Inflammoscopy

(dermatoscopy in general dermatology)

this is a REDACTED PFD of the presentation given to the PCDS spring meeting at Stratford on Avon, Saturday 16th March 2019. I have omitted images for which I do not have copyright and in many cases left the URLs so that learners can look them up on line

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Declaration of interests

- Former GP and GPwSI
- Associate specialist in dermatology University Hospital Southampton
- Independent dermoscopy educator
- UK board member of International Dermoscopy Society
- Apple grower and YouTuber
- Daydreamer, writer, etc....
‘Inflammoscopy’ in summary
(NB general dermatology includes inflammatory and other conditions e.g. keratinising disorders)

• New and developing area of study, dermoscopy in general (*i.e. non-lesion*) dermatology
• Limited utility for GPs managing common rashes
• Role in decision support for some conditions e.g. scarring alopecia, lichen planus, nail problems, parasitology
• Probably will develop over next 5-10 years
• The book is £137.75
Summary and key points

- Inflammoscopy is a new and developing discipline
- The published evidence is currently limited
- It is not the ‘game changer’ that dermoscopy of pigmented and other skin lesions has proved to be
- ..but it can be helpful for decision support and differential diagnosis in some skin conditions
- Inflammoscopy is most useful for distinguishing between eczema, psoriasis, p. rosea, lichen planus parasitic skin disease and a few other things
The ‘big five’ rashes

• Eczema/dermatitis
• Psoriasis
• Acne
• Urticaria
• Infections
The ‘big five’ rashes
usefulness of inflammoscopy

• Acne-irrelevant
• Urticaria-irrelevant
• Infections-minimal relevance (scabies)

• May help distinguish between dermatitis and psoriasis
Rules of dermoscopy in general dermatology

- as per lesion dermoscopy **FIRST KNOW YOUR STUFF**
- take a history
- examine the whole of the skin
- palpate the lesion(s) or rash (e.g. rough or not)
- formulate a reasonable differential diagnosis
- **ONLY THEN** apply the dermoscope and collect additional data, if any is visible
- **put it all together for a holistic diagnosis**, which may require further testing e.g. by therapeutic trial or histopathology
Thessaloniki June 2018
5th world dermoscopy congress
consensus meeting on inflammoscopy
Half the PCDS committee were there
IDS inflammmoscopy leaders

Aimilios Lallas

Iris Zalaudek

Enzo Erichetti
The congress began with a consensus meeting looking at the developing art of inflammoscopy, the dermoscopy of inflammatory skin disease. The session was led by Aimilios Lallas, Iris Zalaudek and Enzo Erichetti.

- There are many challenges: a select IDS team had been working for 3 years.
- Most published work on inflammoscopy are case studies, with little quality evidence. There are too many conflicting and confusing terms, and much clinical overlap—in this respect, dermoscopy reflects histopathology where there is also overlap between disease entities.
- Inflammoscopy needs clinical correlation.
- Some rashes have good dermoscopic signs and dermoscopico-pathological correlation, others less so.
- **5 parameters were considered useful...**
Five key inflammmoscopy parameters

- **Vessels** (morphology, distribution, dotted, linear, linear branched, linear curved.)
- **Scaling**-(white scale for dry dermatosis, yellow for rashes with serum extravasation, brown scale =keratin plus pigment or dirt).
- **Follicular findings** (plugs e.g. in lichen planus), red dots, white halo, perifollicular pigmentations
- **Colours** (shiny white=fibrosis e.g. lichen sclerosus, orange in granulomas e.g. sarcoidosis, yellow for xanthoma,
- **Specific clues** (features which suggest one particular diagnosis, e.g. peripheral keratotic rim in porokeratosis
Some inflammoscopy criteria

- **Eczema** diffuse patchy yellow scaling, dotted vessels with patchy distribution
- **Lichen Planus** shows Wickham’s stria
- **Pityriasis lichenoides** chronical orange structureless areas, focal or diffuse (NB not specific to this disease)
- **Pityriasis rosea** peripheral white scaling
- **Porokeratosis** peripheral light brown keratotic track
- **Psoriasis** dotted vessels distribution and diffuse/patchy white scaling
Some more inflammoscopy criteria

• **Discoid Lupus Erythematosus** follicular plugs
• **Demodicosis** demodex tails-follicular plugs
• **Granuloma faciale**-dilated follicular openings
• **Lupus vulgaris (also sarcoidosis)** orange structureless areas ‘seen in any granulomatous disease’ as someone said-not specific enough
• **Seb derm**-yellow scale in patchy distribution
• **Rosacea** network like vessels
• **Granuloma annulare** orange structureless areas
• **Extra genital lichen sclerosus**, follicular plugs and focal/diffuse bright white areas
• **Morphoea** diffuse white structureless area ill defined
And some more….

