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White rosettes in discoid lupus erythematosus: a new dermoscopic observation

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White rosettes are shiny white structures seen as four oval-shaped points that come together in the center. They resemble four-leaf clover [1]. Earlier it was thought they were specific for actinic keratosis and squamous cell carcinoma, but they are noted in many other conditions [2]. With polarized light dermoscopy, it is evident that rosettes are seen only and they are due to the optical effect between polarized light and follicular structures [3]. Here, authors describe cases of discoid lupus erythematosus (DLE) demonstrating rosettes under polarized dermoscopy.

Case 1

A 60-year-old male presented with depigmented scaly lesions on the scalp and anterior neck, which he had noticed for four months. The lesions were asymptomatic and stationary. A detailed cutaneous examination revealed faint hyperpigmented borders surrounding the depigmented patches. Dermoscopy showed white structureless areas, branching telangiectasia, and blue-gray globules sprinkled in a few places on the white areas and white rosettes in many places (Figure 1).

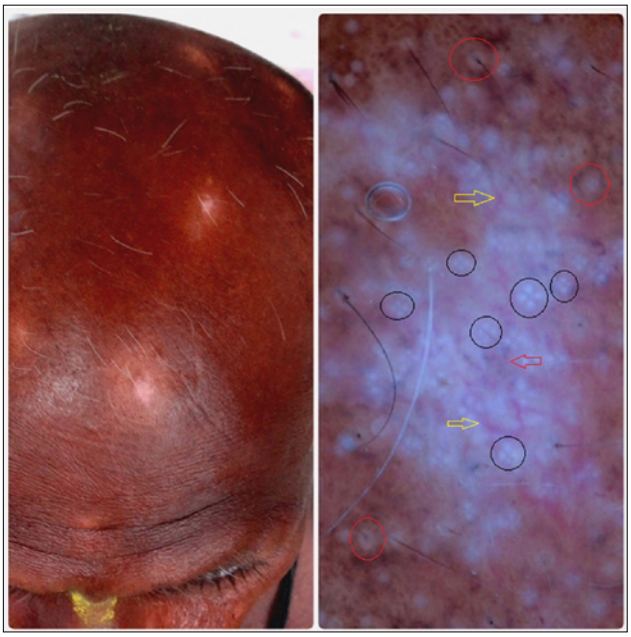

Figure 1. Depigmented patches of discoid lupus erythematosus (left panel). Dermoscopy shows white rosette (black circle), telengiectasia (yellow arrow), patulous follicular openings (red circle), blue-gray globules (red arrow), and brownish areas at the periphery (right panel). [Copyright: ©2017 Ankad et al.]

Figure 2. Well-defined, erythematous plaques (left panel). Dermoscopy reveals brownish structureless area in the center and white striations at periphery. White rosettes (black circle) are seen in brown areas (right panel). [Copyright: ©2017 Ankad et al.]

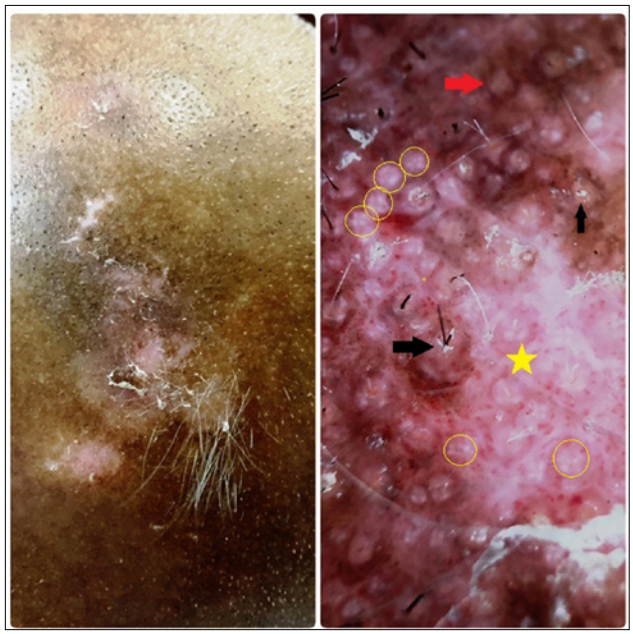

Figure 3. Scaly plaques on the scalp (left panel). Dermoscopy shows white structureless areas (yellow star), white rosette (yellow circle), patulous follicles (red arrow), red dots and globules, brown areas at periphery, and follicular scale and plugs (black arrows) (right panel). [Copyright: ©2017 Ankad et al.]

Case 2

A 45-year-old male had lesions on the right cheek, upper chest, nose and forehead that had been present for two months. The lesions were slightly itchy and progressive in nature. Cutaneous examination showed well-defined plaques with adherent scales and atrophy in a few places. Dermoscopy demonstrated brownish structureless areas surrounded by white striations. In areas of the scalp, dermoscopy showed white rosettes erupting in brownish structureless areas (Figure 2).

