Inflammoscopy and Stethoscopic view of inflammatory skin lesions

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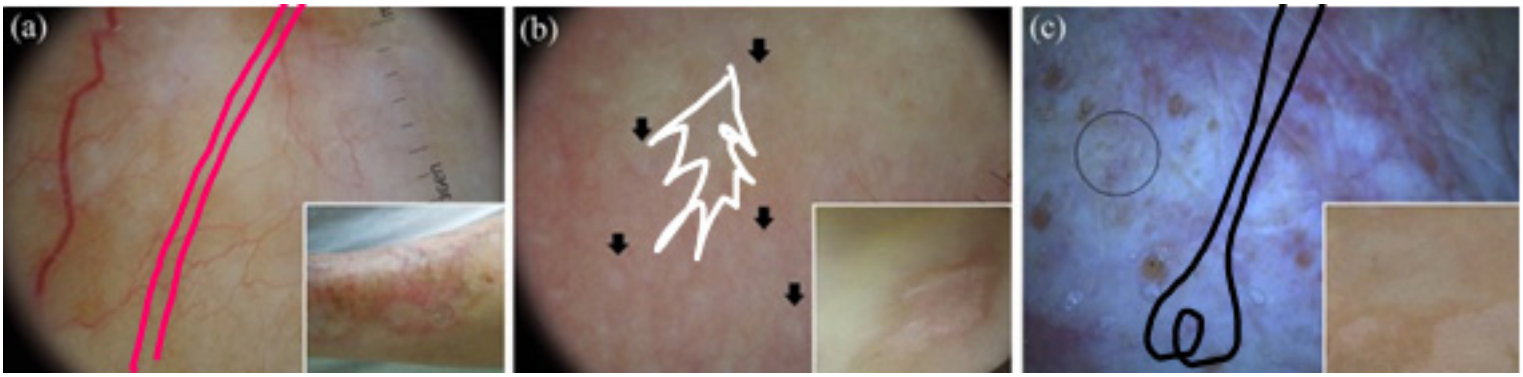
Abstract

The term inflammoscopy merely implies trichoscopic distinctive features of inflammatory skin conditions; the common ones along with some rare ones, to demonstrate the usefulness, and to ease our understanding and help conclude if possible, aiding and supporting the diagnosis when it is equivocal. Previously, it was termed dermoscopy. It entailed an optical device that is used to detect skin malignancy promptly. It is also used to analyse inflammatory skin disorders and as a supportive tool in various non-neoplastic dermatoses such as inflammatory, infiltrative, and infectious diseases, however; it doesn't follow a standardised approach. It is non-invasive, easy to apply, and allows visualization of the epidermis, dermo-epidermal junction, and papillary dermis, in vivo magnification of the skin which cannot be seen with the naked eye.

Dermoscopy employs a ×10 to ×100 microscopic visualisation with a light source to magnify the structures under the skin's surface. There are three kinds of dermoscopy: namely, conventional nonpolarized dermoscopy, nonpolarized contact dermoscopy, and polarized contact dermoscopy. Many dermoscopic structures have a high degree of correspondence with pathognomonic histopathologic features.

The dermatoscope is considered the dermatologist's stethoscope and is an economic tool, yet data on the skill of colour is still limited and is a challenge. Histology is the cutting edge method to learn about the underlying issues, but requires a biopsy. Thus, applying trichoscopy features with the clinical findings can be sufficient to establish the right diagnosis without the need for a biopsy. Nonetheless, dermoscopy requires special training and experience.

Keywords:
Dermoscopy, trichoscopy, inflammoscopy, inflammation, skin.



Most common structures: vessels, scales, hair follicles.

Introduction

The most common structures seen in any inflammatory skin diseases are mainly blood vessels (a), scales or crusts (b), and hair follicle changes (c). Thus, the International Dermoscopy Society came up with a consensus for dermatoscopic parameters to be applied to the skin in general dermatology usage; namely,

1. blood vessels morphology and distribution,
2. scales colour and distribution,
3. follicular findings and their disturbances,
4. other specific clues like in lichen planus (Wickham striae) and porokeratosis (peripheral collarette which coincides with coronoid lamella histologically).

In any inflammatory skin condition, the main thing to consider is the vascular structure along the scales. Applying a noncontact polarising dermatoscope is recommended, in some cases along with an interface fluid such as oil or gel to enhance visualization over scales.

Common inflammatory scalp diseases, such as psoriasis, seborrheic dermatitis, lichen planopilaris, discoid lupus erythematosus, contact dermatitis, syphilis, or pemphigus may share similar clinical features. Thus, trichoscopy may offer a quick, non-invasive, cost-effective, and in-office diagnostic method of significant value in clinical practice, with a microstructure view.

The vessel morphology can be:
Dotted, as rounded vessels of any size, and is seen in most skin inflammatory conditions including dermatitis, lichen planus, pityriasis rosea, and porokeratosis. However, **linear** vessels without branching or **curving** can be seen in sun-damaged skin, steroids-treated areas for a long time, and rosacea which displays a polygonal vessel morphology. On the other hand, any **linear branching** vessels are distinctively associated with basal cell carcinoma, granuloma (tuberculosis and sarcoidosis), and advanced lupus. Besides **linear curved** vessels (comma vessels) are linked to dermal nevi, lichen planus, and mycosis fungoides(1).

Vessels can be distributed in a distinctive **regular** manner all over the lesion surface which is typified in psoriasis, or seen at the peripheral as in lichen planus. It can be **patchy**, that is randomly arranged without a specific pattern as seen in dermatitis and pityriasis rosea or network (plexus) like in psoriasis (dotted) and rosacea (linear)(1-4).

Scales play a role as well as colour and their distribution can aid in diagnosis as well. **Whitish** is seen in psoriasis mainly and lichen planus, while **yellowish** is linked to serum extravasation and keratin which is seen in all dermatitis coinciding with spongiosis, histologically. Also, scale distribution can aid as well, for example, if diffusely covering the lesion surface, which is visualised in several hyperkeratotic dermatoses, while central scales are seen mostly in psoriasis though it is not specific. Peripheral scales can be seen in pityriasis rosea and tinea, while patchy can be seen in several diseases (1-4).

Hair follicle distribution and its disturbance can aid in diagnosis as well. If it has follicular plugs, this can denote mostly discoid lupus. Additionally, it can show peri-follicular halo or pigmentation like in alopecia and re-pigmentation in vitiligo.

Specific clues can suggest a strong association with specific skin conditions, like the white crossing lines of Wickham striae in lichen planus and the peripheral keratotic rim of porokeratosis.

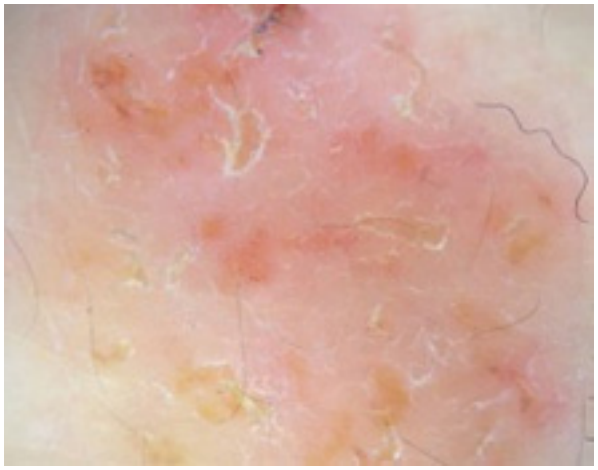
Psoriasis:
Psoriasis is a chronic and commonly encountered relapsing skin condition in the clinical setting that is characterised by thick silvery scales mostly in the scalp, and extensor parts of the body including the flexures and nails. Psoriasis is a multisystem disease.

The trichoscopic features can be: diffuse scaling, simple and twisted red loops, loads of red dots evenly distributed, globules, perifollicular scales, and glomerular vessels in the regular distribution along dry regular white scales observed (bushy pattern). Additionally, hidden hair and signet ring vessels have been reported recently. The uniformly distributed dotted vessels correspond histologically to dilated capillaries in regularly elongated dermal papillae over a dull red background along diffuse scaling which corresponds histologically to parakeratosis. The vessels are uniform in size and shape and on scale removal, red dots are noted that correspond to Auspitz sign (5).

Psoriasis, regular distribution (5).

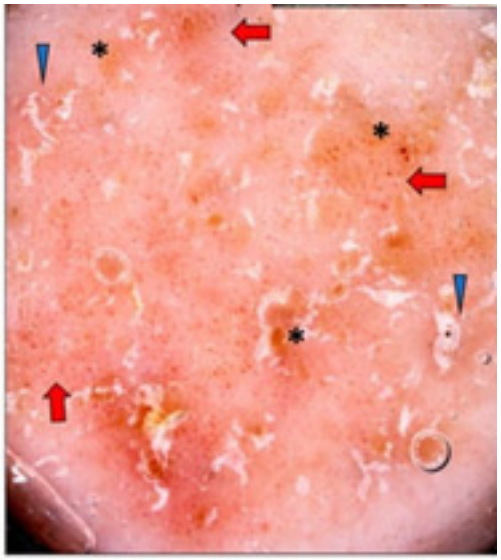
Psoriasis: thick white scales (5).

Eczema/dermatitis:
Eczema/dermatitis is a commonly encountered relapsing skin condition in the clinical setting that is characterised by itching, and dermatoscopic features are yellow scales/crusts which coincide with spongiosis /exocytosis in patchy/ clustered distribution, serocrusts, resulting from hyperkeratosis with some red dots but not linear, and white halo in chronic phases (lichenification) (1).



Dermatitis: dotted vessels in clusters with yellow scales (1).

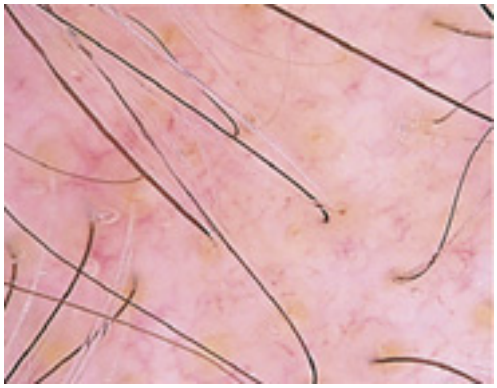
Discoid eczema, nummular eczema:
The predominant dermoscopy feature noted is dotted vessels in irregular distributions along white scales over yellowish scales with yellow structureless areas and “sticky fiber” sign with erosions(59).



Discoid eczema: dotted vessels in irregular distributions along white scales over yellowish scales (59).

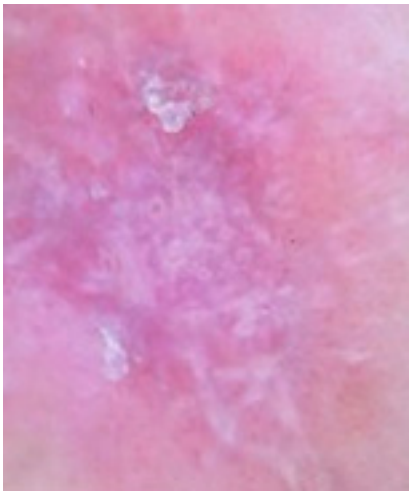
Seborrheic dermatitis:
Seborrheic dermatitis is a commonly encountered relapsing skin condition in the clinical setting that is characterised by scales in the oily based area of the face and anterior chest.

The trichoscope highlights some features, namely; atypical red vessels, twisted red loops, glomerular vessels, thin arborizing red vessels lines, glomerular vessels, structureless red areas, adherent yellowish scales, yellow dots between the follicular opening, perifollicular scales, and dandelion sign which denotes a yellow dot surrounded by glomerular and comma vessels which have the shape described and cherry blossom sign which means arborising vessels with glomerular and comma vessels around them (5-6).



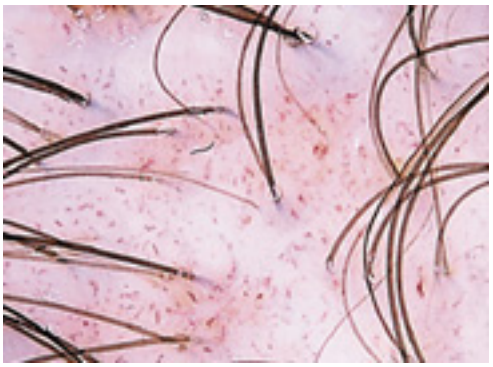
Seborrheic dermatitis: yellow scales (5-6).

Stasis dermatitis:
Stasis dermatitis exhibits glomerular vessels distributed in clusters or throughout the lesion (41). It also, displays superficial scales, white shiny structures, multiple rosette signs, white circles and generalized and homogeneous dotted vessels.



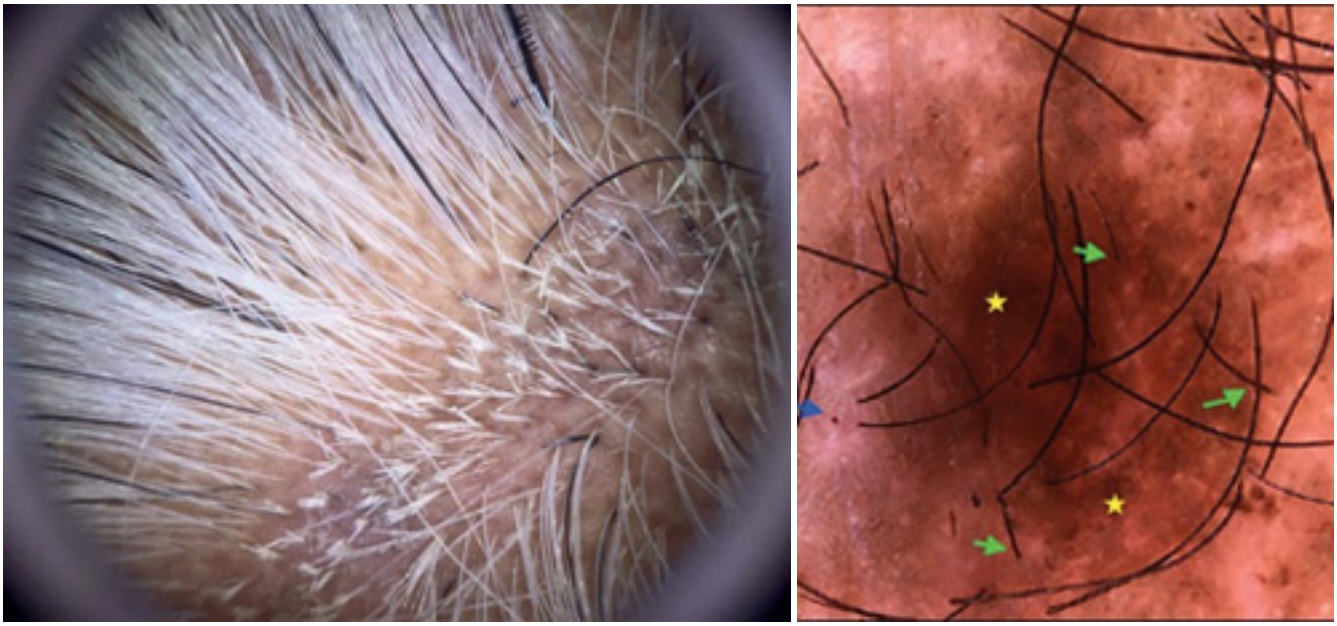
Stasis dermatitis: shows glomerular vessels distributed in clusters or throughout the lesion (41).