- **Necrobiosis lipoidica** sharply focussed arborizing vessels, yellow/orange structureless areas.
- **Darier’s disease** central star like or polygonal yellow brown area area surrounded by a white halo—very specific clue, same as **Grover’s disease**.
- **Nodular prurigo** peripheral radial lines.
- **Plasma cell balanitis** orange structureless areas.
- **Xanthogranulomas** yellow structureless areas.
- **Furuncular myiasis**—larval breathing and bubbles (under oil).
And (finally?!?)...

- **Mastocytosis**- diffuse brown network
- **Molluscum contagiosum** white globules, peripheral linear vessels
- **Nits, lice and ticks** can be identified as what they are more easily
- **Warts** dotted thromboses (dark purple dos of globules or lines) with white halo and interrupted skin lines
- **Tinea nigra** brown lines not respecting dermatoglyphic lines
- **Scabies** delta wing jet with contrail sign
Eczema versus psoriasis


[Roles of dermoscopy in differential diagnosis of psoriasis and eczema].

[Article in Chinese]
Xu C, Liu J, Chen D, Liu Y, Sun Q.

Author information

Abstract

OBJECTIVE: To describe the dermoscopic patterns of plaque psoriasis and chronic eczema and explore the roles of dermoscopy in their diagnosis and differential diagnosis.

METHODS: A total of 68 patients with plaque psoriasis or chronic eczema were recruited from our department from December 2013 to May 2014 to undergo dermoscopic and histopathological examinations. Dermoscopic features of vascular morphology, vascular arrangement, background color, scale color and scale distribution were evaluated. Sensitivity, specificity, positive predictive value and negative predictive value were calculated for predefined dermoscopic criteria in relation to the diagnosis of plaque psoriasis.

RESULTS: Thirty-one patients with plaque psoriasis and 37 patients with chronic eczema were included. Dotted vessels in a regular arrangement (sensitivity 80.6%, specificity 73.0%) over a light red background (sensitivity 71.0%, specificity 75.7%) and white scales (sensitivity 71.0%, specificity 83.8%) were highly predictive for the diagnosis of plaque psoriasis. And chronic eczema more commonly showed yellow scales and dotted vessels in a patchy arrangement over a dull red background. Characteristic vascular structures of hairpin vessels and red loops were also found to be highly specific (91.9%, 94.6%) for the diagnosis of psoriasis.

CONCLUSIONS: Plaque psoriasis shows specific dermoscopic patterns compared with chronic eczema. And dermoscopy is valuable in the diagnosis and differential diagnosis of psoriasis.
Accuracy of dermoscopic criteria for the diagnosis of psoriasis, dermatitis, lichen planus and pityriasis rosea

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Summary
Dermoscopic patterns in active and regressive lichen planus and lichen planus variants: a morphological study

Şule Güngör, Ilteriş O. Topal, and Emek K. Göncü

*Author information* *Article notes* *Copyright and License information* [Disclaimer]
Introduction

Dermoscopy is a non-invasive tool that is widely recognized and used in the diagnosis of pigmented and non-pigmented skin tumors [1,2]. In recent years, dermoscopy has been used for other dermatologic diseases including psoriasis, lichen planus, alopecia, and skin infestations [1,2]. Lichen planus (LP) is an acute or chronic inflammatory skin disorder characterized by discrete, violaceous, polygonal papules [2,3]. Though the diagnosis of LP can be made clinically, it can sometimes be challenging and histopathological examination is needed. Dermoscopic examination may be helpful in these settings to aid the diagnosis. In this study, we aimed to categorize the dermoscopic images of LP patients before and after treatment.
Lichen planus - yellow clods, white branching linear structures

https://casereports.bmj.com/content/2016/bcr-2015-213923
• Lichen planus (see URL for images)
Lichen planus (‘fern leaf’ aspect)

Paula Friedman et al, University of Buenos Aires, Argentina
https://www.derm101.com/dpc/october-2015-volume-5-no.4
Dermoscopie Features of Psoriasis, Lichen Planus, and Pityriasis Rosea in Patients With Skin Type IV and Darker Attending the Regional Dermatology Training Centre in Northern Tanzania

Maitso K. Nwako-Mohamadi, John E. Masenga, David Mavura, Ola F. Jahanpour, Eva Mbwilo, Andreas Blum
Dermoscopy of rashes in darker skin (DPC January 2019, Tanzania)

Table 4. Dermoscopic Features in PR Lesions at Regional Dermatology Training Centre, Northern Tanzania (n = 22 Lesions)

