Dermatology Practical & Conceptual

Dermoscopic Features of Follicular Dermatoses: A Cross-Sectional Study

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Key Message: This study identifies key dermoscopic features of follicular dermatoses, thereby facilitating adjunctive and noninvasive diagnosis that can complement histopathology.

Key words: Follicular dermatoses, Dermoscopy

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ABSTRACT

Introduction: Follicular dermatoses are conditions characterized by localization around hair follicles, often presenting as small papular lesions. These dermatoses can be challenging to diagnose with the naked eye, making dermoscopy an important adjunctive diagnostic tool. However, the literature on the dermoscopic features of follicular dermatoses remains limited.

Objectives: To evaluate dermoscopic findings in follicular dermatoses.

Methods: This cross-sectional study was conducted from November 2022 to January 2024 at the dermatology department of a tertiary hospital. Patients were categorized into inflammatory and keratinization follicular dermatosis. A fully developed lesion was dermoscopically examined using a DermLite DL-5 dermoscope. The data were statistically analyzed.

Results: We studied 147 patients. Most follicular dermatoses on dermoscopy showed classical findings such as keratotic plugs, perifollicular white halo, or brown halo. However, they also exhibited characteristic features unique to each dermatoses. Keratosis pilaris exhibited coiled hair (77.41%). Reactive perforating collagenosis presented a central yellowish plug (100%), whitish rim (100%), and peripheral erythematous halo (87.5%). Follicular LP showed reduced follicular ostia (45.45%) and blue-gray globules (40.90%), with newer findings like radial white stria and rosette. Follicular psoriasis displayed regular red dots (100%), while follicular eczema showed red globules (50%) and irregular red dots (16.7%). Acne keloidalis nuchae exhibited radial white streaks (62.5%), perifollicular white globules (50%), V-shaped hair (50%), and radial linear vessels (18.75%). Darier disease

showed central hyperpigmented and white keratotic plugs, comedo-like openings, and interfollicular exaggerated pseudo-pigment areas.

Conclusion: Our study highlights that each follicular dermatosis presents specific dermoscopic patterns, supporting dermoscopy as a useful, noninvasive tool for differentiation that can complement histopathology.

Introduction

Follicular dermatoses are skin conditions affecting hair follicles, either spontaneously or secondary to other skin disorders. These range from preventable conditions like phrynoderma to severe diseases like pityriasis rubra pilaris, causing erythroderma[1].

These dermatoses can be classified into three categories: inflammatory dermatoses, keratinization dermatoses, and miscellaneous dermatoses. Inflammatory types include follicular psoriasis, lichen planopilaris, pityriasis rubra pilaris, acne keloidalis nuchae, pseudofolliculitis barbae, Darier disease, and follicular eczema. Keratinization disorders include phrynoderma, lichen spinulosus, keratosis pilaris, erythromelanosis follicularis facei et colli, perforating folliculitis, and Kyrle's disease. Miscellaneous conditions include trichostasis spinulosa and follicular vitiligo[4].

Dermoscopy serves as a noninvasive diagnostic tool for distinguishing between closely resembling follicular dermatoses, thereby useful in supporting clinical suspicion, guiding biopsy site selection, and reducing unnecessary biopsies, particularly during follow-up and monitoring. However, the dermoscopic features of follicular dermatoses remain underexplored. This study aimed to bridge this gap by offering a noninvasive adjunct for the diagnosis of follicular dermatoses.

Objectives

To evaluate the dermoscopic findings in patients with follicular dermatoses.

Material and Methods

This was an observational cross-sectional study conducted in the outpatient department of dermatology at a tertiary hospital over 15 months, from 01 November 2022 to 31 January 2024. A total of 147 consecutive patients, clinically diagnosed with follicular dermatoses and providing written informed consent, were included in the study, while those with prior topical or systemic treatment within the previous month or lesions with infection are excluded. Data collection involved recording patient demographics, history (age, sex, duration of illness, past medical history, and history of topical application) and categorizing participants into inflammatory, keratinization, and miscellaneous follicular dermatoses. Clinical images of lesions were captured using a smartphone, and dermoscopy was performed using a DermLite DL-5 dermoscope attached to a smartphone. In cases with multiple lesions, a single fully developed lesion was selected based on patient history for dermoscopic evaluation. Dermoscopic images were analyzed by the principal investigator, with two additional investigators contributing to cross-verification and consensus. Dermoscopic parameters and significant findings were documented. Data were entered into Microsoft Excel and analyzed using descriptive statistics, such as frequency distributions and percentages, to determine the prevalence of specific dermoscopic features in different categories of follicular dermatoses.

Results

In our study, we assessed the dermoscopic features of follicular dermatoses using parameters such as follicular, perifollicular, interfollicular, hair pattern, vascular pattern with their distribution, and background.

A total of 147 patients were enrolled, comprising 87 males (59.19%) and 60 females (40.81%). Of these, 96 (65.30%) had non-inflammatory keratinization follicular dermatoses, and 51(34.70%) had inflammatory follicular dermatoses.

Histopathology was performed in 20 patients where clinical diagnosis required further confirmation, like in follicular lichen planus, follicular psoriasis, pityriasis rubra pilaris, Darier disease, and follicular eczema. In other cases where clinical findings were clear or the patient did not consent, no biopsy was performed. Patients were categorized into four age groups: <20 years, 21–40 years, 41–60 years, and >60 years.

Phrynoderma was observed exclusively in patients below age 20 years (100%), while lichen spinulosus was predominantly seen in this age group (95.23%).

Dermoscopic Findings in Inflammatory Follicular Dermatoses (Table 1)

Among the 22 patients of follicular lichen planus or lichen planopilaris, predominant dermoscopic findings observed were perifollicular scaling, perifollicular white halo, interfollicular blue-gray globules, interfollicular reduced follicular ostia, white keratotic plug, perifollicular blue-gray globules, radial white stria, interfollicular blue-gray area, interfollicular white structureless areas, perifollicular blue-gray area, and rosettes. In the 16 patients with acne keloidalis nuchae, dermoscopic examination showed radial white streaks, perifollicular white globules, and V-shaped hair. Vascular

Table 1. Dermoscopic findings in inflammatory follicular dermatoses.