Contact dermatitis:
Contact dermatitis will show twisted red loops along arborising red lines (5-6).



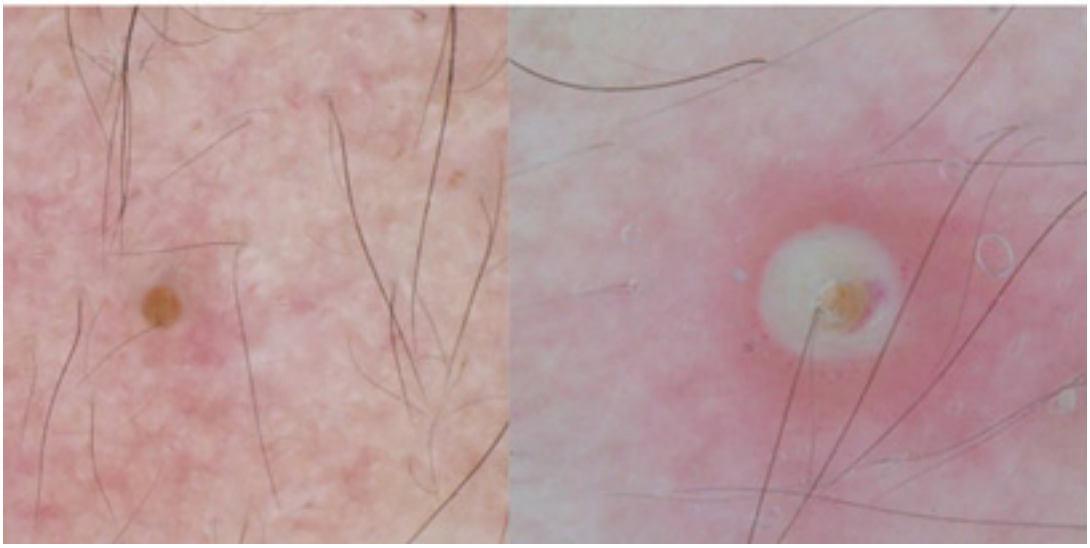
Contact dermatitis: irregular distribution (5-6).

Neurodermatitis/Lichen simplex chronicus:
It can show erythema, perifollicular scaling associated with hair shaft breakage in a chronic state. Also, on the scalp, an important dermoscopic feature of the disease is the 'broom fibers' which denote a well-delimited hair rarefaction area that displays a tonsure pattern (multiple hair emerging from the same follicle break at the same level distally) (43,57).



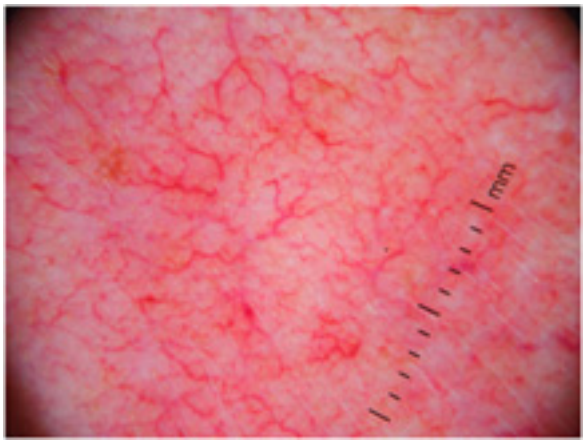
Lichen simplex chronicus: Shows erythema, perifollicular desquamation and tonsure pattern (43,57).

Acne vulgaris:
The main elementary findings are comedos that appear as dilated follicles filled with a white yellow circle or a brown pus that coincides with oxidised keratin, papules that appear as reddish rounded lesions due to the local inflammation and pustules due to collected purulent material inside the lesion cavity (64).



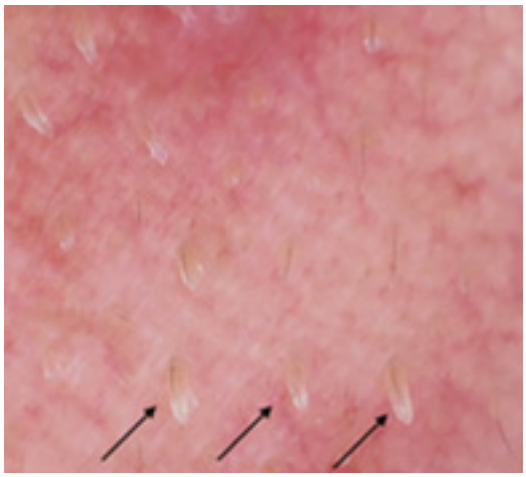
Acne vulgaris: papule and pustule consecutively (64).

Rosacea:
Dermatoscopic sensitive features comprise linear polygonal/arborising vessels (vascular polygons), orange yellowish areas along follicular plugs, dilated follicles, pigmented areas of white scales which are features of the presence of demodex tails(11-12).



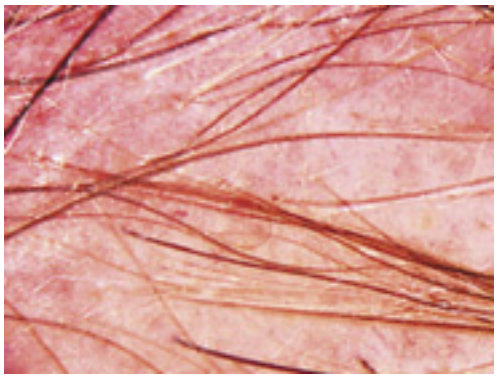
Rosacea: polygon vessels (11-12).

Demodicosis:
Its clinical findings can mimic several dermatoses like rosacea and seborrheic dermatitis. Its dermatoscopic distinctive finding is demodex tails which are white yellow protruding follicular keratotic plugs due to the presence of keratotic material and mites in the follicles (5-7,11).



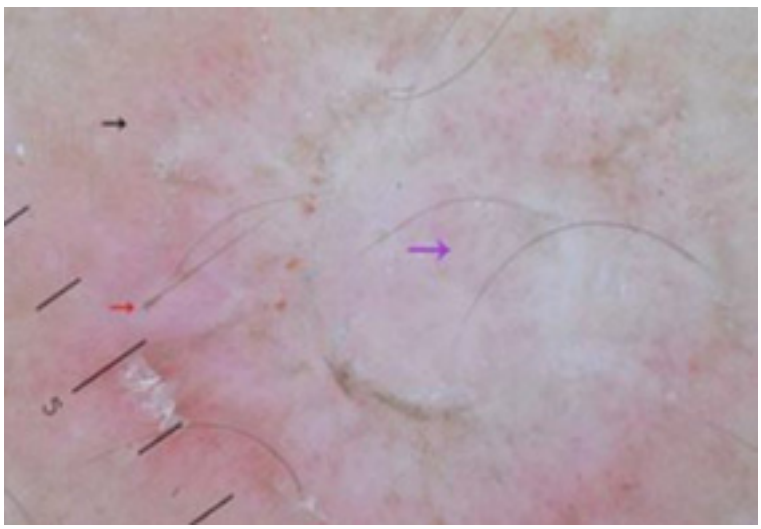
Demodicosis: Demodex tail (5-7).

Discoid lupus erythematosus:
The early stage will show follicular plugs, linear vessels, erythema around follicles, perifollicular white halo, white patches/scales, honeycomb or brownish pigmentation, structureless brownish areas, red, yellow, and white dots, arborising red lines, loss of follicular units, loss of follicular ostia and perifollicular scaling and pigmentation along telangiectasis at later stages (5-7).



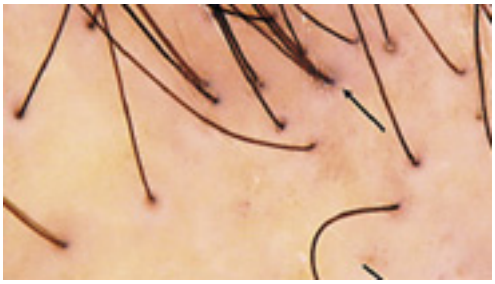
Discoid lupus erythematosus: red brown skin discolouration (5-7).

Subacute lupus erythematosus:
It shows white scales and mixed vascular patterns of linear, linear irregular, branching, and sparsely distributed dotted vessels along pinkish-red background due to hemosiderin deposits, and brown to blue-grey dots/peppering (5-7,13).



Subacute lupus erythematosus: red-white background, scales, and mixed vascular pattern (5-7).

Lichen planopilaris:
It will show milky red areas or fibrotic patches, perifollicular erythema, pigmented halo in targetoid pattern, loss of vellus hair, perifollicular vessels, black dots, pigmented network, tubular casts, loss of follicular units, white dots, and perifollicular scales (5-7).

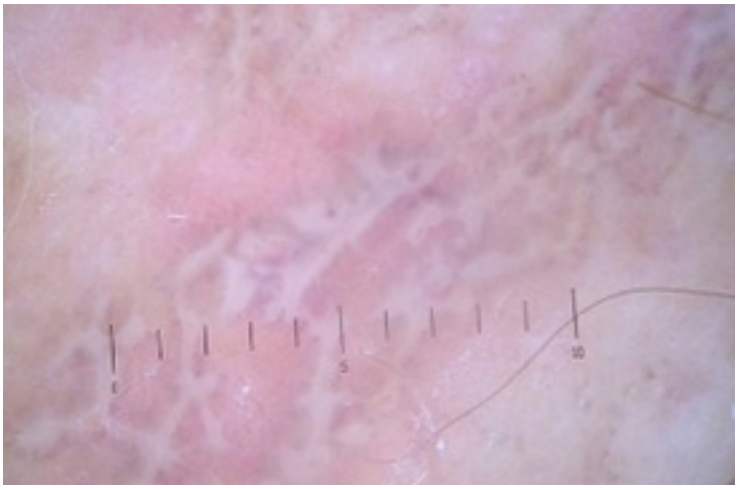


Lichen planopilaris: pigmented halo (5-7).

Lichen planopilaris: perifollicular scaling with scales entangling hair shafts (5-7).

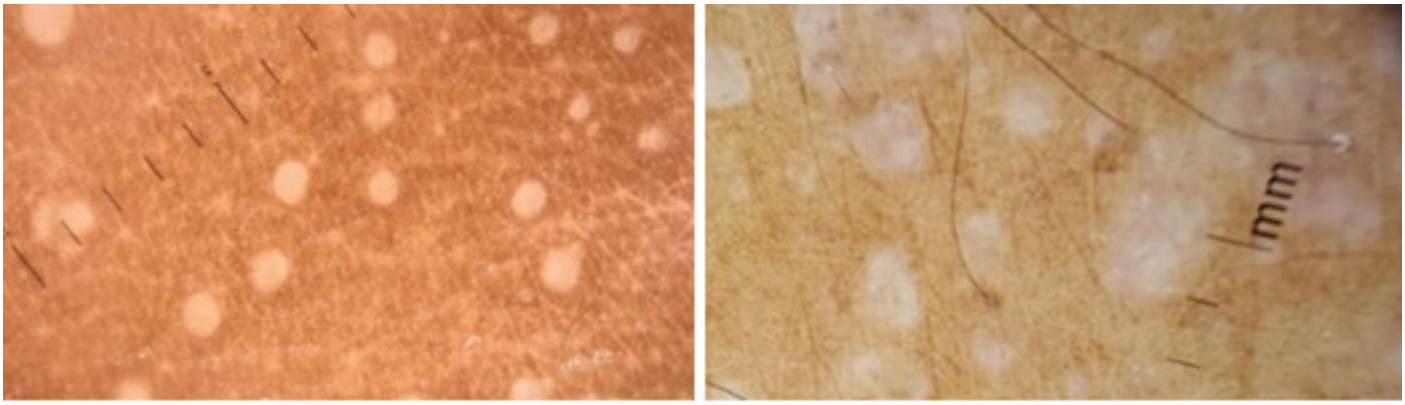
Lichen planus:
The main distinctive hallmark is white crossing streaks (Wickham striae) which coincide histologically with hypergranulosis (14). However, in scarring and resolving dermatosis lesions, a pseudo-Wickham stria can be mimicked in discoid lupus erythematosus, nodular scabies, and prurigo nodularis due to dermal fibrosis, along dotted/linear vessels, but can be quite dilated, more than those seen in Wickham striae. However, findings can vary according to lichen planus's variants (5-7).

Also, perifollicular erythema and white halo, interfollicular area blue-grey dots, white dots, and reduced follicular ostia can be seen in follicular lichen planus.



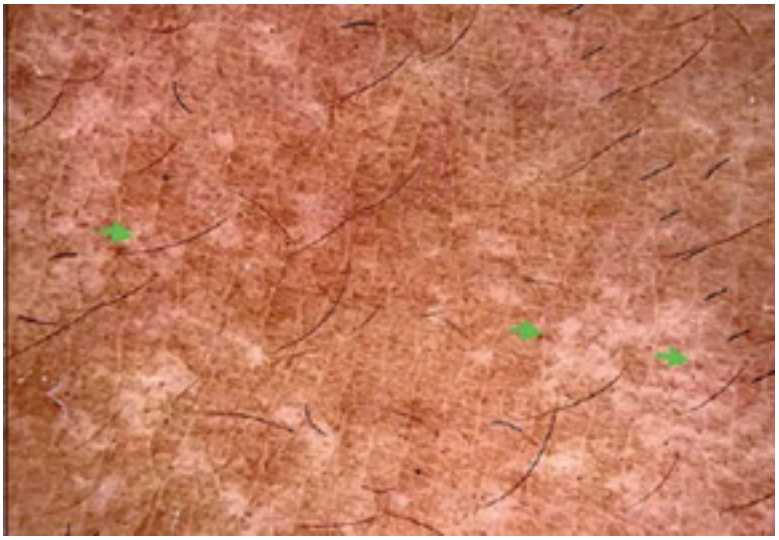
Lichen planus: Wickham striae (14).

