Pigmented facial lesions frequently present to physicians and are challenging diagnostically because the differential diagnosis includes a variety of benign and malignant conditions with similar clinical appearances. In many cases, diagnostic uncertainty is not resolved by clinical inspection or by dermatoscopy. This usually leads to biopsy or excision to rule out melanoma *in situ*. On the other hand, flat, pigmented, facial lesions are often treated by cryotherapy<sup>9</sup> or other local treatment modalities,<sup>10</sup> sometimes without a definite histopathologic diagnosis. This procedure bears the risk of inappropriate treatment of melanoma and delay in diagnosis. The significance of dermatoscopic patterns has not been analysed prospectively and no clear guidelines exist to help the physician to select facial lesions for additional *in vivo* examinations like confocal microscopy, biopsy, local treatment or monitoring. Some dermatoscopic clues like asymmetric



# Dermatoscopy of flat pigmented facial lesions—evolution of lentigo maligna diagnostic criteria

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Key words: dermatoscopy, lentigo maligna, flat pigmented lesions, face

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All authors have contributed significantly to this publication.

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**ABSTRACT** Recognition of facial lentigo maligna (LM) is often difficult, particularly at early stages. Algorithms and multivariate diagnostic models have recently been elaborated on the attempt to improve the diagnostic accuracy. We conducted a cross-sectional and retrospective study to evaluate dermatoscopic criteria aiding in diagnosis of flat pigmented facial lesions (FPFL). We examined 46 FPFL in 42 Caucasian patients and found that 4 of 20 dermatoscopic criteria reached the significance level required for features indicating malignancy namely, hyperpigmented follicular openings, obliterated follicular opening, annular-granular structures, and pigment rhomboids. Concomitant presence of at least 2 or 3 of the 4 mentioned criteria was significantly more frequent in LM than in pigmented actinic keratosis (PAK). However, despite more frequently seen in LM, these features were also displayed in some of the PAK and other FPFL, so we found them not specific for LM. Although dermatoscopy enhances the diagnostic accuracy in evaluating FPFL, histopathology remains the gold standard for correct diagnosis, making evident the need for improvements in early noninvasive diagnosis of LM.

## Introduction

Flat pigmented facial lesions (FPFL) on chronic sun-damaged skin include a variety of melanocytic and nonmelanocytic, benign and malignant conditions with a similar clinical appearance presenting as a diagnostic challenge to physicians [1,2]. In many cases, diagnostic uncertainty is not resolved by clinical inspection, leading to biopsy or excision to rule out lentigo maligna (LM) [1].

Recognition of facial melanoma is often difficult, particularly in the early stages. Pigmented lesions of the face do not show the classic dermatoscopic findings characteristically observed elsewhere on the skin. A conventional pigment network is rarely found [2]. Instead, they are dermatoscopically characterized by the presence of a specific feature called a pseudonetwork [2–4]. The well-known “ABCDE rule” cannot be applied to facial locations [5,6]. Differential diagnosis includes solar lentigo (SL), postinflammatory hyperpigmen-