Inflammatory follicular dermatoses							
Dermoscopic findings	**Acne keloidalis nuchae N=16**	**PRP N=1**	**Follicular psoriasis N=3**	**Follicular Lichen planus N=22**	**Darier disease N=1**	**Follicular Eczema N=6**	**Pseudofolliculitis barbae N=2**
Follicular							
White keratotic plug	6.25	0	0	22.72	100	16.67	0
Perifollicular							
Scaling	50	0	100	86.36	0	100	0
Brown halo	0	0	33.33	4.54	100	0	0
White halo	6.25	0	66.66	68.18	0	83.33	0
Yellow structureless area	0	100	0	4.54	0	0	0
Interfollicular							
Interfollicular scaling	6.25	0	0	4.54	0	16.67	0
Interfollicular erythema	0	0	0	0	0	16.67	50
Interfollicular white structureless area	0	0	0	27.27	100	0	50
Interfollicular brown globules	0	100	0	4.54	0	0	0
Interfollicular brown dots	0	100	0	9.09	0	0	0
Hair							
Normal	50	100	66.66	50	0	66.66	0
Absent	0	0	33.33	50	100	33.33	0
Curved hair attached to both ends	0	0	0	0	0	0	50
Vascular							
Dots	0	0	100	0	0	16.67	0
Globules	0	0	33.33	0	0	50	0
Linear	18.75	0	0	0	0	0	50
Out-of-focus vessels	31.25	0	0	0	0	0	50
Background							
Brownish	56.25	0	33.33	59.09	100	66.66	50
Others							
Diffuse scaling	25	100	0	18.18	0	0	0
Pigmented rim	43.75	0	0	4.54	0	0	0

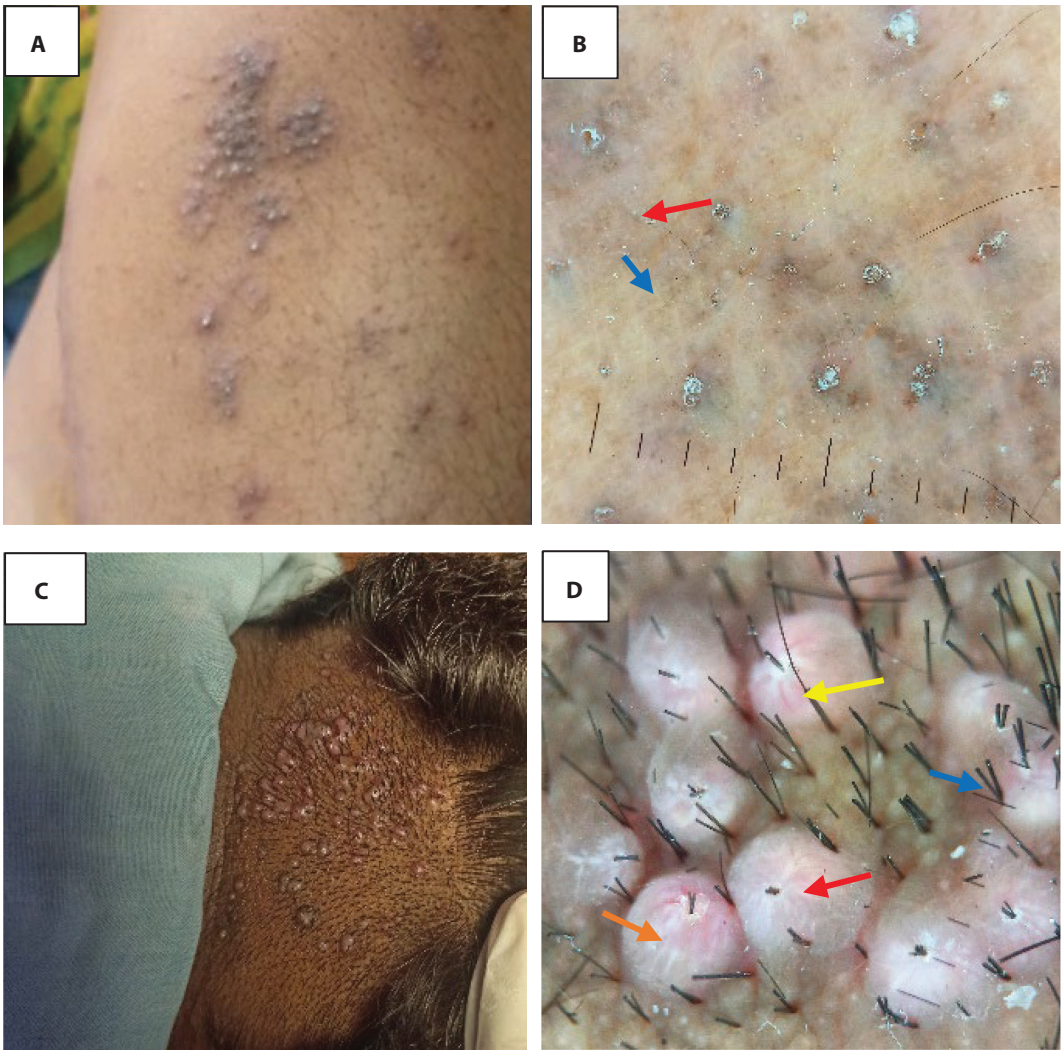

Figure 1. A: Follicular lichen planus: multiple discrete grouped violaceous follicular papules. B: Dermoscopy of follicular lichen planus: interfollicular bluish gray dots and globules (red arrow), central white keratotic plug (blue arrow). C: Acne keloidalis nuchae: multiple discrete skin-colored grouped follicular papules. D: Dermoscopy of acne keloidalis nuchae :perifollicular white globules (red arrow), V-shaped hair (blue arrow), radial linear vessels (yellow arrow), peripheral radial white streaks (orange arrow).

