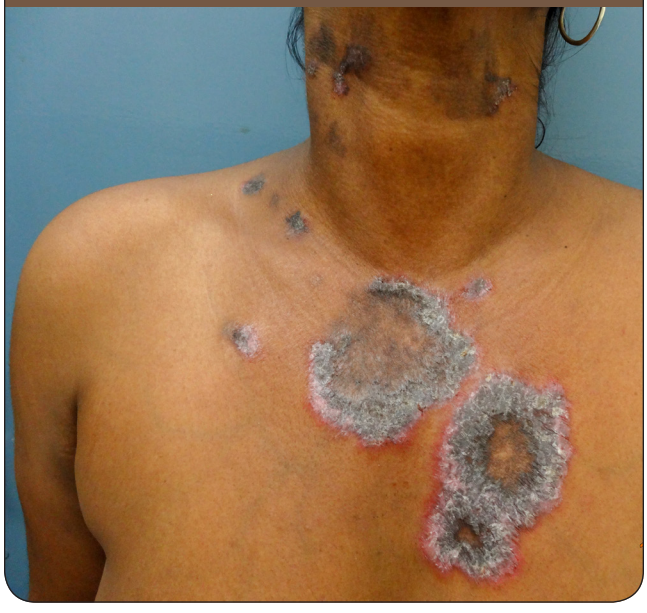
Photo Quiz

Annular Skin Lesions on the Chest

Anuradha Bishnoi, MD; Ankur Guliani, MD; and Davinder Parsad, MD
Postgraduate Institute of Medical Education and Research, Chandigarh, India

FIGURE 1



A woman presented with a one-year history of mildly pruritic, annular lesions on her neck, ears, and chest. She had no history of drug or medication use prior to the onset of the plaques. The patient reported hair loss on the scalp. Results of routine blood tests and urine examination were unremarkable.

On examination, there were multiple scaly plaques of varying size on the anterior aspect of her neck and chest. The larger plaques had central atrophic scarring and hyperpigmentation, with a prominent peripheral rim of erythema *(Figure 1)*. There were horseshoe and figure eight morphologies where plaques had coalesced. The rest of the skin, mucosae, and nails were normal. A punch biopsy was obtained from the skin lesions and submitted for histopathologic examination.

Question

Based on the patient's history and physical examination findings, which one of the following is the most likely diagnosis?

- ☐ A. Annular atrophic lichen planus.
- ☐ B. Annular psoriasis.
- ☐ C. Discoid lupus erythematosus.
- ☐ D. Fixed drug eruption.

See the following page for discussion.

The editors of *AFP* welcome submissions for Photo Quiz. Guidelines for preparing and submitting a Photo Quiz manuscript can be found in the Authors' Guide at https://www.aafp.org/afp/photoquizinfo. **To be considered for publication**, submissions must meet these guidelines. E-mail submissions to afpphoto@aafp.org.

This series is coordinated by John E. Delzell Jr., MD, MSPH, Associate Medical Editor.

A collection of Photo Quiz published in *AFP* is available at https://www.aafp.org/afp/photoquiz.

Previously published Photo Quizzes are now featured in a mobile app. Get more information at https://www.aafp.org/afp/apps.

Author disclosure: No relevant financial affiliations.

SUMMARY TABLE

Diagnosis	Characteristics
Annular atrophic lichen planus	Pruritic, small, annular plaques with raised, thin, nonscaly, delicate, violaceous borders and central atrophy; seen on the penis, trunk, and extremities; oral and nail lesions may be associated
Annular psoriasis	Erythematous, scaly plaques that undergo central clearing; lesions do not have central atrophy and scarring; nail changes and arthritis may be associated
Discoid lupus erythematosus	Lesions start as erythematous papules with a scaly surface and expand peripherally to form large discoid plaques that heal with central atrophic scarring and pigment changes; scales are adherent
Fixed drug eruption	Well-defined, erythematous to violaceous, edematous, nonscaly plaques in acute stage; lesions resolve leaving coin-shaped, smooth, hyperpigmented patches; lesions usually develop shortly after medication use

Discussion

The answer is C: discoid lupus erythematosus. Histopathologic examination from the punch skin biopsy revealed epidermal hyperkeratosis, parakeratosis and atrophy, follicular plugging, few apoptotic keratinocytes, and basal cell vacuolization. Dense lymphomononuclear infiltrate was present at the junction of epidermis and dermis (interface dermatitis) and in the perifollicular and perivascular distribution, suggesting discoid lupus erythematosus. Findings on direct immunofluorescence were positive for speckled antinuclear antibody. A 24-hour urine protein test was normal. The patient was treated with daily hydroxychloroquine (Plaquenil).

Discoid lupus erythematosus is the most common subtype of cutaneous lupus, with lesions mostly localized above the neck. However, 20% to 40% of patients with discoid lupus erythematosus present with a generalized form, in which lesions develop both above and below the neck (similar to this patient).[1] The lesions start as erythematous papules with a scaly surface and expand peripherally to form large discoid plaques that heal with central atrophic scarring and pigment changes.[2] Scales are adherent and when deliberately removed, demonstrate carpet-tack sign (i.e., spiky hyperkeratosis on the undersurface of the scale).[2]

Annular atrophic lichen planus is a rare variant of lichen planus that presents as intensely pruritic, small, annular plaques with raised, thin, nonscaly, delicate, violaceous borders and central atrophy. It commonly occurs on the genitals but may be found on the trunk and extremities.[3] Oral and nail lesions may be associated with the condition.

Annular psoriasis presents as erythematous, scaly plaques that undergo central clearing (especially observed after treatment with retinoids). The lesions do not have the central atrophy and severe, persistent scarring seen with discoid lupus.[4] Nail changes and arthritis may be associated with the condition.

Fixed drug eruption presents as well-defined, erythematous to violaceous, edematous, nonscaly plaques in the acute stage. The plaques resolve, leaving typical coin-shaped, smooth, hyperpigmented patches. The lesions can involve the oral mucosa, genitalia, hands, feet, and trunk. They usually develop shortly after medication use and recur every time the causative medication is administered.[5]

Address correspondence to Davinder Parsad, MD, at parsad@me.com. Reprints are not available from the authors.

References

1. Cardinali C, Caproni M, Bernacchi E, Amato L, Fabbri P. The spectrum of cutaneous manifestations in lupus erythematosus—the Italian experience. *Lupus*. 2000;9(6):417-423.
2. Lee HJ, Sinha AA. Cutaneous lupus erythematosus: understanding of clinical features, genetic basis, and pathobiology of disease guides therapeutic strategies. *Autoimmunity*. 2006;39(6):433-444.
3. Eyler JT, Garib G, Thompson KR, Dahiya M, Swan JW. Annular atrophic lichen planus responds to hydroxychloroquine and acitretin. *Cutis*. 2017;100(2):119-122.
4. Guill CL, Hoang MP, Carder KR. Primary annular plaque-type psoriasis. *Pediatr Dermatol*. 2005;22(1):15-18.
5. Flowers H, Brodell R, Brents M, Wyatt JP. Fixed drug eruptions: presentation, diagnosis, and management. *South Med J*. 2014;107(11):724-727. ■