<table>
<thead>
<tr>
<th>Variable</th>
<th>NO Treatment n = 18</th>
<th>ON Treatment n = 4</th>
<th>Total n = 22</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
</tr>
<tr>
<td><strong>Background color</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light red</td>
<td>7 (38.9)</td>
<td>1 (25)</td>
<td>8 (36.4)</td>
</tr>
<tr>
<td>Dull red</td>
<td>10 (55.6)</td>
<td>1 (25)</td>
<td>11 (50.0)</td>
</tr>
<tr>
<td>Yellow</td>
<td>1 (5.5)</td>
<td>1 (25)</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td>Brown</td>
<td>0 (0)</td>
<td>1 (25)</td>
<td>1 (4.5)</td>
</tr>
<tr>
<td>Vessels</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td><strong>Scale color</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No scale</td>
<td>4 (22.2)</td>
<td>0 (0)</td>
<td>4 (18.2)</td>
</tr>
<tr>
<td>White</td>
<td>14 (77.8)</td>
<td>4 (100)</td>
<td>18 (81.8)</td>
</tr>
<tr>
<td><strong>Scale distribution</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No scale</td>
<td>4 (22.2)</td>
<td>0 (0)</td>
<td>4 (18.1)</td>
</tr>
<tr>
<td>Diffuse</td>
<td>2 (11.1)</td>
<td>0 (0)</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td>Patchy</td>
<td>5 (27.8)</td>
<td>3 (75)</td>
<td>8 (36.4)</td>
</tr>
<tr>
<td>Peripheral</td>
<td>7 (38.9)</td>
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<td>8 (36.4)</td>
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<tr>
<td>PWS</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Follicular disturbance</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td><strong>Pigmentation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No pigmentary changes</td>
<td>7 (38.9)</td>
<td>1 (25)</td>
<td>8 (36.4)</td>
</tr>
<tr>
<td>Brown dots and patches</td>
<td>2 (11.1)</td>
<td>2 (50)</td>
<td>4 (18.1)</td>
</tr>
<tr>
<td>Gray dots and patches</td>
<td>2 (11.1)</td>
<td>0 (0)</td>
<td>2 (9.1)</td>
</tr>
<tr>
<td>Mix of brown and gray</td>
<td>7 (38.9)</td>
<td>1 (25)</td>
<td>8 (36.4)</td>
</tr>
</tbody>
</table>
Dermoscopy of rashes in darker skin (DPC January 2019, Tanzania)

• **Summary**
  - 90 consecutive patients with plaque psoriasis (PP) lichen planus (LP) and pityriasis rosea (PR) were evaluated. 74% were biopsy proven.

• **DERMOSCOPIC FINDINGS**
  - PP (56 patients) 56% had red dots, 45% white scale
  - LP (25 patients) 45% had violet background and 58% had Wickham’s striae
  - PR (9 patients) 45% had a dull red background, 83% scale, none had vessels

• **CONCLUSIONS** dermoscopy of PP, LP and PR reveals similar features and is of similar value in differential diagnosis between common papulosquamous rashes in darker skin as white skin.

• ‘Bigger studies are necessary, preferably with higher magnification dermoscopy’
Lichen planus nails

Paula Friedman et al, University of Buenos Aires, Argentina
https://www.derm101.com/dpc/october-2015-volume-5-no.4
BLOOD AND NAILS
MIND THE GAP
Lichen planus of nails

- On dermoscopy, we observed chromonychia, subungual hyperkeratosis, onycholysis, and destruction of the nail plate
  - (a) Destruction of nail plate;
  - (b) onycholysis;
  - (c) subungual hyperkeratosis;
  - (d) chromonychia.

Paula Friedman et al, University of Buenos Aires, Argentina
https://www.derm101.com/dpc/october-2015-volume-5-no.4
Tinea nigra
Tinea nigra
Collarette of scale in pityriasis rosea
Mycosis fungoides (cutaneous T cell lymphoma or CTCL)

• Although neoplastic, mycosis fungoides is a differential diagnosis from several inflammatory skin disorders.
• Differentiation between chronic dermatitis and early stage mycosis fungoides is often highly problematic.
• In dermoscopical studies, significant differences have been shown: In contrast to the dotted vessels in dermatitis, mycosis fungoides reveal short linear vessels and orange-yellowish areas. In addition, in mycosis fungoides a peculiar vascular structure is frequently observed consisting of a dotted and a linear component (spermatozoon-like structure).
• In the assessment of a chronic lesion previously diagnosed as dermatitis, dermoscopic examination is expected to reveal dotted vessels, occasionally combined with yellowish scales. Lesions under long-term treatment with topical steroids represent the only exception to this rule. When, instead, dermoscopy reveals linear vessels, the suspicion of mycosis fungoides rises strongly and in this case, patient’s management should be adjusted accordingly.\[10\]