structures like radial linear vessels and out-of-focus vessels were also observed (Figure 1). In the six patients with follicular eczema, the predominant dermoscopic findings observed were perifollicular scaling, perifollicular brown halo, and central white keratotic plug. Vascular findings, such as red globules and red dots, were observed in a perifollicular distribution. We included three patients with follicular psoriasis in our study. Dermoscopic examination of them showed perifollicular scaling, perifollicular white halo, and regular red dots in the perifollicular distribution (Figure 2). In the two patients of pseudofolliculitis barbae, predominant dermoscopic findings observed were interfollicular hyperpigmentation along with curved hair attached to both ends, interfollicular erythema, and interfollicular white structureless areas. Linear and out-of-focus vessels in patchy distribution were also seen. We came across one patient with Darier disease in our study. Dermoscopic findings observed were central hyperpigmented and white keratotic plugs, comedo-like openings, perifollicular brown halo, interfollicular white structureless areas, and interfollicular exaggerated pseudopigment areas along with a brownish background. We studied the dermoscopic findings of one patient with pityriasis rubra pilaris, which showed perifollicular yellow structureless areas, interfollicular brown dots and globules, and a yellowish background (Figure 3).

Dermoscopic Findings in Non-Inflammatory Keratinization Follicular Dermatoses (Table 2)

In the 35 patients with phrynoderma the predominant dermoscopic findings observed were perifollicular scaling, white keratotic plug, perifollicular white halo, perilesional floret-like structures, interfollicular scaling, and absent hair. Of the 31 keratosis pilaris patients the main dermoscopic findings observed were perifollicular brown halo, perifollicular erythema, perifollicular scaling, and white keratotic plug. On dermoscopic examination, the hair predominantly exhibited

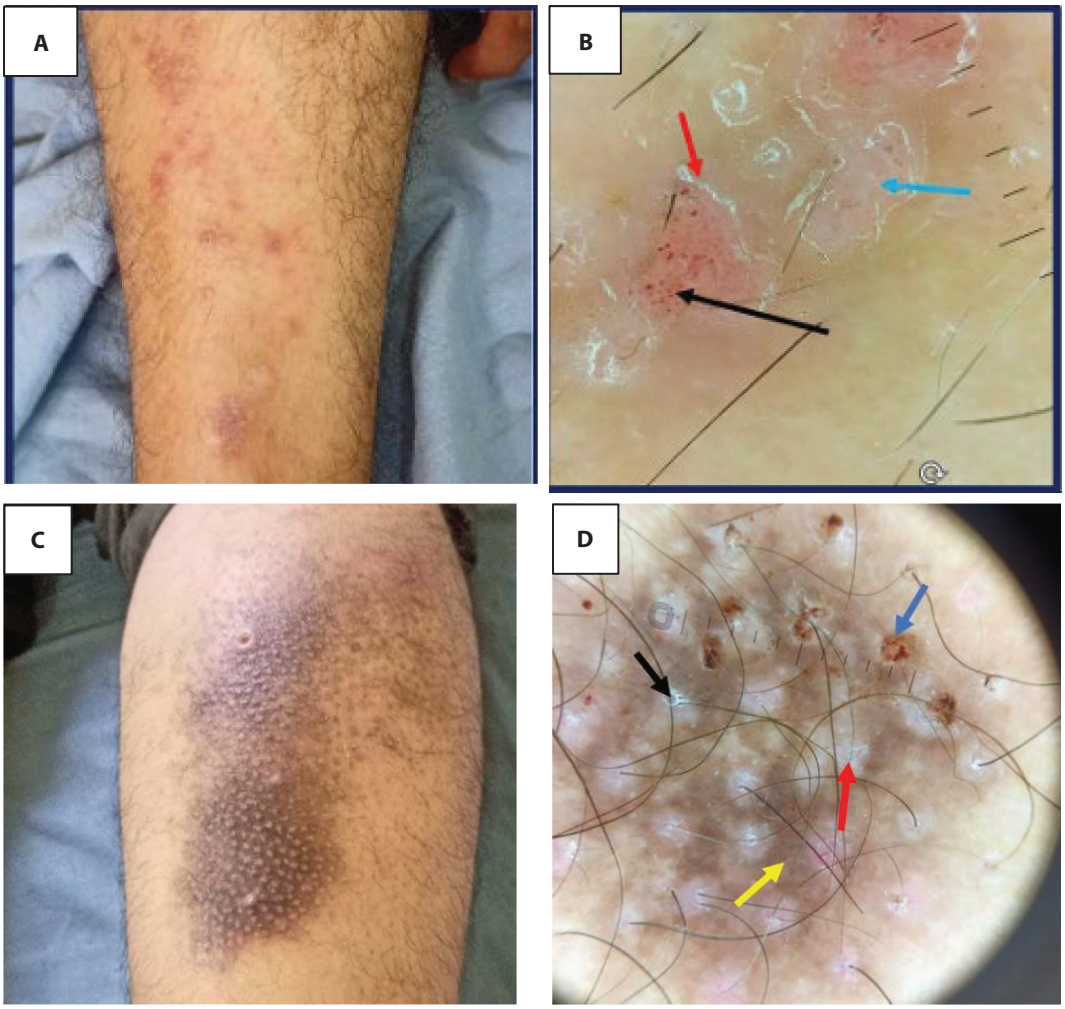

Figure 2. A: Follicular psoriasis: multiple discrete erythematous follicular papules. B: Dermoscopy of follicular psoriasis: regular red dots in perifollicular distribution (black arrow) perifollicular white halo (blue arrow) perifollicular scaling (red arrow). C: Follicular eczema: multiple discrete grouped follicular papules on hyperpigmented base. D: Dermoscopy of follicular eczema: perifollicular erosion (blue arrow), perifollicular white halo (red arrow), interfollicular hyperpigmentation(yellow arrow), perifollicular scaling (black arrow).

coiled morphology (Figure 4). In the 21 patients of lichen spinulosus the predominant findings observed were perifollicular white halo and perifollicular scaling. We studied eight patients with reactive perforating collagenosis; dermoscopic examination revealed a central yellowish keratotic plug with a surrounding white rim and erythematous halo (Figure 5). In our study, we found one patient of erythromelanosis follicularis faciei et colli, in whom we observed a white keratotic plug with perifollicular white halo.

