

Dermoscopy of Common Inflammatory Disorders

Dimitrios Sgouros, MD^a, Zoe Apalla, MD, PhD^b, Dimitrios Ioannides, MD, PhD^b, Alexander Katoulis, MD, PhD^a, Dimitrios Rigopoulos, MD, PhD^c, Elena Sotiriou, MD, PhD^b, Alexander Stratigos, MD, PhD^c, Efstratios Vakirlis, MD, PhD^b, Aimilios Lallas, MD, PhD^{b,*}

KEYWORDS

- Dermoscopy • General dermatology • Inflammoscopy • Inflammatory dermatoses • Dermatoscopy • Vessels

KEY POINTS

- Dermoscopy gains appreciation in fields beyond dermato-oncology, in addition to its “traditional” application for the early diagnosis of melanoma and nonmelanoma skin cancers.
- Nowadays, dermoscopy serves as an additional tool for the assessment of skin lesions in general dermatology, following the well-known clinical diagnostic steps.
- A stepwise approach scheme for the dermoscopic evaluation of skin lesions in general dermatology should be stratified.
- The main parameters that should be evaluated are morphology and distribution of vessels, color and distribution of scales, background colors, follicular abnormalities, and specific clues.
- Dermoscopic findings should be always viewed within patient’s clinical context and interpreted in conjunction with all relevant information from patients’ history, symptomatology, and macroscopic morphology.

INTRODUCTION

Dermoscopy has been established as the dermatologist’s key tool for the evaluation of pigmented and nonpigmented skin tumors.^{1–3} In addition to its “traditional” application for the early diagnosis of melanoma and nonmelanoma skin cancers, dermoscopy gains appreciation in fields beyond dermato-oncology. This is because dermoscopy reveals clues and patterns that cannot be seen with the naked eye. Therefore, it adds morphologic information in any type of skin lesion or eruption. Indeed, the dermoscopic patterns of several inflammatory skin diseases have been described.

Dermoscopy is nowadays considered as an additional valuable method for the assessment of skin lesions in general dermatology, which follows and completes the well-known clinical diagnostic steps, such as medical history and clinical examination. Clinical examination remains the undoubted mainstay of diagnosis in inflammatory and infectious diseases, representing a synthesis of several components to which dermoscopy contributes additional morphologic information in a submacroscopic level, thus completing the puzzle of clinical diagnosis.^{4–8}

An issue of great importance is the definition of a stepwise approach for the dermoscopic evaluation

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^a 2nd Department of Dermatology – Venereology, National Kapodistrian University of Athens, ATTIKON University Hospital, 1 Rimini Street, Chaidari, Athens 12462, Greece; ^b 1st Department of Dermatology – Venereology, State Clinic of Dermatology, Aristotle University of Thessaloniki, Hospital of Skin and Venereal Diseases, 124 Delfon Street, Thessaloniki 54643, Greece; ^c 1st Department of Dermatology – Venereology, National Kapodistrian University of Athens, A. Syggros Hospital, 5 I.Dragoumi Street, Athens 16121, Greece

* Corresponding author.

E-mail address: emlallas@gmail.com

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of skin lesions in general dermatology. Taking into account all the existing knowledge of the dermoscopic characteristics of inflammatory and infectious skin diseases, the main categories of criteria that should be evaluated are the following: (1) morphology of the vascular structures (eg, dotted, linear); (2) arrangement of vascular structures; (3) color and distribution of scales; (4) background colors; (5) follicular abnormalities; and (6) other specific features (clues).⁵ Obviously, the observed (described) dermoscopic features of a given lesion should always be considered within the overall clinical context.

Regarding the selection of the optimal dermoscopic equipment, the introduction of the new-generation devices in everyday clinical practice, combining noncontact, polarized light dermoscopy with the classic contact dermoscopy, has resolved the issue of altering or even obscuring the vascular structures of inflammatory lesions. This is critical for the accurate dermoscopic examination of skin disorders in general dermatology, because the pattern of vessels (morphology, distribution etc) often represents the predominant dermoscopic characteristic.⁴

For more than a decade from the first publications on the use of dermoscopy in inflammatory dermatoses, the authors' knowledge was based on a few case reports and case series studies. However, in the last years, several case series and case-control studies have been published, some of them including well-documented data and large numbers of patients.^{9–14} In addition, nowadays dermoscopy is not only used for strictly diagnostic purposes but also to evaluate the physical course of diseases and the response to treatments.^{15–17}

This article aims to provide an up-to-date overview of existing data on dermoscopic findings in common inflammatory skin diseases. This field is often described under the term “inflammoscopy.” For structural purposes, the review is subdivided into 5 categories of dermatologic disorders: (1) erythemato-squamous skin diseases, (2) autoimmune cutaneous diseases (3) intolerance reactions and vasculitides, (4) rosacea and demodicidosis, and (5) disorders of keratinization and prokeratosis.

ERYTHEMATO-SQUAMOUS SKIN DISEASES

Psoriasis

Psoriasis is the most typical representative of the category of erythemato-squamous skin diseases, clinically manifesting with red plaques with prominent white scales. The dermoscopic pattern of psoriasis was firstly described in the early

2000s.^{18,19} The most striking dermoscopic features of psoriasis are the evenly distributed red dots or globules over a pale red erythematous background along with white scaling of the lesion.^{11,18–20} These red roundish structures appear under higher magnification ($\times 100$ to $\times 400$) as convoluted loops, mirroring the underlying histopathologic finding of spiraled capillaries within the dermal papillae, associated with the psoriasiform epidermal hyperplasia.^{5,20,21} Moreover, clinical experience has clarified that the differentiation between the descriptive terms of dots (smaller diameter of 0.1 mm) and globules (larger diameter than dots) is insignificant in the dermoscopic classification of psoriatic lesions despite their importance in the dermoscopy of melanocytic lesions. Red dots or globules in psoriasis are typically monomorphic, of similar diameter and shape, and symmetrically distributed in a given plaque. However, vascular structures of different diameters might occasionally coexist in the same lesion.⁴

An additional dermoscopic finding of high relevance for psoriasis is the white scaling, which can be a very helpful clue for the differential diagnosis between psoriasis and other inflammatory skin diseases as well as neoplastic disorders. Specifically, the white color of psoriatic scales is of particular value for the diagnosis of psoriasis compared with the yellow scales or crusts that are usually suggestive of dermatitis.¹² Even in hyperkeratotic psoriatic plaques, the removal of scales can reveal the characteristic vascular pattern of psoriasis, possibly together with tiny red blood drops, representing the dermoscopic “Auspitz sign.”⁴ In addition, the color and distribution of scales along with the dermoscopic vascular pattern contribute in the differentiation of psoriasis from Bowen disease. As mentioned earlier, typically, in psoriasis there are red globules regularly distributed throughout the lesion, accompanied with fine white scales (**Fig. 1**). In contrast, glomerular vessels, commonly similar to globules, scattered in clusters along with yellowish crusts or unevenly distributed “islands” of whitish scales compose the dermoscopic pattern of Bowen disease.^{22,23} Finally, the pattern of dotted vessels versus short, fine telangiectasias is helpful in the differentiation of similarly appearing patches of psoriasis and superficial basal cell carcinoma, respectively.²⁴

The dermoscopic variability of psoriatic lesions according to the anatomic site has also been investigated. It was shown that the typical vascular findings of psoriasis (regularly distributed red globules) prevails even on special anatomic locations such as the scalp, face, palms, soles, folds, and

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