

# Papules on the Face and Body

What's the diagnosis?



A 65-year-old woman presented for evaluation of papules on the face and body that had developed over a short period of time approximately 1.5 years prior. The papules were entirely asymptomatic. She had no prior treatment. On physical examination multiple flesh-colored papules with a central keratotic spicule were noted on the face, neck, arms, and legs.

Christine Anastasiou, MD; Philip O. Scumpia, MD, PhD; Chandra Smart, MD; Lorraine C. Young, MD

Dr. Anastasiou is from the Department of Medicine, University of California, San Diego, and the University of California Los Angeles, David Geffen School of Medicine. Drs. Scumpia, Smart, and Young also are from the University of California Los Angeles, David Geffen School of Medicine. Drs. Scumpia and Young are from the Division of Dermatology, Department of Medicine, and Dr. Smart is from the Division of Dermatopathology, Department of Pathology.

The authors report no conflict of interest.

Correspondence: Lorraine C. Young, MD, 757 Westwood Plaza, 200 Medical Bldg, Ste 370-6, Los Angeles, CA 90095 (LCYoung@mednet.ucla.edu).

## The Diagnosis: Lichen Spinulosus

**L**ichen spinulosus, also referred to as keratosis spinulosa, is a disorder of keratinization characterized by grouped 1- to 3-mm papules with a horny spine localized to follicles (Figure).<sup>1</sup> These lesions most commonly occur in the first through third decades of life, presenting as 2- to 6-cm patches on the neck, buttocks, thighs, abdomen, or extensor surfaces.<sup>1,4</sup> Some patients report mild pruritus.<sup>1</sup> The cause is unknown.<sup>1,3,5-7</sup> Several proposed but unproven explanations include atopy,<sup>2,4</sup> genetic predisposition,<sup>1,2</sup> toxins,<sup>3,5</sup> infection,<sup>5</sup> abnormal immune response,<sup>8</sup> and vitamin deficiency.<sup>1,6,7</sup>

Our patient's presentation is atypical due to her age and the involvement of her face. Generalized lichen spinulosus in adults likely is rare. A few similar cases have been reported: a 61-year-old woman with Crohn disease and lichen spinulosus affecting the groin, inframammary region, and back<sup>8</sup>; 2 case reports linked to alcoholism-associated nutritional deficiency<sup>6,7</sup>; and generalized lichen spinulosus-like eruptions in 2 patients with human immunodeficiency virus infection.<sup>9,10</sup> Our patient's medical history indicated an extensive smoking history; thiamine deficiency 5 years prior treated with vitamin B complex supplements, which she still takes; and a recent diagnosis of vitamin D deficiency. She had no evidence of immunodeficiency or systemic illness on routine screening.

The disorders of follicular keratinization are lichen spinulosus, keratosis pilaris, keratosis pilaris atrophicans, pityriasis rubra pilaris, lichen planopilaris, erythromelanosis follicularis faciei, and phrynoderma.<sup>11</sup> The clinical differential diagnosis of lichen spinulosus includes keratosis pilaris, phrynoderma, pityriasis rubra pilaris, and frictional lichenoid eruption. Lichen spinulosus can be distinguished from keratosis pilaris by 4 factors<sup>1,11</sup>: (1) keratosis pilaris lesions develop slowly over time as opposed to the rapid onset in lichen spinulosus; (2) keratosis pilaris is preferentially located on the upper arms and legs; (3) keratosis pilaris does not develop in small clusters; (4) keratosis pilaris, unlike lichen spinulosus, often has a thin outline of perifollicular erythema. Histopathologically, lichen spinulosus is similar to keratosis pilaris, showing dilated hair follicles with a keratin plug and perifollicular and perivascular dermal lymphocytic infiltrate.<sup>1</sup> A punch biopsy from our patient's cheek demonstrated focal follicular hyperkeratosis with dermal perivascular inflammation. Periodic acid-Schiff with diastase stain was negative for pathogenic fungal organisms.