Lichen nitidus:
Dermatoscope shows a distinctive round well-defined white area with indistinct brown shadow reflected through each of these white circles (corresponds to epidermal acanthosis) devoid of skin markings due to flattening of the epidermis overlying the inflammatory infiltrate, but on the penis, it retains the skin marking in a pronounced manner (8,51-52).



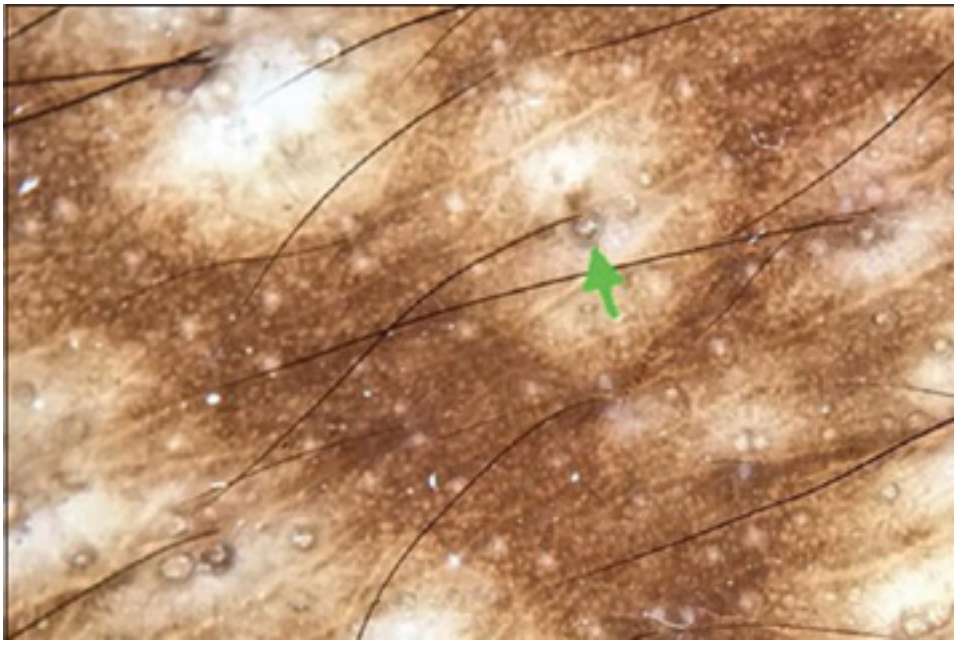
Lichen nitidus: rounded well-defined area with indistinct brown shadow was reflected through each of these white circles (14,51-52).

Lichen striatus:
Displays brownish to greyish granular pigmentation, dotted vessels, and white scales (57).



Lichen striatus: brownish to greyish granular pigmentation (57).

Lichen sclerosus et atrophicus (LSA):
Features keratotic follicular plugs and white structureless areas, corresponding to follicular hyperkeratosis and superficial fibrosis, however, dotted vessels, haemorrhagic dots, erythematous areas, and pigmented dots and networks can be seen in dark skin (57).

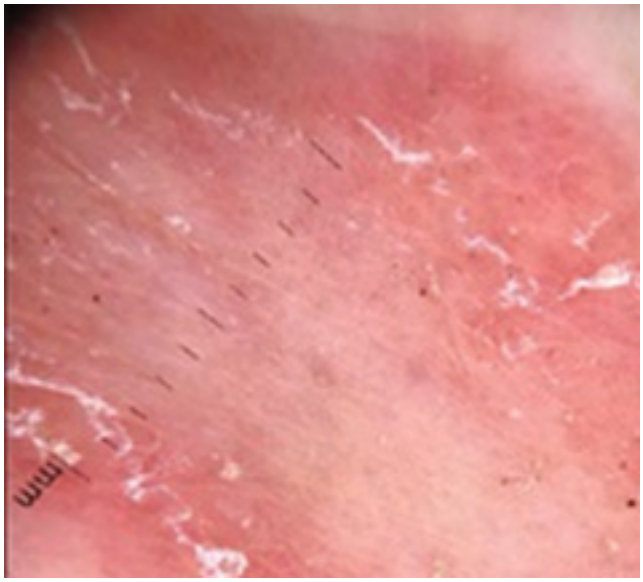


Lichen sclerosus et atrophicus (LSA): keratotic follicular plugs and white structureless areas (57).

Zoon's balanitis (plasma cell balanitis):
Shows homogenous orange structureless areas, corresponding to hemosiderin deposition, and the curved or serpiginous vessels, representing vascular proliferation (57).

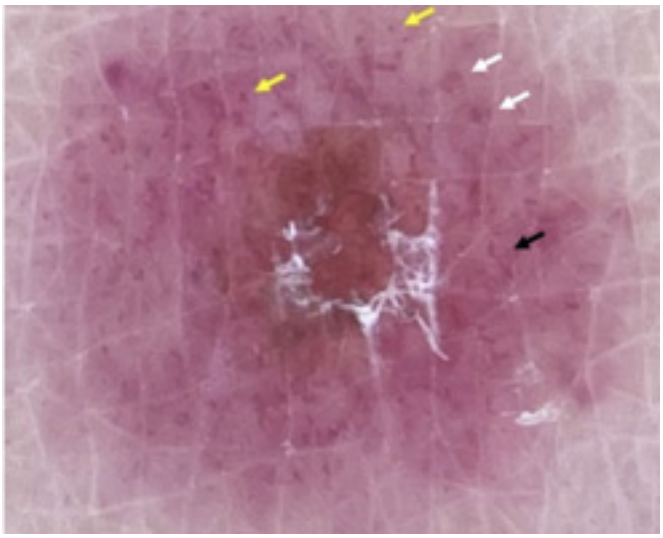
Zoon's balanitis (plasma cell balanitis): homogenous orange structureless areas and curved vessels (57).

Pityriasis rosea:
It displays a yellowish-red background with peripheral white scales (herald collarette sign), along dotted vessels in an irregular patchy manner (7-8).



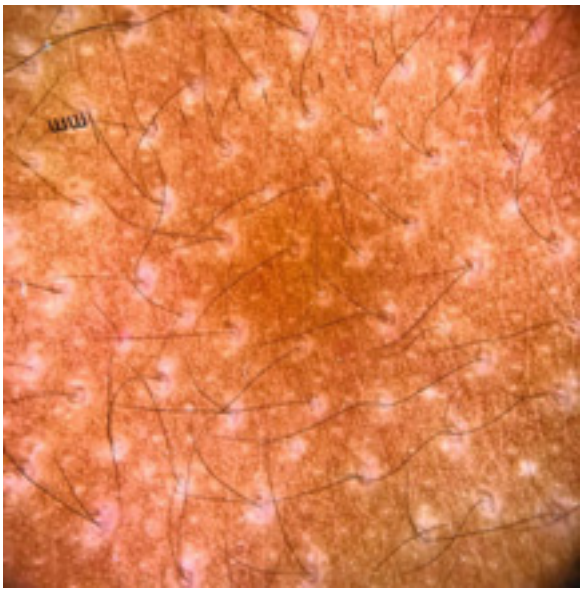
Pityriasis rosea: collarette (peripheral white scales), and dotted vessels (15).

Pityriasis lichenoides:
This encompasses two diseases' spectrum; pityriasis lichenoides et varioliformis acuta (PLEVA) and pityriasis lichenoides chronica. The latter display orange yellowish structureless areas due to dermal erythrocyte extravasation and non-dotted vessels along the hypopigmented area in long-standing condition, while PLEVA varies according to the lesion age where an early one shows purpuric area and a mature lesion shows a central amorphous brown crust due to epidermal necrosis and in the centre, a white area can be seen in a healing lesion (7-8).



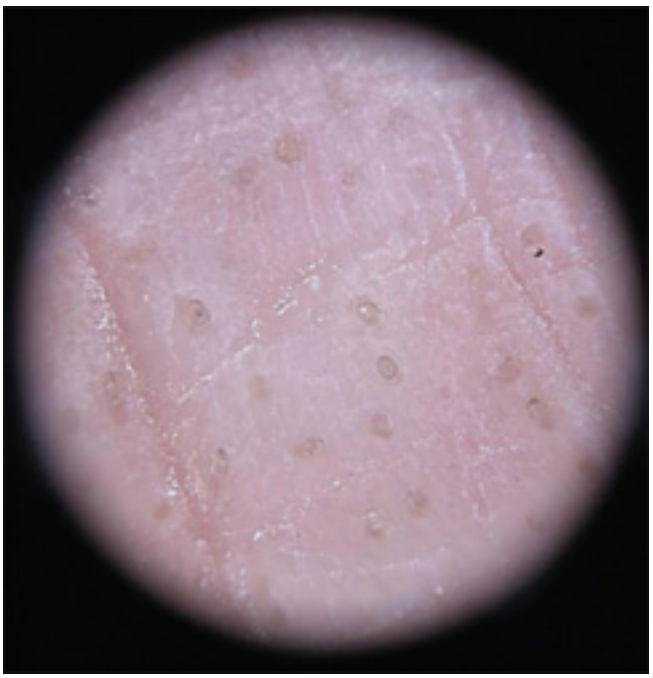
PLEVA; dotted vessels (yellow arrows), glomerular vessels (white arrows), and linear irregular vessels (black arrows) (7-8).

Pityriasis rubra pilaris (PRP):
Yellow area with dotted and linear vessels, with patchy white scales along central follicular keratin plugs, along perifollicular yellow/orange halos, and central hair (18).



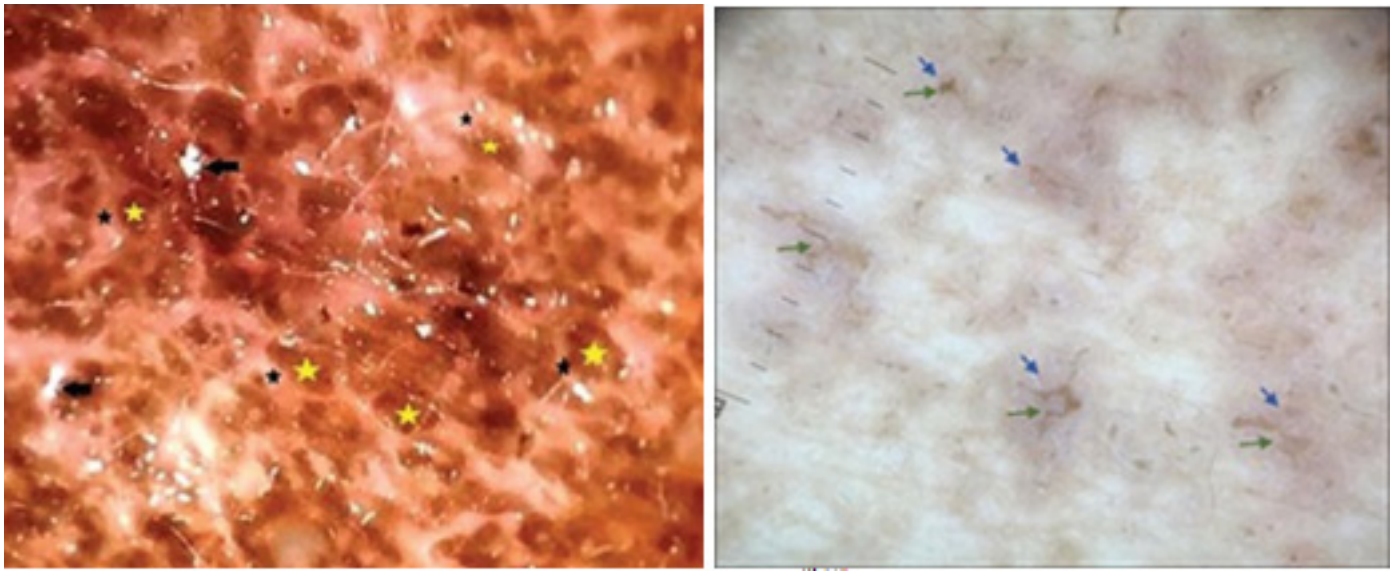
Pityriasis rubra pilaris: keratotic follicular plugs surrounded with erythema and presence of central hair (18).

Porokeratosis:
Coronoid lamella which is the hallmark of porokeratosis histologically, with dermatoscopic finding of well-defined white-yellow annular structure peripherally (white track outlining volcanic crater). In the centre, brown pigmentation, and dotted or linear vessels (17).



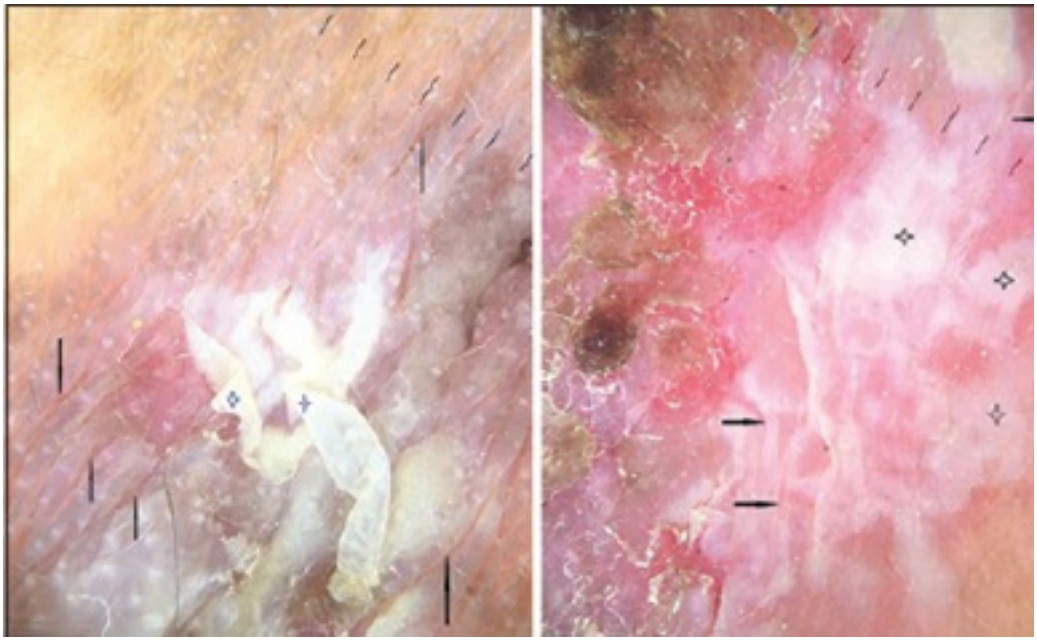
Porokeratosis: the periphery of each lesion shows a white track structure (17).

Darier disease and Grover disease:
Both have similar histology and thus they share similar dermatoscope findings.
Both show central yellow-brown area with star-like branched polygonal or round oval shape due to hyperkeratosis and exocytosis (acantholysis) and peripheral white halo coincides with acanthosis-pseudocomedones, erythema, dotted or linear vessels (8-9,21,57).