This comprehensive dermoscopic study of 147 patients with different follicular dermatoses provides valuable insights into the dermoscopic patterns and diagnostic features of this condition.

Discussion

In our cross-sectional study, we studied dermoscopic findings in 147 patients: 87 (59.19%) males and 60 (40.81%) females. Notably, we observed a majority of male patients, while Gangadhar et al. observed a majority of female patients [5]. Additionally, the majority of our patients were below 20 years of age (46.25%).

Phrynoderma

Phrynoderma is a form of follicular keratosis caused by various nutritional deficiencies, including those of vitamin A, B complex vitamins, vitamin E, essential fatty acids, and protein-calorie malnutrition. Clinically, it is marked by follicular papules with a keratotic plug, primarily found on the extensor surfaces of the elbows, knees, gluteal region, extensor sides of the arms, forearms, thighs, and back [4].

In phrynoderma (23.80%), predominant dermoscopic findings are similar to those mentioned in the previously published studies [4,15] (Figure 4). However, interestingly, we observed perilesional floret-like structures in 14.28% of patients, which was also noticed by Behera et al. [14] (Figure

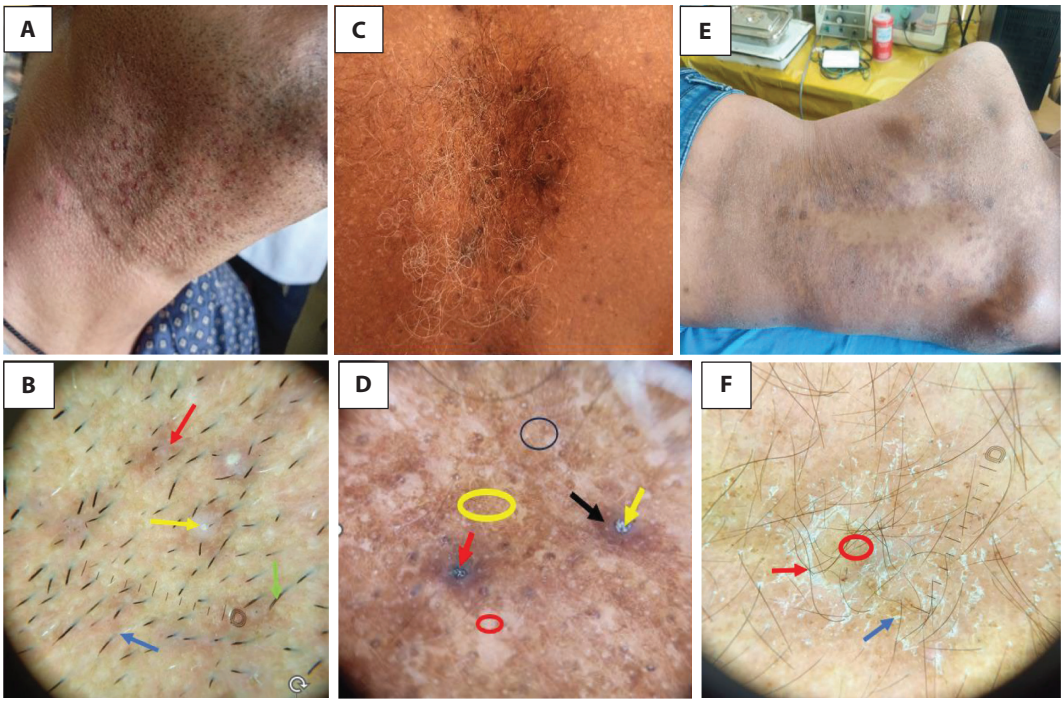

Figure 3. A: Pseudofolliculitis barbae: multiple discrete erythematous follicular papules. B: Dermoscopy of pseudofolliculitis barbae: interfollicular hyperpigmentation (red arrow), interfollicular white structureless areas (yellow arrow), interfollicular erythema (blue arrow), broken hair (green arrow). C: Darier disease: multiple discrete hyperpigmented dirty warty papules. D: Dermoscopy of Darier disease: comedo-like opening (red arrow), white keratotic plug (yellow arrow), perifollicular brown halo (black arrow), interfollicular white structureless areas (red circle), interfollicular exaggerated pseudo-pigment network areas (yellow circle). E: Pityriasis rubra pilaris: multiple discrete papules coalescing into reddish-orange plaque with scaling. F: Dermoscopy of pityriasis rubra pilaris: perifollicular yellow areas (red circles), interfollicular brown globule, and brown dots (blue arrow) diffuse scaling (red arrow).

4). Dermoscopy revealed site-specific variations, with images taken from the elbow or knee areas in 37.14% of patients showing interfollicular accentuated skin markings likely due to more pronounced wrinkling in these areas. We also observed crater-like structures in excoriated lesions in one patient. However, no such finding was observed when images were taken from other sites.

The keratotic plug on dermoscopy resembles the dilated follicular infundibulum filled with keratin debris on histopathology, perifollicular white halo to the dermal fibrosis around the follicles, and perifollicular scaling to hyperkeratosis of stratum corneum [4].

Keratosis Pilaris

Keratosis pilaris presents as gooseflesh-like horny plugs at the follicular orifices, typically located on the posterolateral aspects of the thighs, upper arms, gluteal area, and legs [4].

The dermoscopic findings of keratosis pilaris in this study were similar to those described in previous studies on the dermoscopy of keratosis pilaris [4,16-18] (Figure 4). The characteristic dermoscopic feature of keratosis pilaris is coiled hair, which aids in differentiating it from other follicular dermatoses. According to Thomas et al., the presence of coiled hair may also play a role in the pathogenesis of keratosis pilaris [16].

The perifollicular scaling observed on dermoscopy correlates histopathologically with hyperkeratosis around the follicles. The perifollicular erythema is associated with the inflammatory reaction around the follicles, which is evidenced by dilated vessels with perivascular infiltrate and perifollicular infiltrate [4].