Treatment of lichen spinulosus is initiated to address cosmetic concerns. Traditionally, keratolytics



Hyperkeratotic follicular “spines” localized to the right lower leg.

and emollients are utilized. Success has been described with salicylic acid gel 6% without occlusion for 8 weeks<sup>12</sup> or with occlusion for 2 weeks.<sup>13</sup> Tar preparations and mid-potency topical corticosteroids may be used on lesions not located on the face.<sup>2,4,15</sup> Topical vitamin A,<sup>2</sup> lactic acid,<sup>4</sup> and ammonium lactate lotion<sup>2</sup> have been therapeutic in some cases. Facial lesions have been successfully treated with tacalcitol<sup>14</sup> or tretinoin gel 0.04% in combination with hydroactive adhesive applications.<sup>15</sup> In the case of lichen spinulosus accompanying alcoholism, oral vitamin supplementation has been sufficient for resolution.<sup>6,7</sup>

Our patient was initially prescribed ammonium lactate lotion twice daily and tretinoin cream 0.025% for facial application nightly. She only used the tretinoin briefly due to skin irritation, and she discontinued use of ammonium lactate due to lotion texture. Three months of vitamin A and vitamin B complex supplementation did not lead to any improvement. She believed the papules softened by scrubbing them with a loofah in the shower and then moisturizing. Malignancy workup, including a colonoscopy,

mammography, chest radiograph, and basic blood tests, were negative. No remarkable change was noted by the patient at 1-year follow-up.

## REFERENCES

1. Friedman SJ. Lichen spinulosus. clinicopathologic review of thirty-five cases. *J Am Acad Dermatol.* 1990;22:261-264.
2. Boyd AS. Lichen spinulosus: case report and overview. *Cutis.* 1989;43:557-560.
3. Adamson H. Lichen pilaris, seu spinulosus. *Br J Dermatol.* 1905;17:39-54.
4. Strickling WA, Norton SA. Spiny eruption on the neck. diagnosis: lichen spinulosus (LS). *Arch Dermatol.* 2000;136:1165-1170.
5. Becker S. Lichen spinulosus following intradermal application of diphtheria toxin. *Arch Dermatol Syph.* 1930;21:839-840.
6. Irgang S. Lichen spinulosus responsive to ascorbic acid (vitamin C). case in an alcoholic adult. *Skin.* 1964;3:145-146.
7. Kabashima R, Sugita K, Kabashima K, et al. Lichen spinulosus in an alcoholic patient. *Acta Derm Venereol.* 2009;89:311-312.
8. Kano Y, Orihara M, Yagita A, et al. Lichen spinulosus in a patient with Crohn disease. *Int J Dermatol.* 1995;34:670-671.
9. Cohen SJ, Dicken CH. Generalized lichen spinulosus in an HIV-positive man. *J Am Acad Dermatol.* 1991;25:116-118.
10. Resnick SD, Murrell DF, Woosley J. Acne conglobata and a generalized lichen spinulosus-like eruption in a man seropositive for human immunodeficiency virus. *J Am Acad Dermatol.* 1992;26:1013-1014.
11. McMichael A, Curtis A, Guzman-Sanchez D, et al. Folliculitis and other follicular disorders. In: Bologna J, Jorizzo J, Rapini R, eds. *Dermatology.* Vol 1. 3rd ed. New York, NY: Elsevier; 2012:571-586.
12. Tuyp E, McLeod WA, Boyko W. Lichen spinulosus with immunofluorescent studies. *Cutis.* 1984;33:197-200.
13. Maiocco KJ, Miller OF. Lichen spinulosus: response to therapy. *Cutis.* 1976;17:294-299.
14. Kim SH, Kang JH, Seo JK, et al. Successful treatment of lichen spinulosus with topical tacalcitol cream. *Pediatr Dermatol.* 2010;27:546-547.
15. Forman SB, Hudgins EM, Blaylock WK. Lichen spinulosus: excellent response to tretinoin gel and hydroactive adhesive applications. *Arch Dermatol.* 2007;143:122-123.