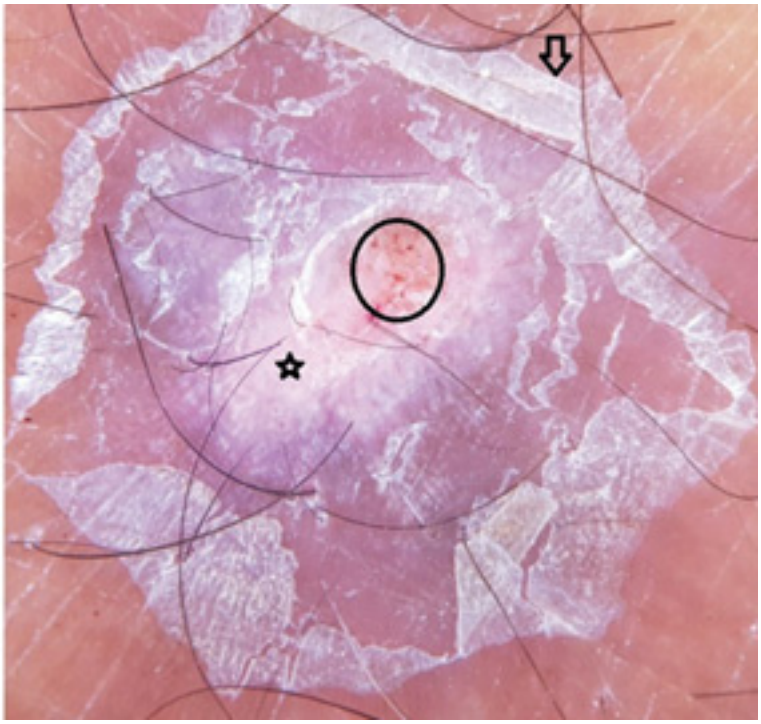
Darier disease and Grover disease: polygonal or round oval shape (21,57)

Hailey-Hailey disease:
Can reveal irregular pinkish-white areas separated by pink furrows along with whitish areas in a cloud-like arrangement or as irregularly raised wavy folds giving a crumpled fabric pattern. Erosions with a few dotted vessels and crusted areas can be seen (57-58).

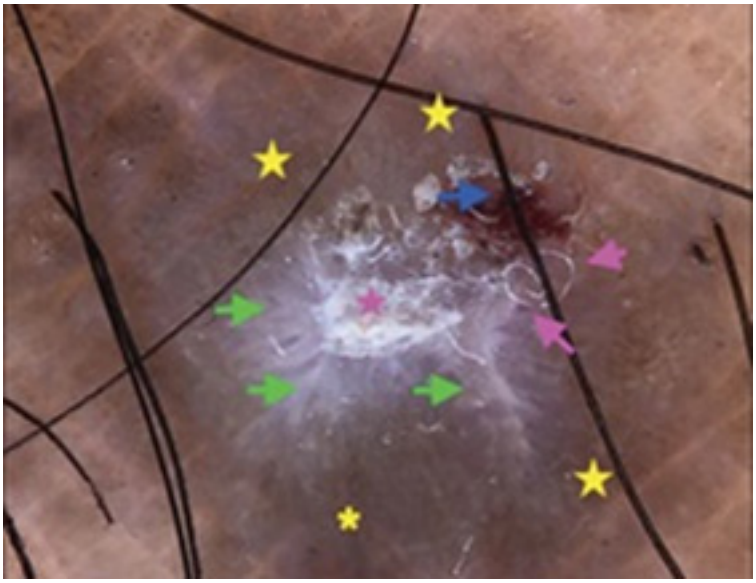


Hailey-Hailey disease: irregular pinkish-white areas separated by pink furrows along with whitish areas (57-58).

Prurigo nodularis:
It shows central erosion, crusting, radially arranged white lines with scales or peripheral white halo with coarse projections on brown-red background (white starburst pattern of pearly white areas with peripheral pigmented dots (57), haemorrhagic spots, red dots, and globules in excoriated lesions (22).

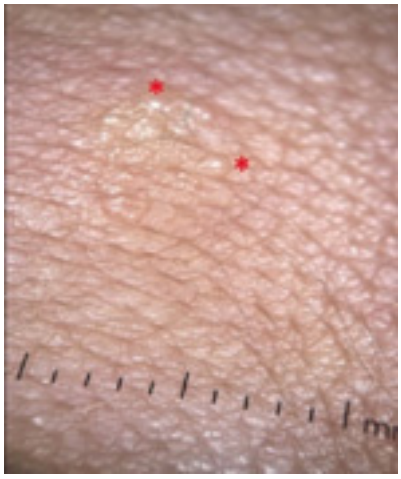


Prurigo nodularis: pearly white areas, peripheral striations with scaling in the hyperkeratotic lesion (22).



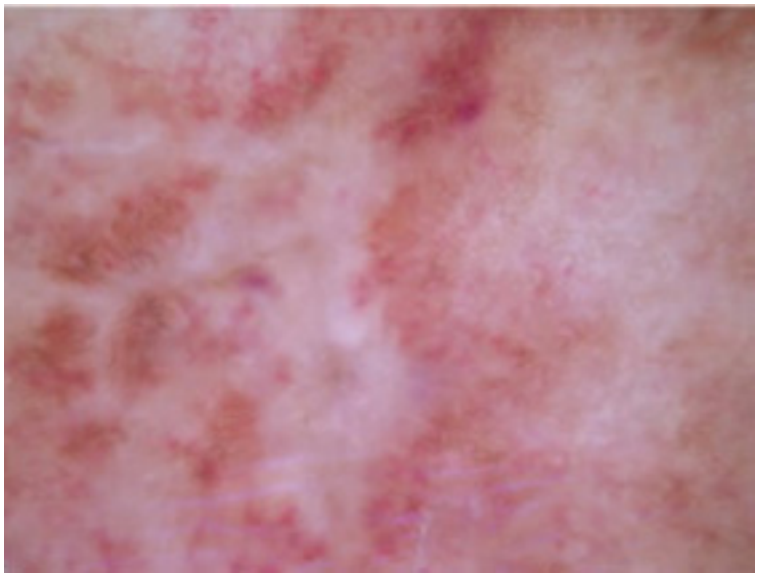
Prurigo nodularis (PN): central erosion, crusting surrounded by a white starburst pattern of pearly white areas (57).

Mastocytosis:
Light brown blot, pigment network, reticular vascular pattern, or yellow orange blot (4-7).



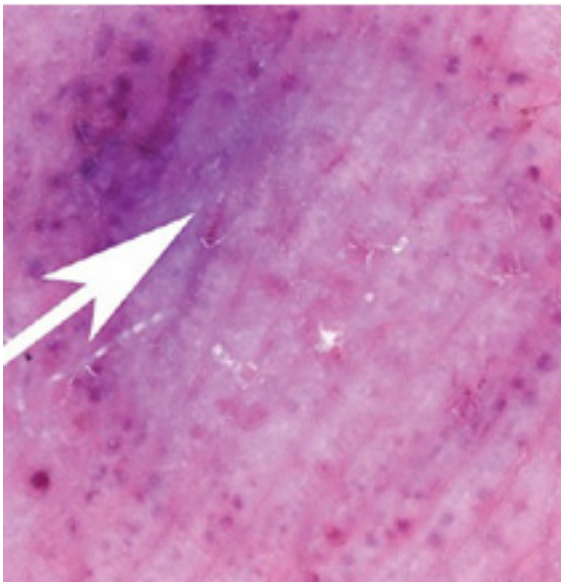
Mastocytosis: diffuse yellowish thickening of the skin giving a “leathery pattern” (4-7).

Livedo recticularis:
Linear vessels with a regular distribution, central crusted ulcer, or ivory-white atrophic scar-like areas (corresponding to dermal fibrosis), along the periphery featured hyperpigmentation in a reticular pattern (corresponding to basal layer of the epidermis or melanin within melanophages in dermal papillae), with increased vascular pattern in the periphery including linear telangiectatic vessels and glomerular vessels (correspond to proliferated capillaries in upper dermis) (20).



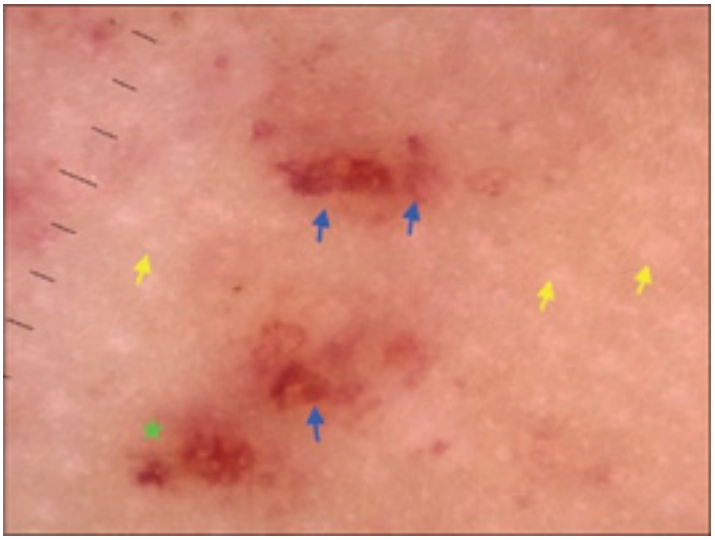
Livedo recticularis: central crusted ulcer/white scar-like area with peripheral pigmentation and increased vascularity (20).

Erythema multiform:
The typical target or iris lesions are portrayed by three circular zones of a central dusky zone, surrounded by a ring of pale oedema and a peripheral red rim. Dermascopy shows Linear vessels peripherally, and bluish patches centrally (25).



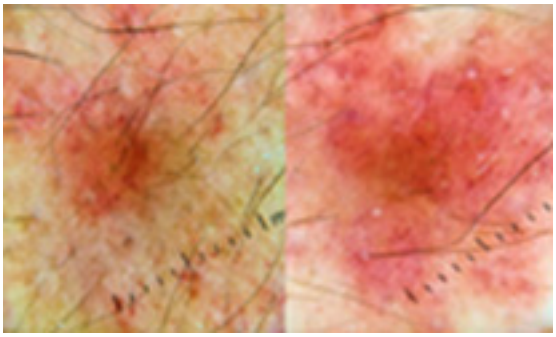
Erythema multiform: shows a central dusky zone of various colours, red/blue/purple and black (25).

Langerhans cell histiocytosis (LCH):
Shows reddish purple areas, brown dots, and central white area with telangiectasia (57). The presence of vascular blotch corresponds to dermal haemorrhage, white homogeneous areas to dermal Langerhans cell infiltration without epidermal involvement and brown dots or structureless area or crust to epidermal infiltration and necrosis by Langerhans cells.



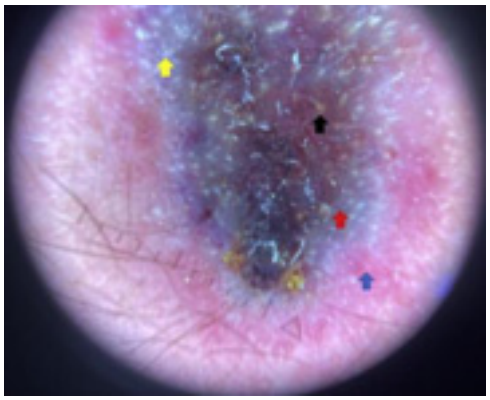
Langerhans cell histiocytosis (LCH): vascular blotches, brown globules, and white structureless area (57).

Sweet syndrome:
Dermoscopy shows structureless bluish patches, with a focal arrangement of red clods vessels (26).



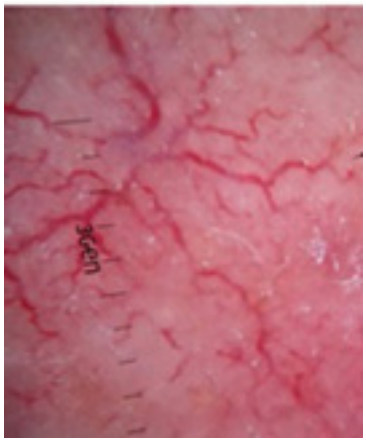
Sweet syndrome: shows red clods over patchy pinkish background with pale areas (26).

Granuloma;
Dermatoscopic features comprise mainly translucent orange-yellowish globular-like or structureless areas possibly corresponding to the well-defined sarcoid granulomas predominately which imply dermal change with histocyte and lymphocyte density, along linear or branching vessels and this could fall under sarcoidosis, tuberculosis, lupus vulgaris and lymphoma (4-7).



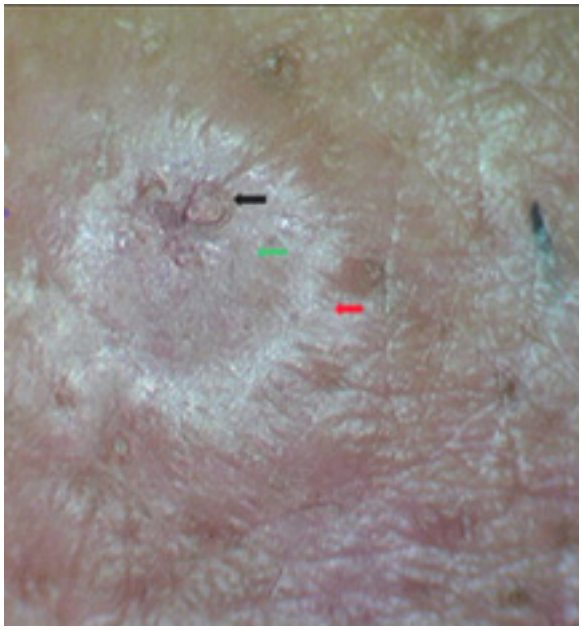
Granuloma: translucent orange-yellowish structures area (4-7).

Sarcoidosis:
Shows orange yellow globules or areas along linear vessels (27).