From dermoscopedia entry on Dermoscopy of inflammatory skin diseases
Mycosis fungoides- purpuric dots and ‘spermatozoa like vessels’
Dermoscopy in alopecia

Scarring alopecia

• Discoid lupus erythematous
• Lichen planus
• Frontal fibrosing alopecia

Non-scarring

• Alopecia areata
• Age related
• Hormone related
Relevance of trichoscopy in the differential diagnosis of alopecia: A cross-sectional study from North India

- Indian Journal of Dermatology, Venereology and Leprosy
- **Year**: 2016  |  **Volume**: 82  |  **Issue**: 6  |  **Page**: 651-658

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• Dermoscopy patterns of cicatricial alopecia resulting from discoid lupus erythematosus and lichen planopilaris

• Bruna Duque Estrada\textsuperscript{I}; Carla Tamler\textsuperscript{I}; Celso Tavares Sodré\textsuperscript{II}; Carlos Baptista Barcaui\textsuperscript{III}; Francisco Burnier Carlos Pereira\textsuperscript{IV}
ABSTRACT

Dermoscopy patterns of cicatricial alopecia resulting from discoid lupus erythematosus and lichen planopilaris

• **BACKGROUND:** Dermoscopy is an important tool for the diagnosis of benign and malignant melanocytic diseases. Recently, this method has also been found to be extremely useful in the diagnosis and follow-up of alopecias.

**OBJECTIVE:** The objective of this study was to describe dermoscopic findings in patients with clinical and histopathological characteristics of cicatricial alopecia.

**METHODS:** A descriptive cross-sectional study was conducted in which 14 patients with cicatricial alopecia were selected based on clinical and histopathological evaluation of the scalp. The underlying cause was classic lichen planopilaris in four cases, frontal fibrosing alopecia in five and discoid lupus erythematosus in the remaining five. The patients were evaluated using videodermoscopy and conventional dermoscopy (with a handheld dermoscope), performed independently by three different examiners. Magnification ranged from 10x to 70x.

**RESULTS:** Principal findings in cases of discoid lupus erythematosus were: white patches, branching capillaries, keratin plugs and areas of reduced follicular ostia; in classic lichen planopilaris: perifollicular scales, white dots and reduced follicular ostia; and in frontal fibrosing alopecia: reduced follicular ostia, perifollicular scales, perifollicular erythema and branching capillaries. The blue-grey dots described in this paper were a novel feature in scalp dermoscopy.

**CONCLUSIONS:** The use of dermoscopy for the clinical evaluation of the scalp in cases of cicatricial alopecia improves diagnostic capacity beyond simple clinical inspection and reveals novel features of the disease.

• **Keywords:** Alopecia; Dermatoscopy; Lichen planus; Lupus erythematosus, discoid

• NB these were darker skinned patients, the features seen in inflammoscopy are more readily visualised in darker skin
Discoid lupus erythematosis
A dermoscopic diagnosis and activity evaluation of frontal fibrosing alopecia in an Indian lady

Sidharth Sonthalia¹, Abhijeet K Jha², Pankaj K Tiwary²
4mm punch biopsy reported as lichen planus. Assumed to be lichenoid reaction, cleared with potent steroid
Solitary new juicy nodule on the back
Lymphocytic infiltrate (benign)
Garlic dermatitis and seb k
Pseudomonas nail
Lichenoid keratosis
Lichenoid keratosis
Lichenoid keratosis with pigment laden macrophages
Lichenoid keratosis (LPLK)
Bx proven lichenoid keratosis
Leukaemia nodules
96 year old Mediterranean
Kaposi sarcoma (non-HIV related)
OPEN ACCESS journal that features the most current research on the diagnosis and treatment of skin diseases.

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Dermatology Practical & Conceptual is the Official Journal of the International Dermoscopy Society
Spotlight on Cutaneous T-Cell Lymphoma
NEW ON DERM101

What is your diagnosis? A 41-year-old female patient presents for evaluation of erythema and ulcers on the fingers. She was healthy with no medical problems until developing dyspnea and shortness of breath a few months previously...

Board Review question Which of the following statements best characterizes a macule?

VIEW MORE

VIEW ALL HOT TOPICS
Summary

- Dermoscopy in general dermatology is a new and developing area of study.
- Currently, most publications are case reports and small studies, often in darker skin types. Probably will develop over next 5-10 years.
- May provide decision support for some conditions e.g. scarring alopecia, lichen planus, nail problems, parasitology.
- Limited utility for GPs managing common rashes.
6th World Congress of DERMOSCOPY 2021
BUENOS AIRES, ARGENTINA / 10 - 12 JUNE 2021