

Two Annular Alopecic Lesions on the Scalp in a Young Asian Man: A Quiz

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An 18-year-old Korean man presented with 2 asymptomatic, annular hair-loss patches on the scalp for 1 year. Physical examination revealed 2 long, arc-shaped, non-scarring, alopecic patches on the right fronto-parietal (Fig. 1a) and left temporo-parietal scalp (Fig. 1b) without overlying skin changes such as erythema or scales. Dermoscopy revealed empty follicles, yellow dots, and many short vellus hairs, but broken hairs were not found (Fig. 1c). The patient was generally healthy and there was no relevant family history or past history of systemic disease or medication. Labora-

tory findings were non-contributory other than a positive antinuclear antibody test (titre 1:20, speckled pattern). A skin biopsy from the scalp lesion was performed (Fig. 2; full details in Fig. S1¹).

What is your diagnosis? See next page for answer.

¹<https://doi.org/10.2340/00015555-2556>

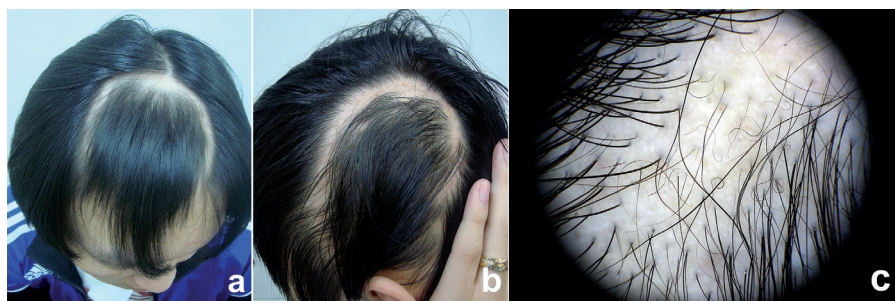


Fig. 1. Clinical characteristics. (a, b) Annular alopecic patches on scalp. (c) Dermoscopy showing empty follicles and numerous short vellus hairs.

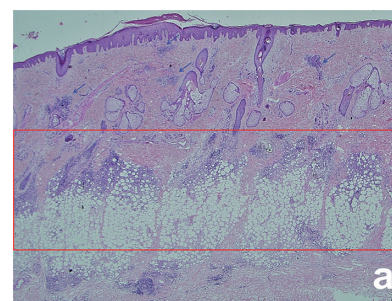


Fig. 2. Histopathology. Scanning view of dense lymphocytic infiltrates mainly in the peribulbar and interfollicular area of the lower dermis and the subcutaneous fat layer (red box).

ANSWERS TO QUIZ

Two Annular Alopecic Lesions on the Scalp in a Young Asian Man: A Commentary

Acta Derm Venereol 2017; 97: 418–419.

Diagnosis: Linear and annular lupus panniculitis of the scalp (LALPS)

Histopathological examination showed dense lymphocytic infiltrates in the deep dermis and subcutaneous fat layer, with perivascular and periadnexal lymphocytic infiltrate in the dermis (Fig. S1a, b¹). Abundant mucin deposition was shown with Alcian blue staining (Fig. S1c¹). The patient was diagnosed with lupus erythematosus panniculitis (LEP), most commonly occurring on the upper limbs, face, trunk, and buttocks (1).

Linear or annular LEP of the scalp (LALPS) is a recently described rare clinical form of LEP, distributed as focal and linear bald patches along the suspected Blaschko's lines of the scalp. Chen et al. (2) suggested that linear LEP of the scalp should be considered as a distinct variant of lupus panniculitis. An annular shape of scalp LEP has since been reported (3). In 2013, Mitxelena et al. (4) termed this entity LALPS. To date, 12 cases of LALPS have been reported since the first case described by Nagai et al. (5) in 2003.

The pathogenesis of LALPS is not yet fully understood. Nagai et al. (5) proposed a hidden anomaly of the epidermis together with cellular mosaicism of dermal cells as cause of linear or annular LEP. LALPS appears to affect individuals in a younger age group, and has a predilection for males and East Asians (5). Chiesa-Fuxench et al. (6) suggest that LALPS can occur in patients of various ethnicities. Although Caucasian, Turkish, Italian and Spanish patients have been rarely reported, the majority of cases occurred in either Korean or Japanese patients (4, 7, 8).

The overlying skin in LALPS is usually normal, but may show erythematous changes or signs of discoid lupus (1). LALPS has a reversible clinical course without scarring, and the development of systemic lupus erythematosus (SLE) is a rare phenomenon; so far, there has been only 1 case of SLE in LALPS patient (7). Simultaneous involvement of other body sites is not common (9). Interestingly, our patient had multiple annular-shaped alopecic patches and 2 simultaneous annular cutaneous nodules on the distant left upper arm in similar geometric configurations, as well as positive antinuclear antibody results. Histopathological findings of LEP demonstrate hyaline fat necrosis, mucin deposition, and predominant lymphocytic infiltrates in fat lobules and perivascular and perifollicular regions (10, 11). When compared with typical LEP, LALPS is characterized by a relatively sparse inflammatory infiltrate, more abundant mucin in fat lobules, and higher degree of hyaline fat degeneration. Liquefaction degeneration at the basement membrane zone is also less frequent in LALPS than typical LEP. On immunofluorescent study, LALPS usually have negative findings, while typical LP have shown IgG and C3 deposition at the basement membrane zone or around blood vessels. Only one case of LALPS showed granular IgA, IgM, and C3 deposition in the peribulbar area (12). Major

differential diagnoses for LALPS include alopecia areata, trichotillomania, traumatic alopecia, as well as early stages of primary cicatricial alopecia, such as lichen planopilaris and linear morphea. Other conditions, such as alopecia mucinosa and subcutaneous panniculitis-like T-cell lymphoma should be considered in the differential diagnosis (4). Non-invasive dermoscopy can facilitate the clinical diagnosis of LALPS and differentiate it from other types of alopecia. Dermoscopic examination of LALPS shows numerous vellus hairs with or without diffuse telangiectasia and follicular plugging representing epidermal changes; however, broken hairs typically seen in alopecia areata or trichotillomania, and loss of follicular opening (fibrotic white dots) observed in primary cicatricial alopecia are not found (11).

Since LALPS has a low rate of progression to systemic disease and spares the upper segment of hair follicles, the prognosis of LALPS is promising using anti-malarial, dapsone, or topical/intralesional/oral corticosteroid treatments (2, 5, 9). However, recurrent cases were noted in 33% of LALPS patients after discontinuing therapy (2). In the present case, the patient was treated with oral hydroxychloroquine and topical corticosteroid, and regrowth of the terminal hairs was observed after a 12-week follow-up period.

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