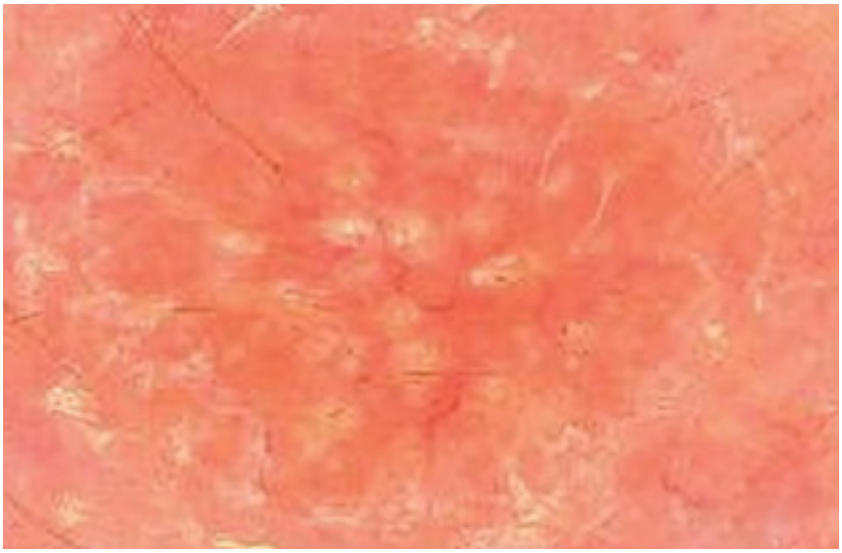
Sarcoidosis: translucent orange yellowish globular-like or structureless areas with linear or branching vessels (27).

Granuloma faciale:
It's not granuloma as the name implies, however it's chronic leukocytoclastic vasculitis, characteristic by the presence of dilated follicular openings, perifollicular white halo, follicular keratotic plugs, linear branching vessels with purpuric spots due to erythrocyte extravasation and hemosiderin dermal deposits(19).



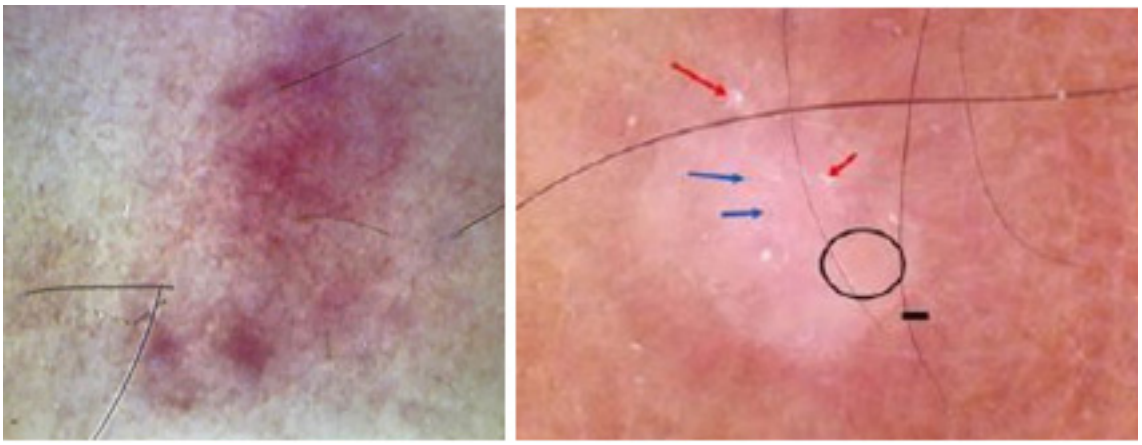
Granuloma faciale: pink background (blue arrow), with aggregates of brown dots/globules (green arrow), white striations in different directions (red arrow), and prominent follicular orifices (black arrow) (19).

Cutaneous leishmaniasis:
An erythema, yellow tear (follicular plugs), hyperkeratosis with central erosion/ulceration/crust, with vascular morphology of linear irregular, dotted, hairpin, arborizing, and comma-shaped patterns are mostly appreciated peripherally (38).



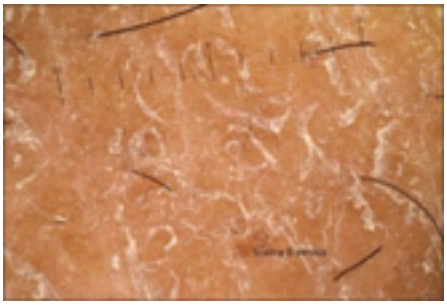
Cutaneous leishmaniasis: showing yellow tears with central crust (38).

Erythema nodosum:
Shows erythematous lobules, shiny white scaling, red dots, hypopigmented structureless areas and vascular dilatation. These lobules substantiated the presence of lobular panniculitides (46,54).



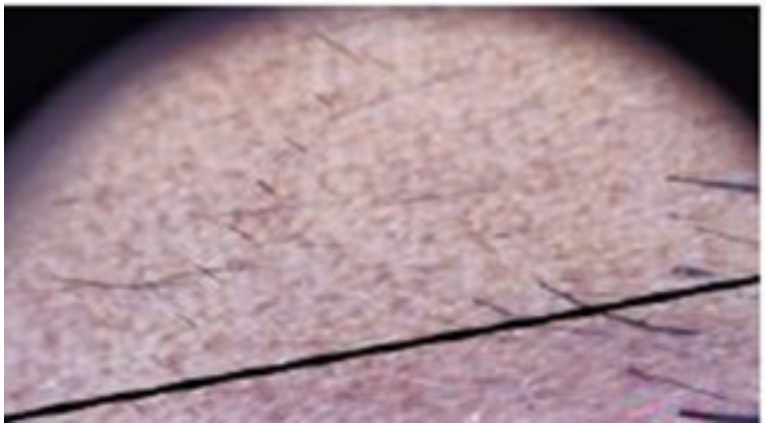
Erythema nodosum: showing erythematous lobules (46,54).

Leprosy:
Tuberculoid/ lepromatous leprosy: shows xerosis, white scaling, and absence of pigment as well as white dots as sweat glands (42).



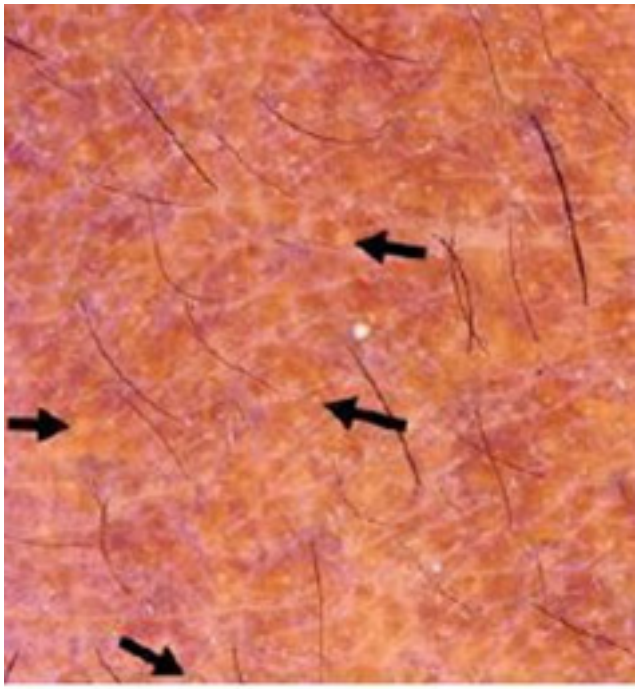
lepromatous leprosy: shows xerosis and scaling (42).

Tuberculoid leprosy: shows orange yellowish structureless areas, white structureless areas, peripheral erythema, relative vellus hair sparing and extensive loss of pigment network (54).



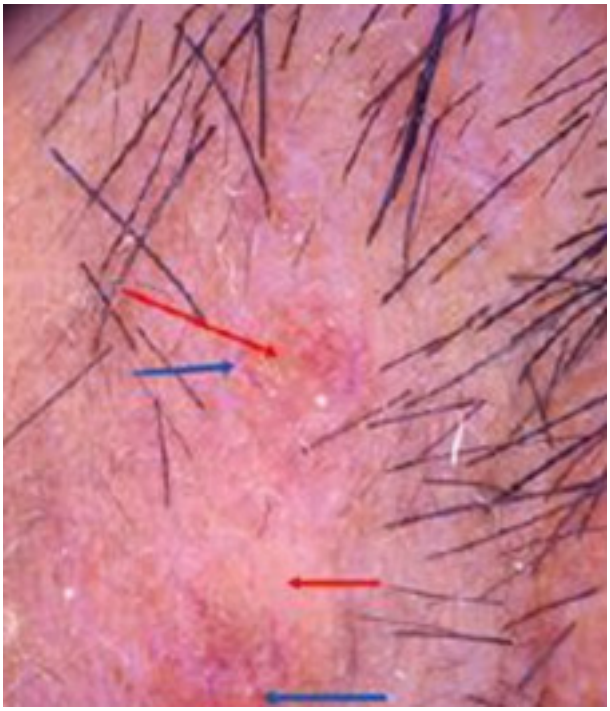
Tuberculoid leprosy: orange yellowish structureless areas, and extensive loss of pigment network (54).

Borderline Tuberculoid leprosy: shows yellowish orange structureless areas surmounted by branching vessels with violaceous hue in the background, with patchy loss of the pigment network, diminished hair follicles, and sweat glands along with yellow dots and globules (54).



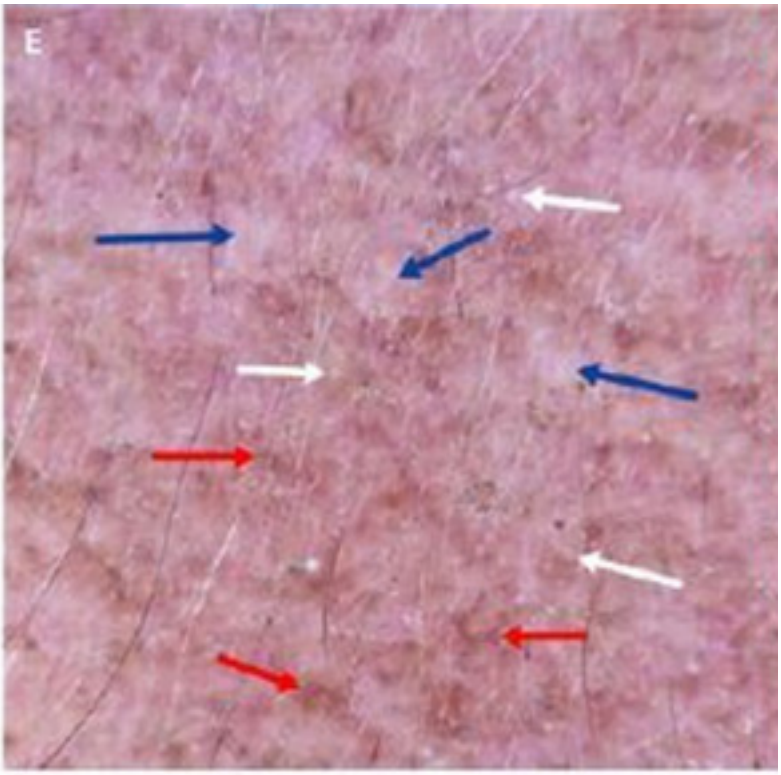
Borderline Tuberculoid leprosy: shows yellowish orange structureless areas with violaceous hue in the background (54).

Lepromatous leprosy:
Yellowish orange and structureless areas with yellow globules, shiny skin, telangiectatic vessels and sparse appendages along attenuation of normal reticular pigment network (54).



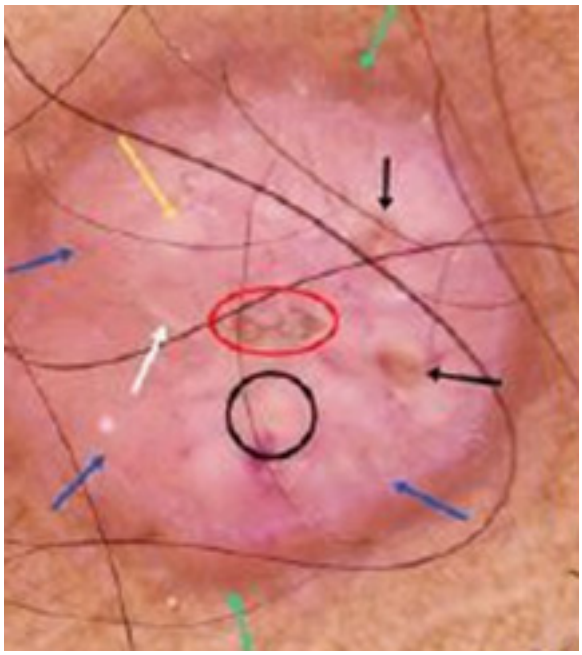
Lepromatous leprosy: Yellowish orange and structureless areas with yellow globules (54).

Borderline Lepromatous leprosy:
Shows loss of pigment networks with focal areas of hyperpigmentation. Other dermoscopic features included white, shiny streaks with relative sparing of appendages and hair follicles with no branching vessel (54).



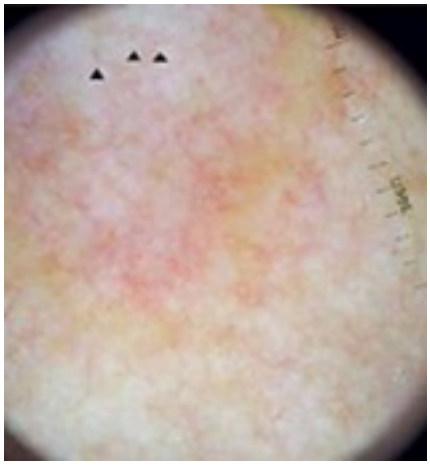
Borderline Lepromatous leprosy: loss of pigment networks with focal areas of hyperpigmentation with relative sparing of appendages and hair follicles (54).

Histoid leprosy:
Exhibited a distinctive dermoscopic appearance, which encompassed crown vessels with central hypopigmented and blanchable dome-shaped structures along with crystalline lines. Additionally, central umbilication displayed central white dots and keratotic plugs along with pseudokoebnerization (54).



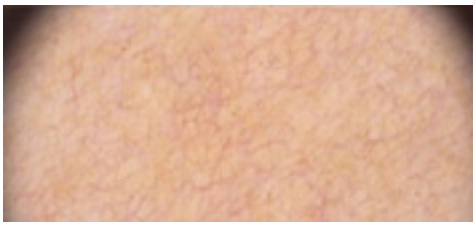
Histoid leprosy: crown vessels, central hypopigmented and blanchable dome-shaped structures along with crystalline lines and central umbilication of keratotic plug (54).

Granuloma annulare:
Hazy vessels having variable appearance (dotted, linear short-irregular, and branching) with background of either red, yellow or white area, and other findings could be rosettes, crystalline structures, and whitish scaling (34).



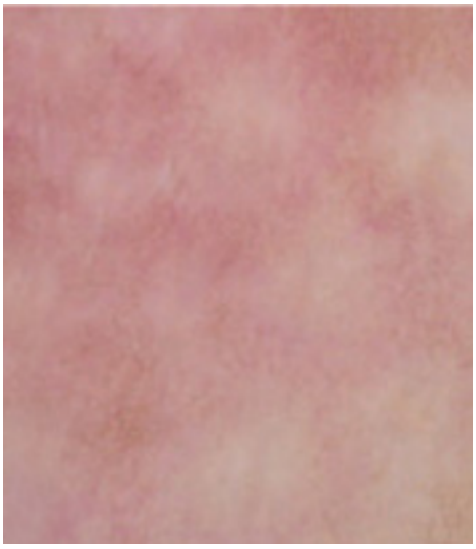
Granuloma annulare: red, yellow or white area (34).