Lichen Spinulosus

Lichen spinulosus (LS) is a condition involving the abnormal keratinization of hair follicles, commonly linked to atopy, infections, id reactions to fungal infections, or drug reactions. It manifests as clusters of small flesh-colored asymptomatic follicular papules with a central spinous process.

The characteristic dermoscopic features of lichen spinulosus, including perifollicular white halo and perifollicular scaling, help differentiate it from other follicular dermatoses and align with the findings of Gangadhar et al. [4] (Figure 5).

In lichen spinulosus, dermoscopy-histopathological correlation reveals that perifollicular scaling corresponds to perifollicular hyperkeratosis. The follicular plug correlates with

Table 2. Dermoscopic findings in follicular keratinization dermatoses.

Non-inflammatory follicular keratinization dermatoses					
	Phrynoderma N=35	Lichen spinulosus N=21	Keratosis pilaris N=31	Erythromelanosis follicularis facei et colli N=1	Reactive perforating collagenosis N=8
Follicular					
Keratotic plug: yellowish	0	0	0	0	100
White	94.28	0	6.45	100	0
Perifollicular					
Scaling	100	61.90	64.51	0	62.5
Erythema	2.87	4.76	19.35	0	0
Brown halo	25.71	0	74.19	0	0
White halo	71.42	100	6.45	100	0
Interfollicular					
Interfollicular scaling	34.28	14.28	22.58	0	25
Hair					
Normal	0	52.38	19.35	100	12.5
Coiled	0	9.52	77.41	0	0
Absent	100	38.09	3.22	0	87.5
Background					
Brownish	25.71	14.28	80.64	100	0
Others					
Pigmented rim	2.87	0	0	0	0
White rim	0	0	0	0	100
Erythematous halo	0	0	0	0	87.5
Comedo-like appearance	5.71	0	0	0	0
Perilesional floret-like structures	14.28	0	0	0	0

keratinous material in the follicular orifice, and the perifollicular white halo corresponds to acanthosis of the perifollicular epidermis [4].

Erythromelanosis Follicularis Facei et Colli

Erythromelanosis follicularis facei et colli (EFFC) is a dermatological condition characterized by a distinct triad of symptoms: well-demarcated erythema, hyperpigmentation, and follicular papules. This condition typically affects the maxillary and preauricular regions as well as the cheeks. The hallmark features include pronounced erythema and hyperpigmentation on the face and neck accompanied by follicular plugging. These symptoms present as well-defined areas of discoloration and skin texture changes, which can be bilaterally symmetrical [13].

In our single patient with erythromelanosis follicularis facei et colli (EFFC) dermoscopy revealed a white keratotic plug with perifollicular white halo (Figure 5), a finding that has also been reported by Mauoni et al. and by Rather et al. [19,20]. However, this finding can also be seen in phrynoderma and lichen spinulosus. Thus, it decreases the specificity of dermoscopic findings of erythromelanosis follicularis facei et colli.

The dermoscopic observations of follicular plugging, scaling, and a reddish-brown background corresponded with histopathological findings of hyperkeratotic hair follicles, orthokeratosis, and dilated vessels, respectively.

Reactive Perforating Collagenosis

Reactive perforating collagenosis (RPC) presents as umbilicated papules and plaques with central crusted ulceration, primarily on the extensor surfaces of the limbs. Itching is the most common symptom [11].

The dermoscopic findings of the three zones appear to be specific to RPC, which are consistent with previous studies [11,21,22] and aid in its differentiation from similar