Case 3

A 69-year-old male presented with an itchy lesion on the scalp that had been present for six months. The itch was aggravated with exposure to sunlight. Cutaneous examination revealed a well-defined plaque on the vertex of scalp with slight, adherent scales. Dermoscopic examination revealed whitish structureless areas surrounded by red dots and globules, white scale, and follicular plugs. White rosettes were also noted both in the center and periphery. Brown globules were found at the periphery of whitish areas (Figure 3). Skin biopsy showed features suggestive of DLE in all three cases.

White rosettes are white shiny points seen under polarized dermoscopy. They vary in size from 0.2 mm to 0.5 mm, and they can be oriented in the same angulations or in different angulations [4]. The exact morphologic correlate is not known. Many authors believe that it is due to the optical effect of polarized light. It is postulated that rosettes are formed by narrowing of infundibula or blockage by keratin [3]. Others suggest that rosettes correspond to an alternating focal hyperkeratosis and normal corneal layer and keratin-filled acrosyringeal openings [4]. These are described in actinic keratosis, squamous cell carcinoma, basal cell carcinoma, seborrheic keratosis, and lichen planus like keratosis [3].

Haspeslagh et al performed ex vivo dermoscopic examinations of 6,108 consecutive biopsy specimens and reported that many conditions, including basal cell carcinoma, dermatofibroma, nevus, squamous cell carcinoma, melanoma, molluscum contagiosum, and lichen planopilaris demonstrate rosettes. However, there was no mention of DLE. In their study, transverse sections proved that smaller rosettes are mainly caused by polarizing horny material at the infundibular level in adnexal openings and larger rosettes mainly by concentric perifollicular fibrosis [3]. This implies that rosettes are seen in the conditions wherein hair follicle and perifollicular involvement is present. This observation is compounded by the fact that polarization of the infundibular keratin layer results in four segments that appear as rosettes when out of focus [3]. Recently Gonzalez-Alvarez et al described rosettes in pigmented melanoma and stated that rosettes are not angular dependent, which means that they do not change orientation when dermoscopy is rotated around its vertical axis [4]. This is in contrast to white shiny lines observed due to fibrotic changes, which alter their orientation [5]. In DLE, rosettes do not change the angle of orientation.

There are no reports of rosettes in DLE in the literature. In this report, three patients with DLE showed white rosettes. In all cases, the orientation angle of white rosettes was in the same plane. Rosettes were of the same size and shape in all three cases. Histopathology of DLE shows changes mainly midway of hair, and heavy infiltration is seen around the sebaceous gland insertion [6]. This explains the appearance of rosettes in DLE. It should be noted that rosettes are seen only in early phases of DLE because follicles are still preserved and not destroyed by fibrosis. Finally, rosettes are the result of the pathological process involving the follicular and perifollicular areas. Rosettes should not be confused with other white structures like white chrysalis strands or white lines, which correspond to collagen bundles in the dermis [2,7]. The authors could not find morphological differences in rosettes in color of the skin (brown) from other types of skin.

To conclude, this is the first report of DLE demonstrating white rosettes under polarized dermoscopy. Thus this report proves that white rosettes are not specific dermoscopic patterns to any particular condition. They are the result of theoptical effect of crossed polarization in the follicular and perifollicular structures.

References

1. Cuellar F, Vilalta A, Puig S, Palou J, Salerni G, Malvehy J. New dermoscopic pattern in actinic keratosis and related conditions. *Arch Dermatol.* 2009;145:732.
2. Liebman TN, Rabinovitz HS, Dusza SW, Marghoob AA. Rosettes may be observed in a range of conditions. *Arch Dermatol.* 2011;147:1468.
3. Haspeslagh M, Noe M, De Wispelaere I, et al. Rosettes and other white shiny structures in polarized dermoscopy: histological correlate and optical explanation. *J Eur Acad Dermatol Venereol.* 2016;30(2):311-313.
4. Gonzalez-Alvarez T, Armengot-Carbo M, Barriero A, et al. Dermatoscopic rosettes as a clue for pigmented incipient melanoma. *Dermatology.* 2014;228:31–33.
5. Marques-da-Costa J, Campos-do-Carmo G, Ormiga P, et al. Rosette sign in dermatoscopy: a polarized finding. *Skinmed.* 2011;9:392.
6. Weedon D. The lichenoid reaction pattern. In: Weedon D, Strutton G. (editors). *Skin Pathology.* 2nd ed. Elsevier; China: 2002:31-74.
7. Liebman TN, Rabinovitz HS, Balagula Y, Jaimes-Lopez N, Marghoob AA. White shiny structures: dermoscopic features revealed under polarized light. *J Eur Acad Dermatol Venereol.* 2012;26:1493–1497.