Cutaneous lichen sclerosis and morphoea:
Mostly characterized by bright white yellowish patches/structureless area with linear vessels with yellowish keratotic plugs surrounded by red halo which marks the disease activity. In morphoea, pigmentary structures were mostly significant along white clouds which is ill defined dull white areas due to deep dermal fibrosis (white fibrotic beams), linear vessels within lilac ring are typical finding (36).



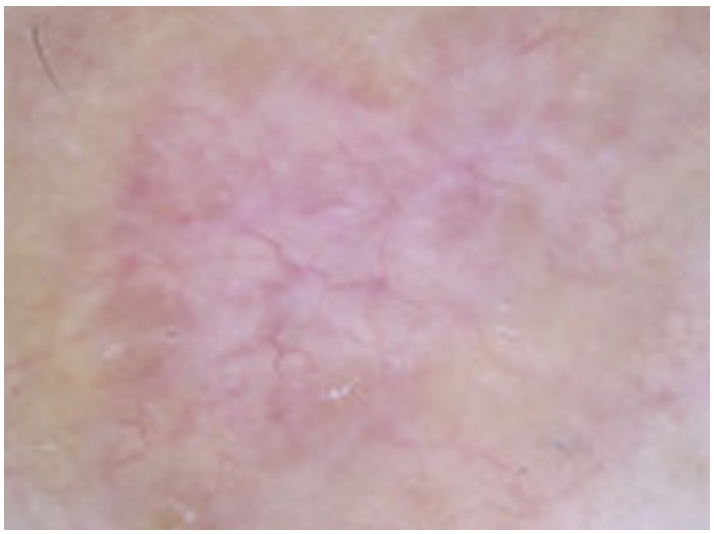
Active cutaneous lichen sclerosis: shows linear branching vessels throughout (36).

Inactive cutaneous lichen sclerosis: shows reticulated brown areas (36).



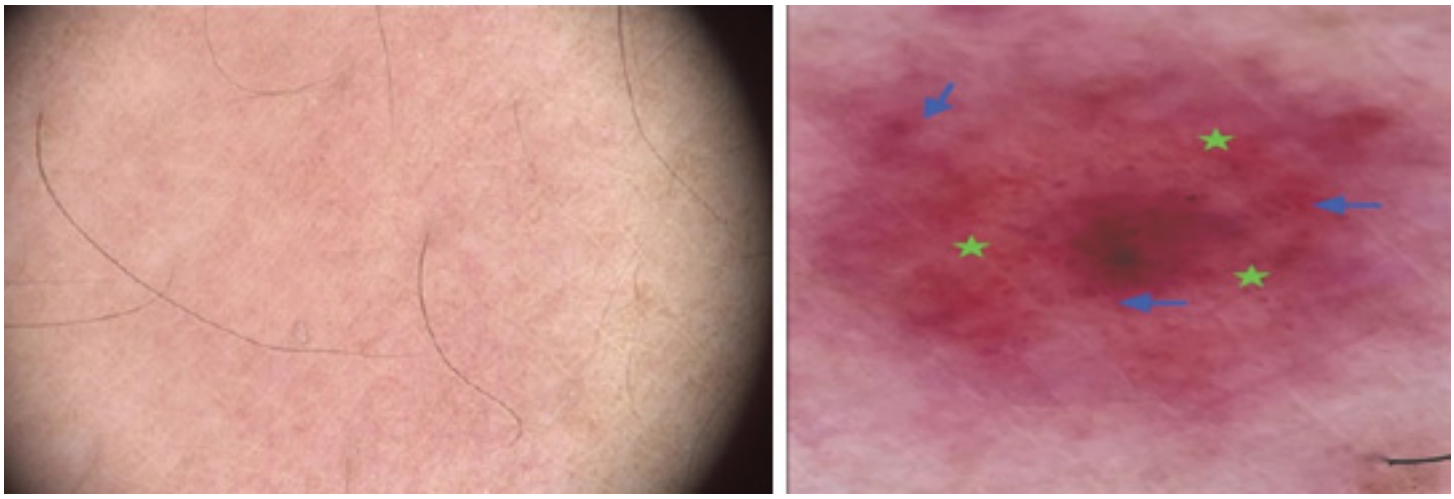
Morphea: multiple white clouds with pigmentary structure (37).

Necrobiosis lipoidica:
It shows yellowish orange structureless areas due to granuloma inflammatory infiltrate and lipid deposit in the dermis with well-focused vascular structure, along comma-shaped vessels, dotted vessels, globular, comma-shaped and glomerular vessels in earlier lesions stage and hairpin, linear and network like at mature stages or active lesions, or branching serpentine like in advanced stages with attenuation at periphery due to epidermal atrophy of the centre (32).



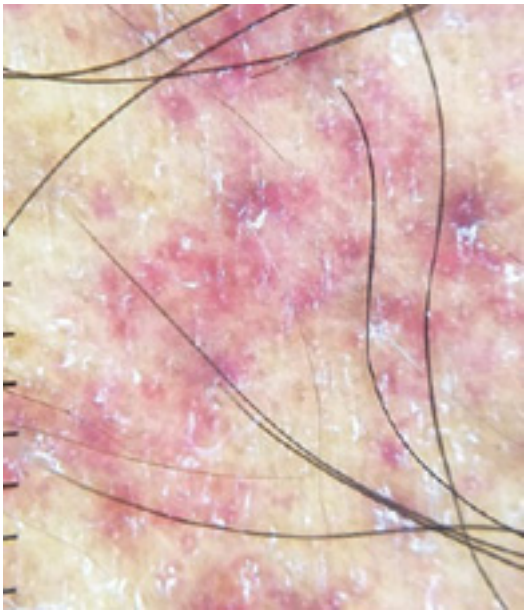
Necrobiosis lipoidica: irregular arborizing vessels on a light brown background, whitish structures, patchy pigmented reticulum (32).

Urticaria:
Dermoscopy will show enhanced visualization of subclinical red/purpuric patches of a network of linear vessels surrounding avascular erythematous areas that correspond to dermal oedema (39).



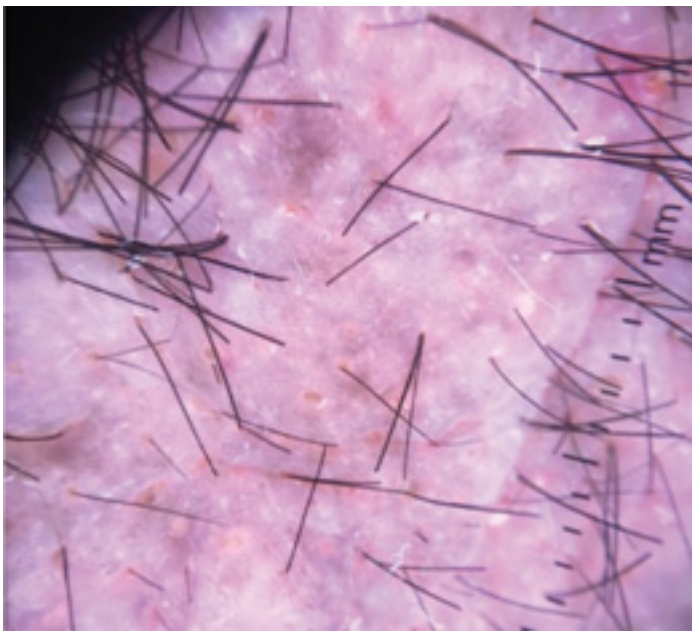
Urticaria: shows red, reticular network of linear vessels, surrounded by an area devoid of vessels (39).

Urticarial vasculitis:
Purpuric dots or globules, orange-brown background, a network of linear vessels (39).



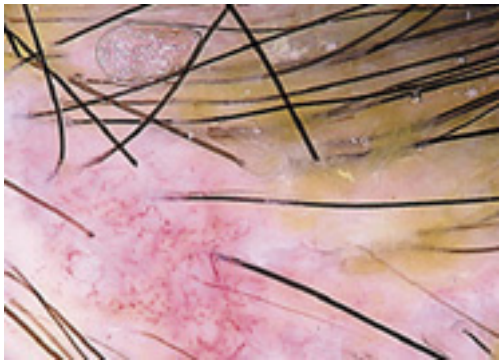
Urticarial vasculitis: shows purpuric globules (39).

Mycosis fungoid, CTCL:
Classic MF shows characteristic flat macular itchy skin lesions that show dermatoscopically broken, small short vessels, dot vessels with yellow crust scales, orange-yellow areas, and spermatozoa-like structures with a striking pigmentary change, thick black lines, white rosettes, and geometric white lines (35).



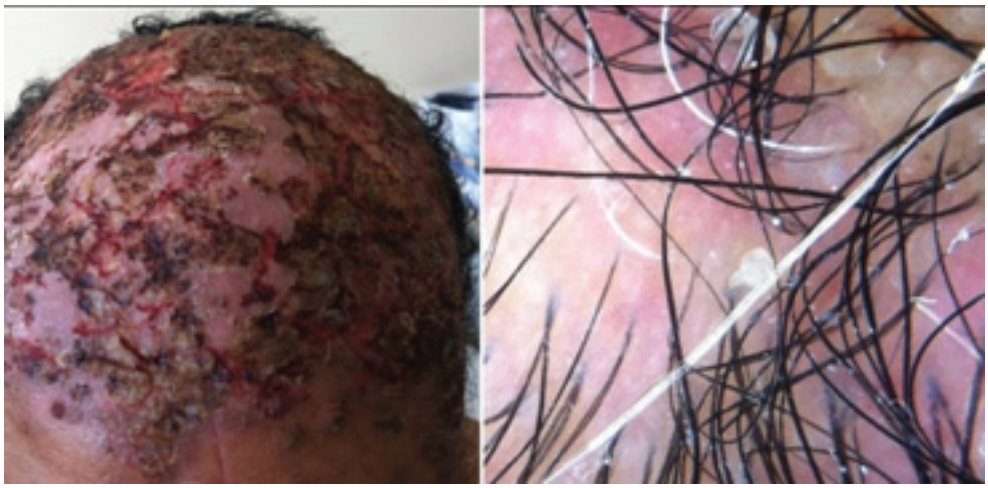
Mycosis fungoid: pigmentary change (35).

Pemphigus foliaceous:
It will show white polygonal structures along linear serpentine vessels, dotted and arborising vessels, linear helical vessels, glomerular vessels, scaling, fried egg sign, yellow haemorrhagic crusts, yellow scaling, tubular casts, haemorrhage, and white perifollicular scaling (4-7).



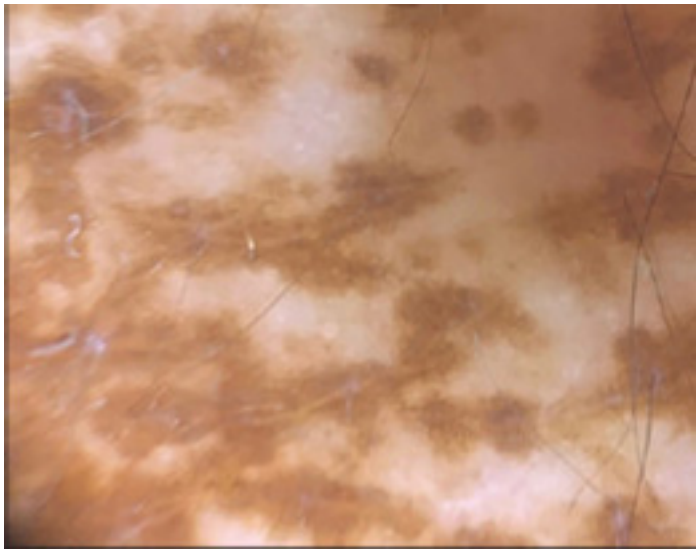
Pemphigus foliaceus: helical and linear serpentine vessels (4-7).

Pemphigus vulgaris:
It will show red dots with white halo and lace-like vessels, fried egg sign, linear serpentine, lace-like glomerular and arborising vessels, yellow scale, hemorrhage, dots, and globules (33).



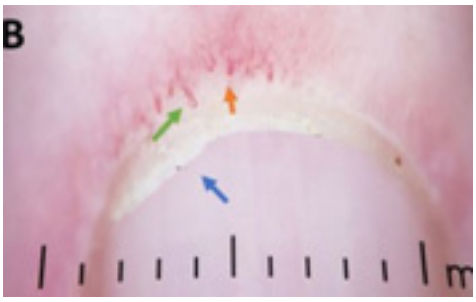
Pemphigus vulgaris: perilesional area reveals hair casts encircling hair shafts (33).

Systemic sclerosis:
It's an autoimmune connective tissue disease that is characterised by: polymorphic vessels, telangiectasia, along salt and pepper signs(28). Loss of follicular openings, broken hairs, black dots, and pili torti.



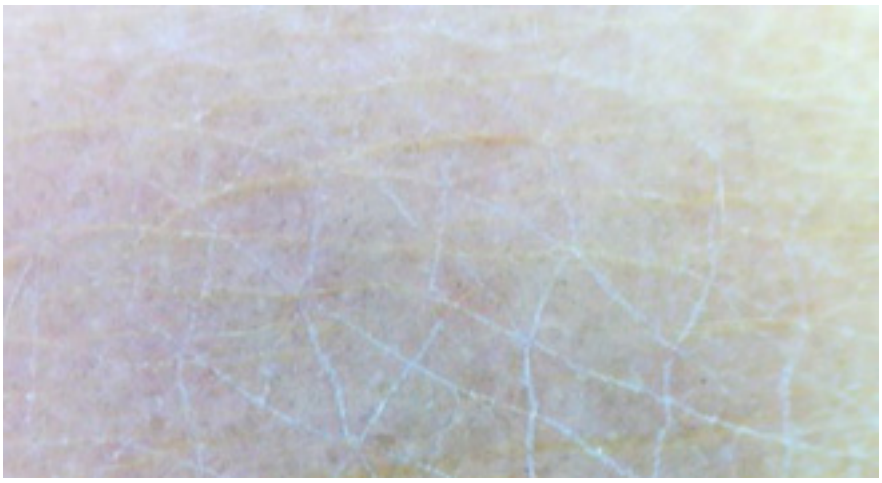
Systemic sclerosis: white homogenous areas with perifollicular pigment. Salt and pepper pigmentation clinically manifests as vitiligo-like depigmentation with perifollicular pigmentary retention (28).