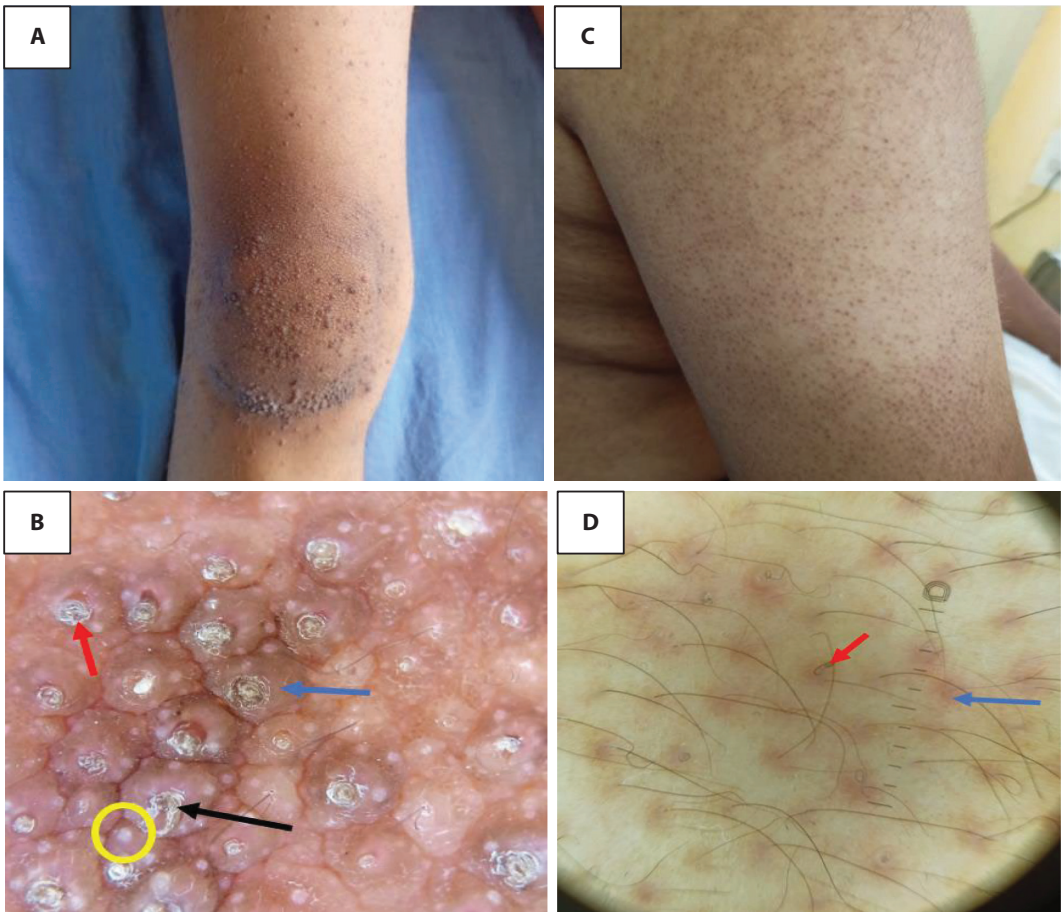

Figure 4. A: Phrynoderma: multiple discrete hyperpigmented papules. B: Dermoscopy of phrynoderma: perilesional floret-like structures (yellow circle), perifollicular brown halo (blue arrow), central whitish keratotic plug (red arrow), perifollicular scaling (black arrow). C: Keratosis pilaris: multiple discrete erythematous papules. D: Dermoscopy of keratosis pilaris: perifollicular erythema (blue arrow), curved hair(red arrow).

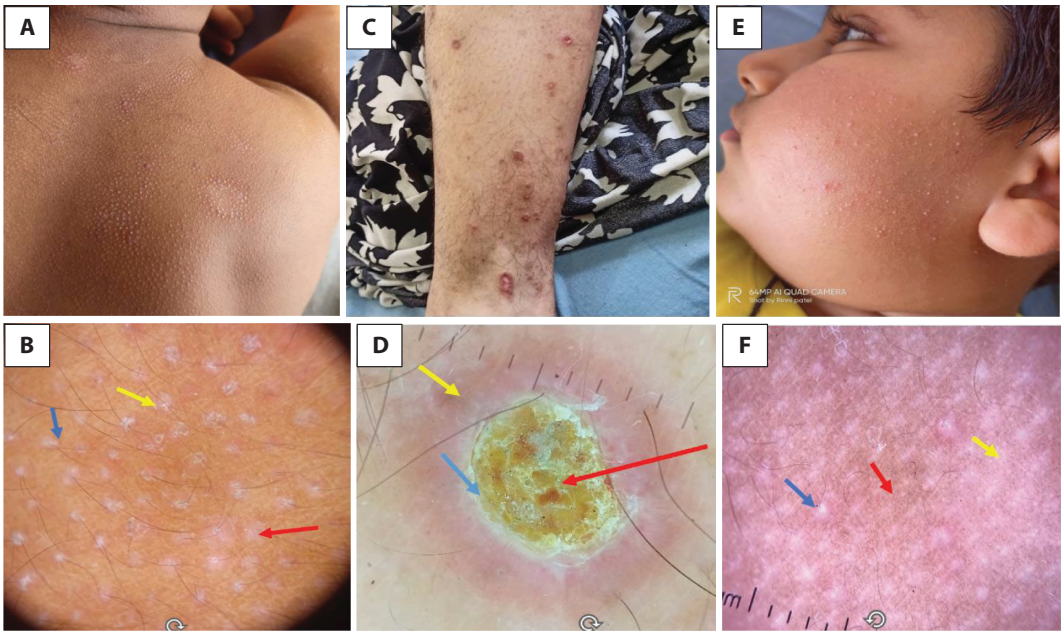

Figure 5. A: Lichen spinulosus: multiple discrete hypopigmented to skin-colored grouped papules. B: Dermoscopy of lichen spinulosus: perifollicular scaling (yellow arrow), perifollicular white halo (blue arrow), perifollicular erythema (red arrow). C: Reactive perforating collagenosis: multiple discrete erythematous papules. D: Dermoscopy of reactive perforating collagenosis: yellowish keratotic plug (red arrow), whitish rim (blue arrow), erythematous halo (yellow arrow). E: Erythromelanosis follicularis facei et colli: erythematous patches studded with tiny follicular papules. F: Dermoscopy of erythromelanosis follicularis facei et colli: white keratotic plug (blue arrow), perifollicular white halo (yellow arrow).

conditions [Figure 5]. In one case, a follicular lesion behind the ear clinically mimicked impetigo, insect bites, and herpetic lesions. Dermoscopy confirmed RPC, demonstrating its diagnostic value when a biopsy is non-diagnostic, unavailable, or lesions appear at unusual sites or early stages. Dermoscopy-histopathological correlation showed that central yellowish keratotic plug corresponded to hyperkeratosis, the white rim to epidermal invagination, and the erythematous halo to small blood vessels surrounding the lesion [11].

Acne Keloidalis Nuchae

Acne keloidalis nuchae (AKN), also known as folliculitis keloidalis, is a persistent inflammatory condition primarily targeting the occipital region and nape of the neck. In its early stages, AKN manifests as papules and pustules that merge, resulting in disfiguring scarring and hair loss [23].

AKN exhibits distinct dermoscopic features, such as large white, structureless areas and large whitish to pinkish globules around hair follicles along with radial white streaks, radial linear vessels, and 'V'-shaped hair (Figure 1), while Chouk et al., in their case series, observed perifollicular pustules and a white halo surrounding hair follicles in dermoscopic examination of AKN. The perifollicular white halo observed in their study corresponded to the perifollicular white areas identified in our study [24].

In the dermoscopic-histopathological correlation of acne keloidalis nuchae, perifollicular white halos or structureless areas corresponded to perifollicular fibrosis [24].

Follicular Lichen Planus, Follicular Psoriasis, and Follicular Eczema

Lichen planopilaris, the most prevalent type of follicular lichen planus, is marked by inflammation in the upper part of the hair follicle, leading to follicular scarring and permanent hair loss. It presents as follicular papules, while follicular psoriasis appears as numerous, distinct, and follicular hyperkeratotic papules. In children, it manifests as asymmetric clusters of follicular and keratotic papules, primarily affecting the trunk, armpits, and extensor parts of the limbs [4]. Follicular eczema is mainly associated with atopic dermatitis. It is often misdiagnosed in pigmented skin and is generally associated with dry skin [9]. Thus, diagnosing these conditions clinically can be difficult, while on dermoscopic examination, these three conditions exhibit distinct features that aid in their differentiation.

