

## Annular Lichen Planus with Central Clearing

Case Report

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## Abstract

Annular lichen planus is an uncommon clinical variant of lichen planus. Characteristics include an annular configuration associated with a narrow rim of erythema and inflammation and a depressed center. There is a tendency toward central clearing. We present an illustrative case of annular lichen planus in an 82-year-old woman.

**Key words:** Lichen planus, annular lichen planus, dermatosis

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**Patient History**

An 82 year-old white woman with a history of basal cell carcinoma presented for routine follow up and was noted to have a 2.5 cm hyper-pigmented annular plaque on her left lower abdomen. She reported that the plaque had been present and stable for over one year. Examination also revealed small hyperpigmented macules in her right axilla. The remainder of her skin exam, including her buccal mucosa and nails, was unremarkable. Her past dermatologic history was significant for scalp psoriasis, which responded to topical steroids and had remained in remission for several years. Three biopsies were obtained, two from the larger annular plaque and one from an axillary lesion. All demonstrated histologic findings consistent with lichen planus. A review of her medications failed to identify mediations associated with lichenoid drug eruptions.

**Discussion**

Lichen planus is an inflammatory dermatosis involving the skin and mucous membranes characterized by an autoimmune reaction mediated by CD8+ T cells [1]. Several variants of lichen

planus are recognized and all may exhibit differing features during acute or chronic phases (Table 1). Although annular lichen planus (ALP) is a long-recognized clinical variant of lichen planus, it is rare. Tinea, granuloma annulare, porokeratosis, mycobacterial infection, figurate erythema, borrelia infection, as well as other annular eruptions all need to be considered in the histologic differential diagnosis. Furthermore, ALP may present with striking central atrophy, which is typically classified as annular atrophic lichen planus [2]. A retrospective review of 20 patients identified the distribution and presentation of annular lichen planus and found that the morphology typically included violaceous plaques with an annular configuration and a narrow rim of activity and residual hyperpigmentation [3]. ALP commonly involves the male genitalia and intertriginous areas such as the axilla and groin folds [4]. In addition, characteristic oral mucosal, vulval, scalp or nail lesions that are associated with other variants of lichen planus are typically absent in ALP. Similarly, pruritus, a symptom that occurs often in typical lichen planus, is very slight or altogether absent in ALP, with recurrence and aggravation related to long exposure to sunlight [5].

Our patient's presentation and clinical course are typical and illustrative. She presented with an annular lesion with indurated borders and a tendency toward central clearing (Figure 1). Biopsy captured the inflammatory component of both sides of the annular rim as well as the quiescent midline area. Microscopic examination revealed a patchy lichenoid lymphohistiocytic inflammatory infiltrate with melanophages in the papillary dermis. Discrete areas demonstrated lichenoid inflammation (Figure 2a). Higher power revealed typical hypergranulosis with dyskeratotic keratinocytes and a band-like lymphocytic infiltrate (Figure 2b). Eosinophils and plasma cells were not conspicuous within the inflammatory infiltrate. The histologic findings confirmed the clinical diagnosis of ALP. Mainstays of therapy include topical corticosteroids. In our patient, the lesions were asymptomatic and not cosmetically apparent, and so the patient elected to forgo treatment.

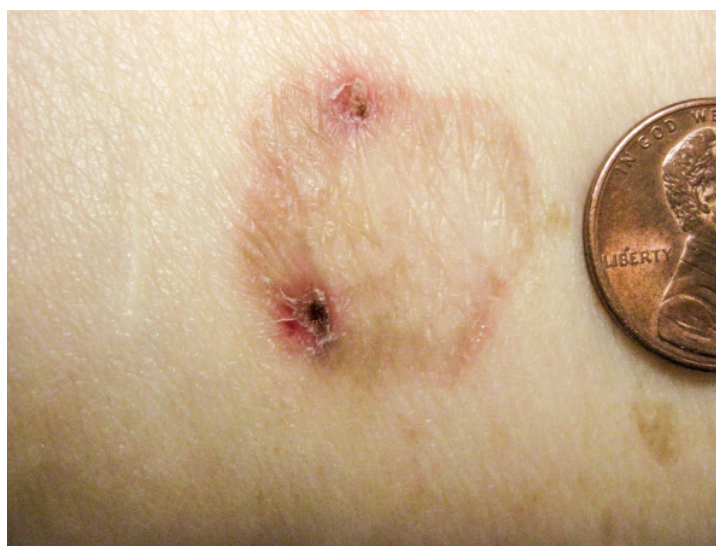
**Conflict of Interest Statement**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be