Dermatomyositis:
It's a chronic skin condition with multisystem involvement and some distinctive skin features. Dermsocopy detected advanced nail fold giant capillaries, micro hemorrhages, and avascular areas (29). The trichoscopic features are; erythematous violaceous areas with enlarged tortuous capillaries or lake-like vascular structures, serpentine vessels, interfollicular scales, peripilar casts, tubular casts, and perifollicular and interfollicular pigmentation, along scalp atrophy, and tufting of hair where three or more emerging together with peripilar cast (9).



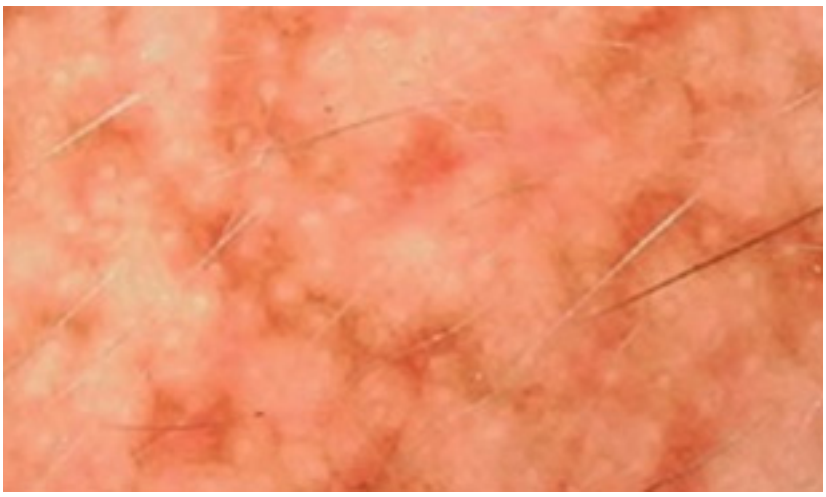
Dermatomyositis: giant nail capillaries (30).

Syphilis:
Dilated capillary vessels, reduced number of terminal hair shafts, broken hairs, thin white scales, perifollicular hyperkeratosis, hemorrhage, yellow dots, pigmented network, white scaling, loss of follicular units and perifollicular scaling (24).



Syphilis: scaling with skin furrows (24).

Melasma:
It shows a pseudoreticular pigment network, diffuse light-to-dark brown background with sparing of the periappendageal region (follicular and sweat gland openings), brown granules, and globules, including arcuate and annular structures, sometimes with increased vascularises and telangiectasia (31).

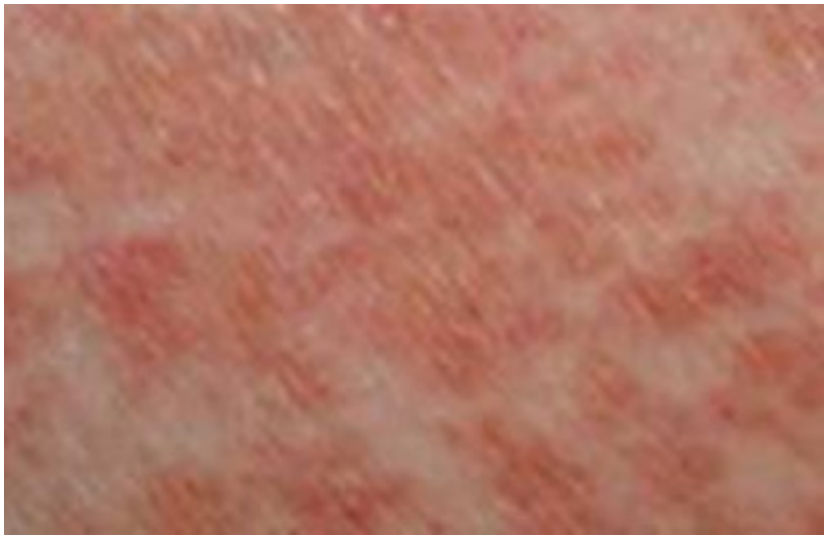


Melasma: diffuse light-to-dark brown pseudoreticular network, multiple brown dots, globules, globule and increased vascularises (red line) (31).

Argyria:
Shows an area comprising blue-grey structures uniformly distributed across a yellow background (53).

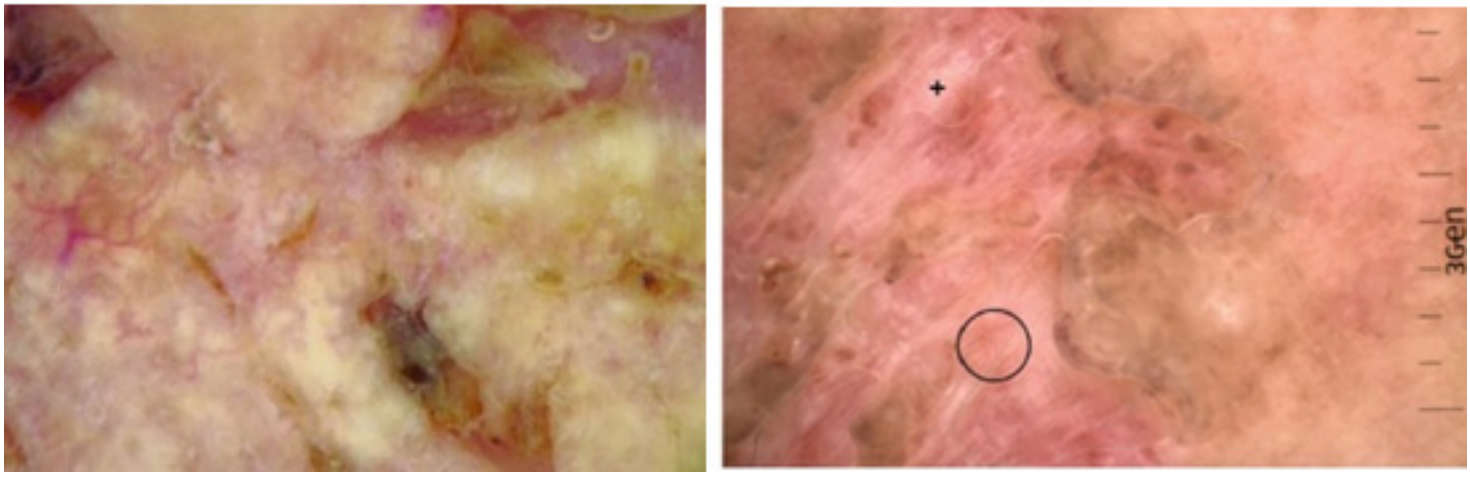
Argyria: blue-grey structures uniformly distributed across a yellow background (53).

Pigmented purpuric dermatoses (PPDs):
are a group of inflammatory skin diseases that may be mistaken as vasculitides. Dermoscopic features show a copper-red background, rounded to oval dots, grey dots, and a network of brownish-to-grey linked lines, purpuric dots, and an orange-brown area of pigmentation (44).



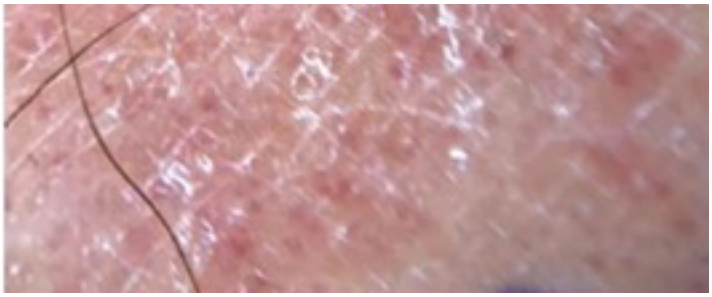
Pigmented purpuric dermatoses (PPDs): shows discrete yellow red patches with superimposed Petechiae (44).

Favre-Racouchot syndrome (FRD):
Shows yellowish lobular-like structures with rare peripheral telangiectasia (55). Though rare it can display an erythematous background, scar-like depigmentation areas, chrysalides and fine linear irregular vessels. In the central area, small islands of normal skin can be visualized, while at the periphery of the plaques there are milia cysts and comedones (56).



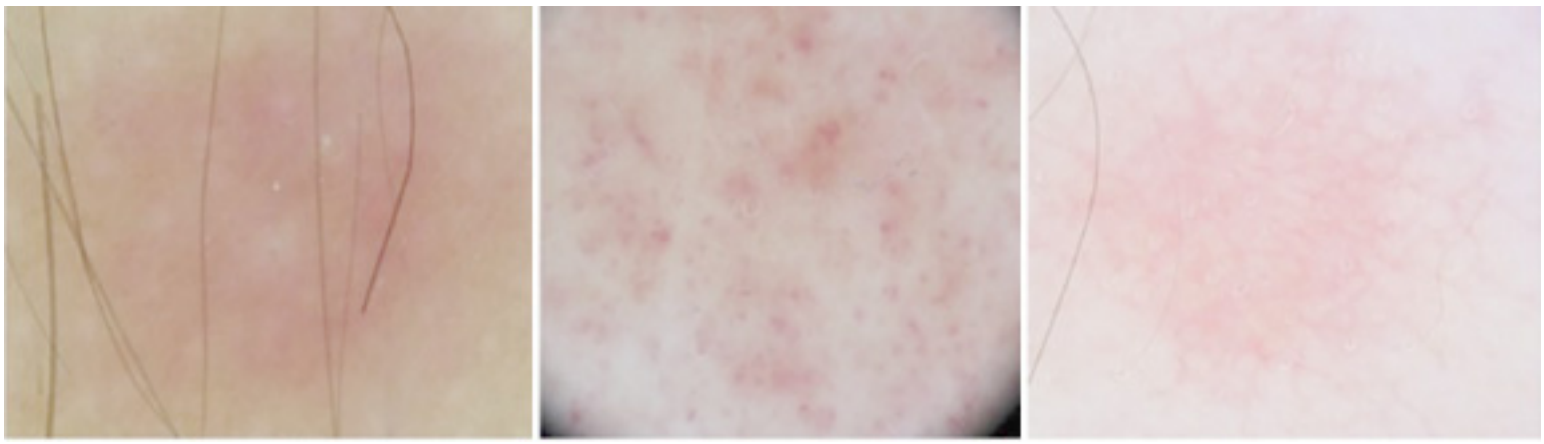
Favre-Racouchot syndrome (FRD): yellowish lobular-like structures (55-56).

Capillaritis:
Is a variant of PPDs and characteristic by extravasation of erythrocytes in the skin (petechia) with hemosiderin deposition over brownish coppery background like in the subgroups of PPDs; Schaumberg disease (progressive pigmentary dermatosis), Doucas-Kapetanakis disease, Majocchi disease, Gougerot–Blum syndrome, and lichen aureus (45).



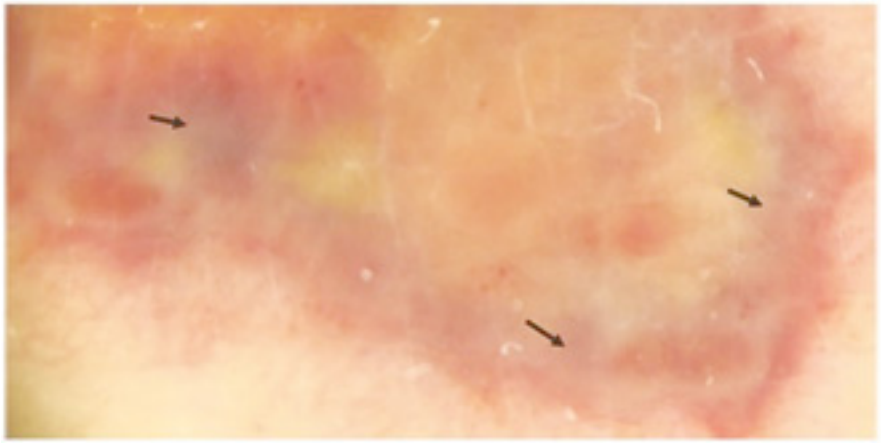
Capillaritis: shows red globules, brown dots and scaling with coppery red background (45).

Cutaneous vasculitis
Three patterns are observed: homogeneous pattern, mottled pattern, and meshy pattern (23).



Cutaneous vasculitis: homogeneous pattern, mottled pattern, and meshy pattern (23).

Henoch Schonlein purpura (IgA vasculitis):
Irregular shaped red patches with blurred borders (23).

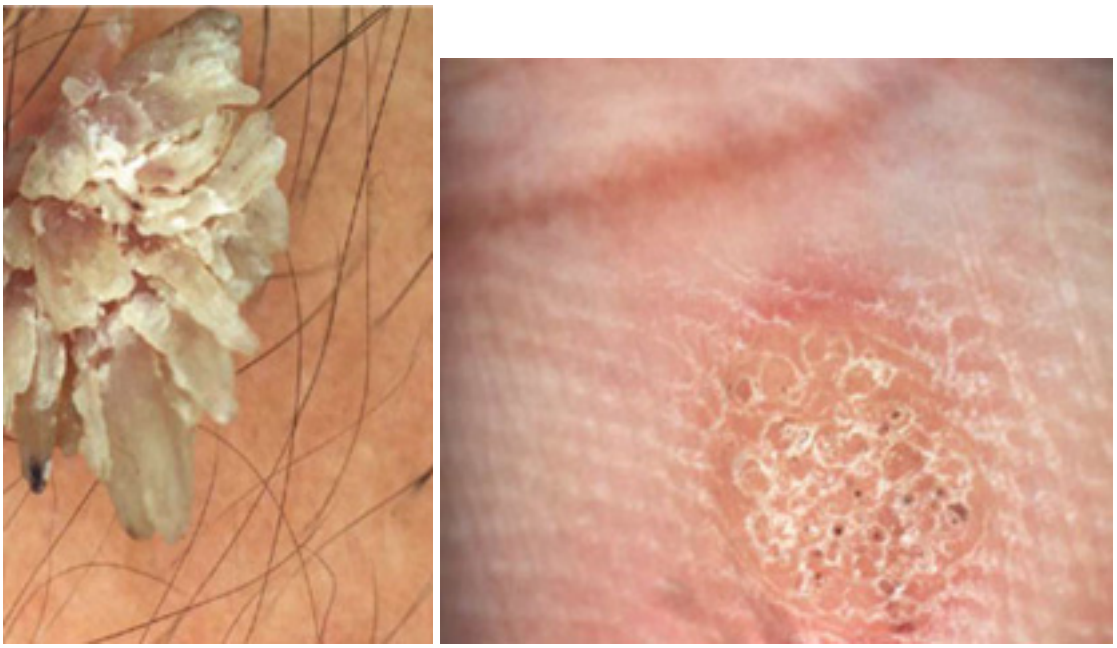


Henoch Schonlein purpura: shows red patches with blurred borders (23).