Dermoscopic findings of follicular LP in our study were similar to previous studies [4,25,26]. In our study,we observed some interesting findings in follicular LP, including perifollicular and interfollicular blue-gray globules as well as blue-gray areas (Figure 1). Furthermore, we observed radial white striae and rosettes, which are newer findings not previously described in the literature. Dermoscopic findings of follicular psoriasis showed perifollicular scaling, regular red dots arranged in perifollicular distribution with perifollicular white halo, which is similar to those observed by Gangadhar et al and by Behera et al. [4,5]. However, we did not observe keratotic plugs in our patients (Figure 2).

In follicular eczema, findings like perifollicular scaling, a central white keratotic plug with irregular red dots, and globules aligns with Gangadhar et al. [4] (Figure 2).

Dermoscopic-histopathological correlation showed perifollicular scaling correlated to hyperkeratosis, perifollicular white halo to dermal fibrosis, keratin plug to keratin-filled follicular infundibula, and blue-gray dots to the pigment incontinence into the dermis and red dots to dilated dermal vessels [4].

Pseudofolliculitis Barbae

Pseudofolliculitis barbae (PFB) is a chronic inflammatory condition affecting the follicular and perifollicular skin, marked by the presence of papules, pustules, and post-inflammatory hyperpigmentation [10].

In our dermoscopic study, we observed linear vessels and white areas in pseudofolliculitis barbae, correlating with findings of Kaliyadan et al. and Durdu et al. However, Kaliyadan et al. [7,27] observed the "handlebar" sign, showing curved hair attached to the skin at both ends, which was also observed in our study (Figure 3).

In dermoscopy-histopathological correlation, the "handlebar" sign shows curved hair attached to the skin at both ends. White areas indicated fibrosis and scaling, while underlying linear bluish pigmentation represented the buried hair shaft [7].

Pityriasis Rubra Pilaris

Pityriasis rubra pilaris (PRP) is a rare chronic keratinization disorder characterized by keratotic follicular papules, palmoplantar keratoderma, and reddish-orange scaly plaques [4].

Dermoscopic findings in pityriasis rubra pilaris included perifollicular yellow structureless areas and interfollicular brown dots and globules (Figure 3), consistent with Jha et al., though keratotic plugs were absent in our patient [29].

Darier Disease

Darier disease is a rare inherited condition passed down through autosomal dominant genes, resulting from a mutation in the ATP2A2 gene. It is characterized by raised, thickened papules found on the trunk, scalp, face, and neck, along with skin maceration in skin folds, small pits on the palms, white papules inside the mouth, and abnormalities in the nails [8].

On dermoscopic examination, comedo-like openings and an exaggerated pseudo-pigment network are characteristic findings in Darier disease (Figure 3), which are absent in other follicular dermatoses, aiding in its differentiation. Previous studies [8,30] support these findings. The comedo-like openings correspond to hyperkeratosis on dermoscopy [32]. Thus, dermoscopic evaluation of follicular dermatoses offers valuable insights, improving diagnostic accuracy and treatment guidance.

Dermoscopic Differential Diagnosis of Follicular Dermatoses

Many follicular dermatoses appear similar on clinical examination, making diagnosis challenging. However, dermoscopic analysis reveals distinct features that aid in accurate differentiation and help distinguish them from other conditions occurring at the same site.

Lichen Spinulosus vs Lichen Nitidus

Lichen spinulosus and lichen nitidus closely mimic each other clinically, making differentiation challenging. However, dermoscopy provides distinct clues; lichen spinulosus exhibits perifollicular white halo and scaling, while lichen nitidus reveals white circular areas with a brown shadow. These dermoscopic features enable accurate differentiation between the two conditions [33] (Figure 7).

Phrynoderma vs Lichen Spinulosus vs Keratosis Pilaris

Phrynoderma, lichen spinulosus, and keratosis pilaris can present with overlapping clinical features, making diagnosis challenging. However, dermoscopy reveals distinct characteristics; phrynoderma exhibits white keratotic plugs with perifollicular scaling, lichen spinulosus shows perifollicular white halo and scaling, while keratosis pilaris is characterized by curved hair with perifollicular erythema. These dermoscopic features aid in accurate differentiation and precise diagnosis.

Reactive Perforating Collagenosis vs Kyrle's disease

Reactive perforating collagenosis (RPC) and Kyrle's disease share overlapping clinical features, making differentiation challenging. However, dermoscopy provides distinct patterns; Kyrle's disease typically exhibits four zones: a central crust, keratotic scale, a structureless whitish-gray area, a structureless pink area with dotted vessels, and a structureless brown area with peripheral scaling [12]. In contrast, RPC characteristically presents with three distinct zones, aiding in precise differentiation and diagnosis.

Follicular LP vs Follicular Psoriasis vs Follicular Eczema

Follicular lichen planus, follicular psoriasis, and follicular eczema share similar clinical presentations, making differentiation challenging. However, dermoscopy reveals distinct features that aid in accurate diagnosis. Follicular lichen planus is characterized by reduced follicular ostia,interfollicular white structureless areas, and blue-gray globules or areas in the perifollicular and interfollicular regions. In contrast, follicular psoriasis exhibits regular red dots with perifollicular white halo, while follicular eczema primarily shows red globules and irregular red dots. These dermoscopic findings provide valuable clues for correct diagnosis and differentiation (Figure 6).