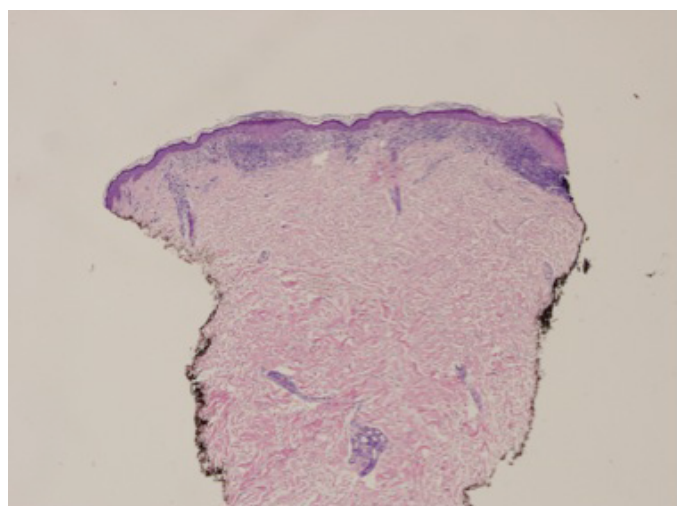
**Table 1: Annular lichen planus variants and descriptions**

Lichen planus variants	
Variant	Characteristics
Actinic	Only effects sun exposed areas of forehead, face, and dorsal surfaces of arms and hands. Erythematous brownish plaques with variable borders and scaling [6].
Hypertrophic	Also known as lichen planus verrucosus, it is characterized by inflammation, red, yellow-gray or red-brown papules and plaques that can coalesce and possess a papular, hyperkeratotic surface predominantly found on the shins. This variant can be intensely pruritic [7].
Atrophic	Annular lichen planus that assumes well-demarcated papules with central atrophy and slight depression, and sometimes exhibits white-blueish pigment [8].
Follicular	Individual keratotic follicular papules surrounded by a violaceous rim, most commonly on scalp and may lead to alopecia [9].
Vesicular	Develops within long-standing lesions of lichen planus as a result of intense lichenoid infiltration of lymphocytes and extensive epidermal damage [7].
Pigmentosus	Hyper-pigmented, brown to gray-brown macules and patches in sun-exposed areas, typically the head and neck [10].
Ulcerative	Single or multiple lesions with sharp borders, asymmetrical configurations with ulcers or erosions ranging in size. Plaques are most often found on the soles and interdigital spaces [11].

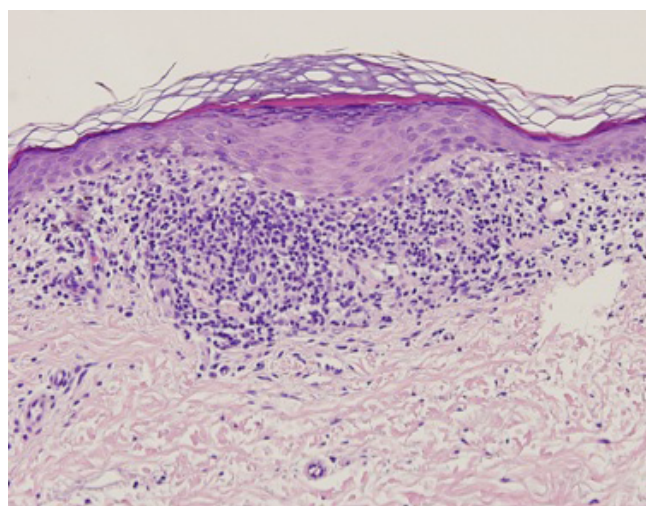
**Figure 1: Clinical image of annular plaque located on lateral left lower abdomen**



**Figure 2a: 40X H&E exhibiting lichenoid inflammation**



**Figure 2b: 200X magnified biopsy image showing lymphocytic infiltrate with hypergranulosis**



construed as a potential conflict of interest.

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