Diabetic dermopathy:
Central or ring-like globular area surrounded by ill-defined brown peripheral rim along scarcely branching linear vessels that can look like dusky Wickham striae (40).

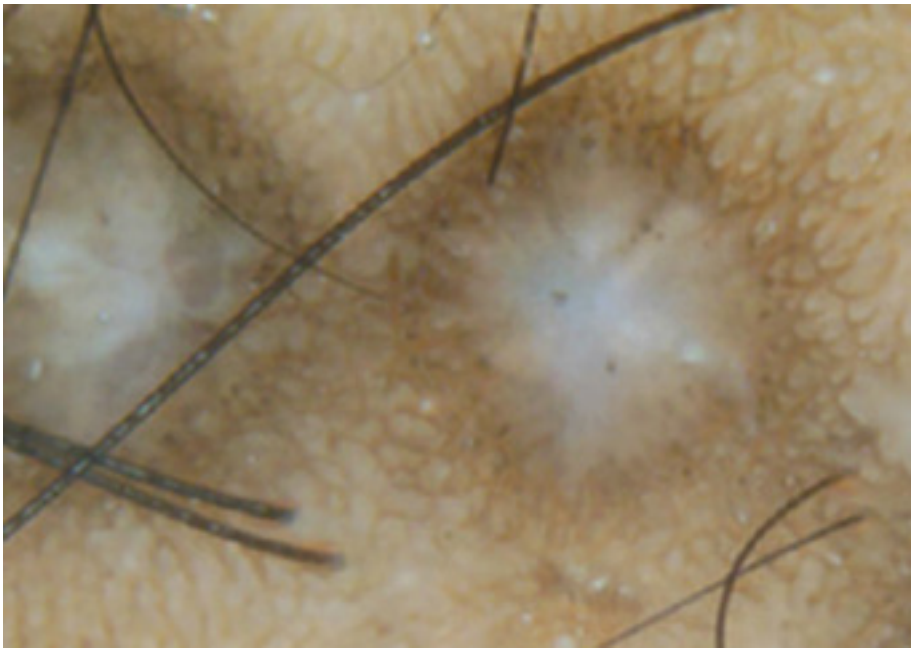
Diabetic dermopathy: ring-like globular structure surrounded by ill-defined brown peripheral rim (40).

Warts:
Different patterns of finger-like projections with bleeding spots, papillomatous lesions with bleeding spots, and hairpin-like vessels, surrounded with frogspawn appearance (47,51).



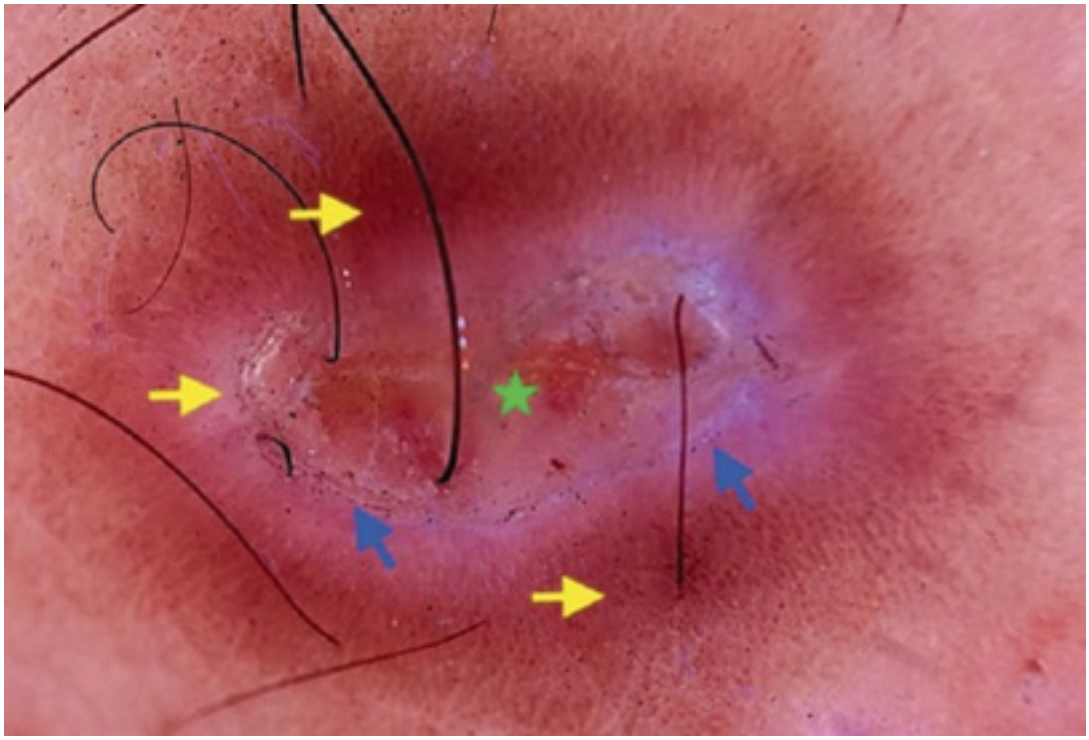
Warts: finger-like projections and frogspawn appearance (47).

Cutaneous Amyloidosis: can vary and show a central white core with peripheral rippled hyperpigmentation, brown dots, and spoke wheel pigmentation (48).



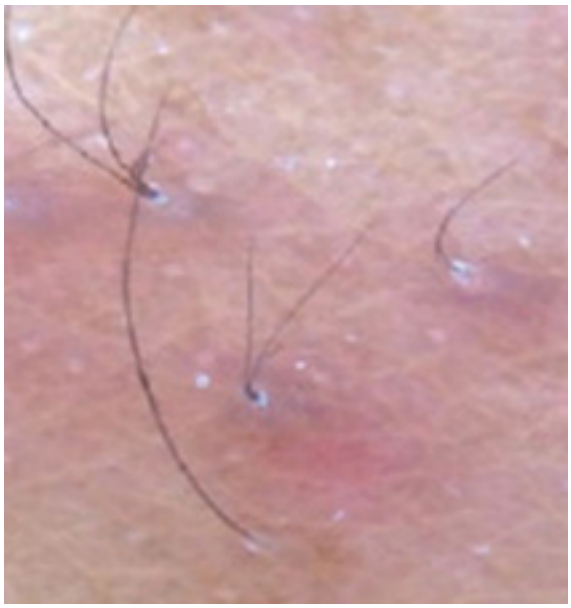
Cutaneous Amyloidosis: can display central white hub with peripheral hyperpigmentation, and spoke wheel pigmentation (48).

Reactive perforating collagenosis:
Shows central round yellowish-brown structureless area, corresponding to transepidermal elimination of collagen, surrounded by white keratotic collarette and erythematous halo- "trizonal concentric" pattern (57).



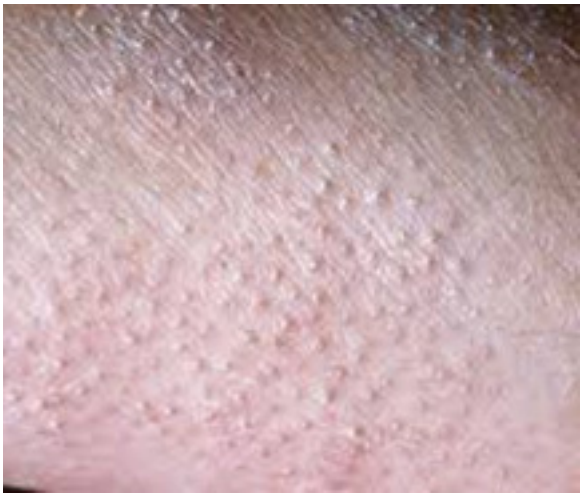
Reactive perforating collagenosis: central round yellowish-brown structureless area, surrounded by white keratotic collarette and erythematous halo (57).

Keratosis Pilaris:
Can show perifollicular papular erythema, vellus hairs frequently coiled and emerging in groups of 2–3, focal peripilar casts/scaling, keratotic plugs, white scales, and scattered pigmented globules (49-51).



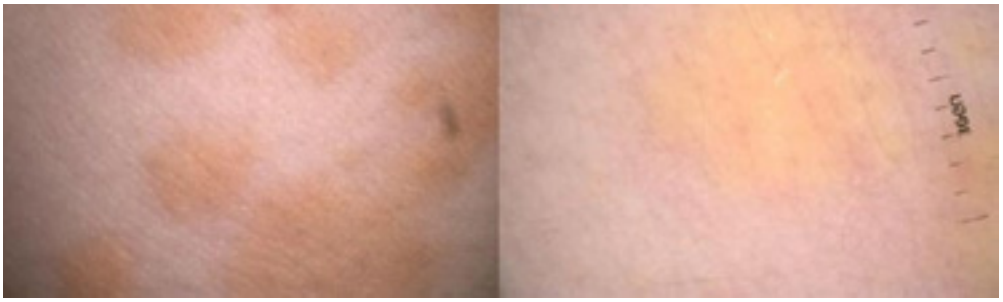
Keratosis Pilaris: shows perifollicular scaling and erythema (49-51).

Lichen spinulosus:
Features perifollicular white halo areas with normal interfollicular areas, perifollicular scaling, and follicular plug (51-52).



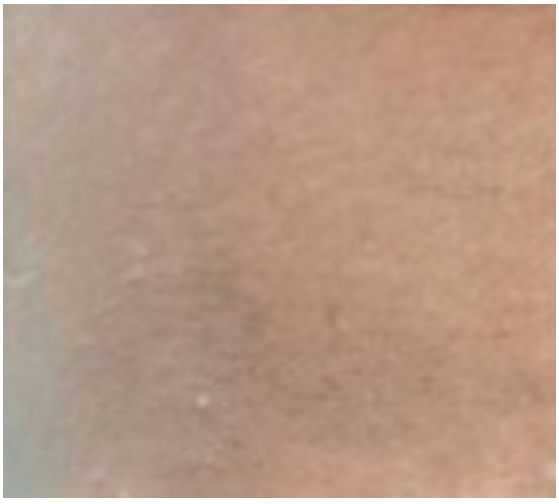
lichen spinulosus: perifollicular white halo areas with normal interfollicular areas, and follicular plug (51-52).

Eruptive xanthoma:
Dermoscopy with polarised mode shows structureless plaque without erythema or vascular proliferation (60).



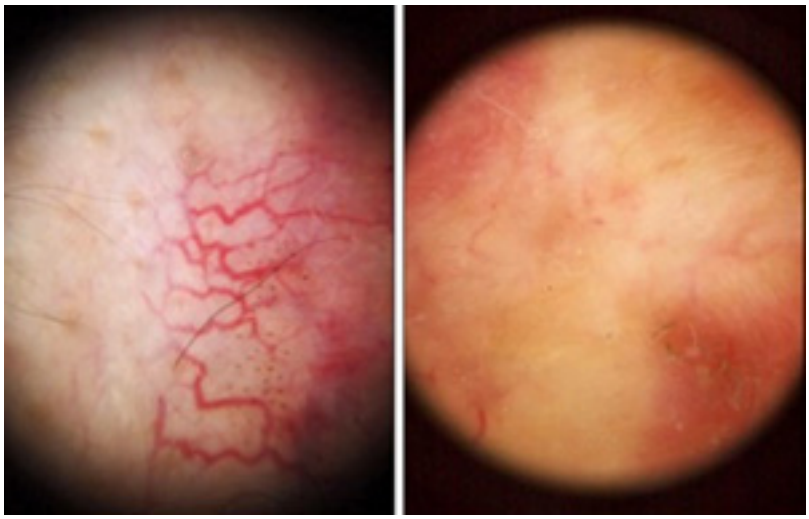
Eruptive xanthoma: shows structureless plaque (60).

Acanthosis nigricans (AN):
Milder cases show irregular brown globules with perifollicular pigmentation and mild hyperkeratosis and hypermelanization of the basal layer with minimal acanthosis and papillomatosis on histopathology. While facial AN on Dermoscopy shows linear crista cutis, sulcus cutis, and hyperpigmented dots in crista cutis (61).



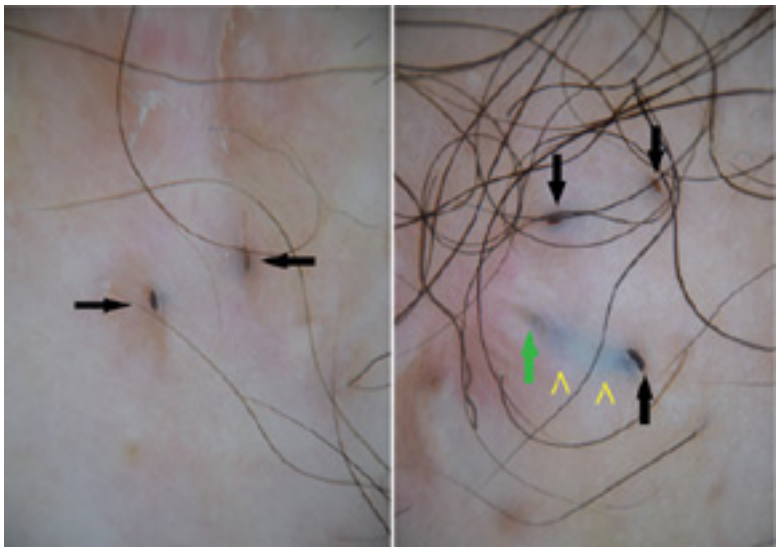
Acanthosis nigricans: shows hyperpigmented dots in crista cutis (61).

Keloid:
Dermoscopy provides a horizontal view of the upper dermis. The vascular structures of keloids appear linear and relatively parallel to the skin surface, whereas vascular structures are usually not apparent in hypertrophic scars which help distinguish keloids and hypertrophic scars even without biopsy (62).



Keloid: distinguish keloids and hypertrophic scars by the vascular structure (62).

Hidradenitis Suppurativa (HS):
Dermoscopy shows multiple keratin accumulation, with irregular openings, either superficially or deeply seated embedded in whitish cicatricial tissue and can be observed connected by blue tunnel (63).



Hidradenitis Suppurativa (HS): multiple keratin accumulation connected by blue tunnel (63).

Discussion

Trichoscopy can offer a non-invasive easier tool in the office for easier diagnosis. It is an important tool in a dermatologist's armamentarium as it can reduce the need for a biopsy in a wide array of conditions17. In psoriasis and seborrheic dermatitis, the distinctive scales colour is straightforward, whereas yellowish dominates in seborrheic dermatitis, and in psoriasis it is whitish (9).

Whereas, in discoid lupus erythematosus and lichen planpilaris, the presence of keratin plugs is the hallmark and specific for discoid lupus mostly (10).

Conclusion

Trichoscopy offers a high quality with huge accuracy in differential diagnosis in inflammatory skin conditions in the clinical setting.

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