Acne Keloidalis Nuchae vs Wart

The specific dermoscopic pattern in acne keloidalis nuchae such as radial white streaks, radial linear vessels, perifollicular white globules, and V-shaped hairs help to differentiate it from other similar-looking follicular dermatoses like follicular LP and follicular psoriasis as well as wart, which has

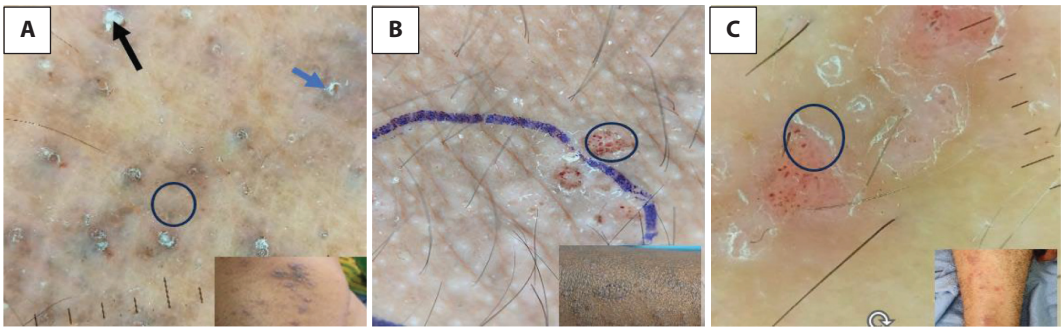

Figure 6. Dermoscopic differential diagnosis of follicular lichen planus, follicular eczema, and follicular psoriasis. A: follicular lichen planus: interfollicular and perifollicular blue gray dots(black circle), perifollicular scaling(blue arrow), keratotic plug(black arrow). B: Follicular eczema: irregular red dots and globules (black circle). C: Follicular psoriasis: regular red dots with perifollicular scaling (black circle).

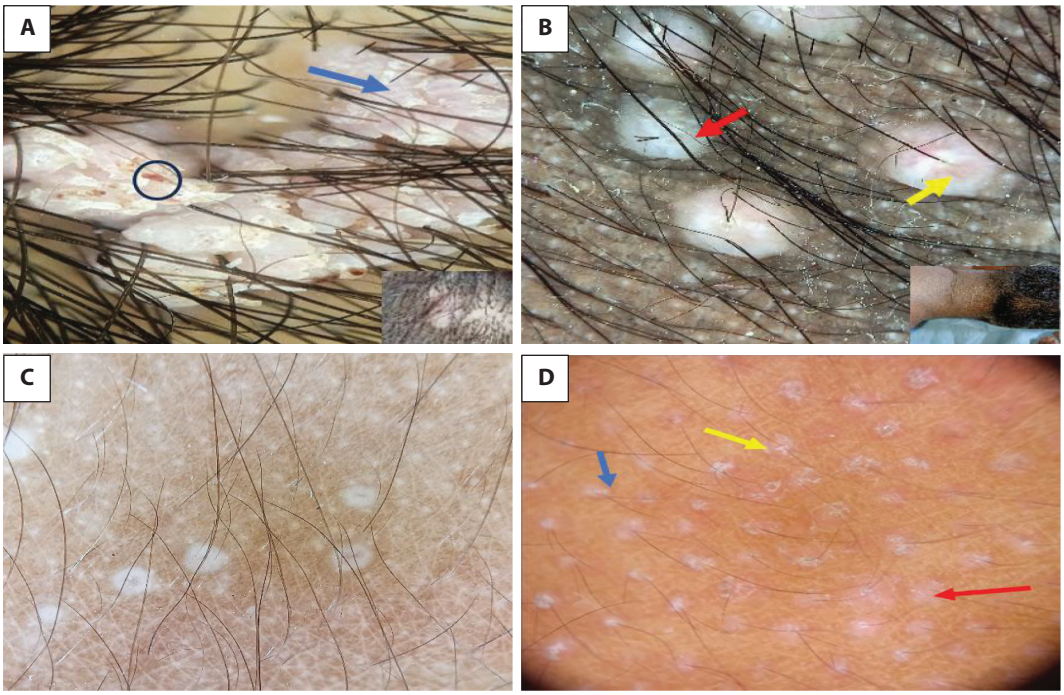

Figure 7. Dermoscopic differential diagnosis of wart and acne keloidalis nuchae. A: Wart: finger-like projection (blue arrow), bleeding spots in center of papillae (black circle). B: Acne keloidalis nuchae: perifollicular white globules (red arrow), radial linear vessels (yellow arrow). Dermoscopic differential diagnosis of lichen nitidus and lichen spinulosus. C: Lichen nitidus: white well-circumscribed, small circular areas (blue arrow), brown shadows (black arrow). D: Lichen spinulosus: perifollicular scaling (yellow arrow), perifollicular white halo (blue arrow), perifollicular erythema (red arrow).

Table 3. Key dermoscopic findings in follicular dermatoses.

Follicular dermatoses	Characteristic dermoscopic finding
Phrynoderma	Marked white keratotic plug
Keratosis pilaris	Coiled hair
Lichen spinulosus	Perifollicular white halo
Reactive perforating collagenosis	Central yellowish keratotic plug surrounded by a whitish rim and peripheral erythematous halo
Follicular LP	Blue-gray globules, reduced follicular ostia, blue-gray dots, radial white striae
Follicular psoriasis	Regular red dots in perifollicular distribution
Follicular eczema	Red globules, irregular red dots
Pityriasis rubra pilaris	Perifollicular yellow structureless areas
Acne keloidalis nuchae	Radial white streaks, perifollicular white globules, V-shaped hair, radial linear vessels
Darier disease	Comedo-like openings, interfollicular exaggerated pseudo-pigment areas
Pseudofolliculitis barbae	Curved hair attached to both ends; interfollicular white structureless areas (50%) with linear vessels

finger-like projections, a bleeding spot in center of papillae, and dotted vessels on the dermoscopy (Figure 7).

Limitation

We could not perform histopathology on all of our patients.

Conclusion

In this study, we assessed the dermoscopic features of various follicular dermatoses, highlighting their distinct characteristics. Our findings demonstrate that dermoscopy, as a noninvasive tool, enhances the diagnosis and management of follicular dermatoses. We identified novel features such as rosettes and radial white striae in follicular lichen planus as well as perifollicular white globules and radial white

streaks in acne keloidalis nuchae. Additionally, other findings contribute to existing literature. Each follicular dermatosis presents distinct classic dermoscopic patterns (Table 3), establishing dermoscopy as a reliable noninvasive adjunct tool for differentiation that can complement histopathology, especially in follow-up and early detection of disease.

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