

Erythematous Papules on Dorsum of Both Hands

HEI SUNG KIM, MD, PhD; SO MIN KIM, MD; and JEONG DEUK LEE, MD, PhD

Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Incheon, Korea

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 <http://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, Assistant Medical Editor.

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

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



Figure 1.

An otherwise healthy 24-year-old student presented with a three-month history of multiple asymptomatic papules on the extensor surfaces of both hands. She had no history of trauma, allergen exposure, or repetitive friction to her hands. She had no history of a similar rash.

Physical examination revealed confluent, grouped, hyperkeratotic, flat-topped, erythematous papules overlying the metacarpophalangeal, proximal interphalangeal, and distal interphalangeal joints on the dorsum of both hands (*Figure 1*).

Question

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

- A. Allergic contact dermatitis.
- B. Gottron papules.
- C. Knuckle pads.
- D. Lichen planus.
- E. Psoriasis.

See the following page for discussion.

Photo Quiz

Discussion

The answer is B: Gottron papules. Gottron papules are erythematous, flat-topped, hyperkeratotic papules on the dorsal interphalangeal or metacarpophalangeal joints, elbows, or knees. They are a typical cutaneous feature of dermatomyositis.^{1,2} Dermatomyositis is an idiopathic inflammatory myopathy with several characteristic cutaneous manifestations. It has a bimodal age distribution, with onset in childhood or adulthood. The etiology of dermatomyositis is unknown, but it is thought to be an autoimmune disease that may have genetic predisposition. It may be triggered by environmental stimuli, such as ultraviolet light and infection.^{1,2}

Besides Gottron papules, other characteristic cutaneous findings of dermatomyositis include heliotrope rash, shawl sign, and V sign. Heliotrope rash is a violaceous discoloration of the eyelids associated with periorbital edema. This patient had erythema and edema on the periorbital area and nasolabial area one month before presentation. The shawl sign is a macular erythema on the posterior neck and shoulders. The V sign is erythematous poikilodermatous macules in the V area of the anterior neck and upper chest. Dermatomyositis is characterized by muscle tenderness and symmetric proximal muscle weakness affecting mainly the shoulder and pelvic girdles. Patients may have difficulty raising their arms or rising from a sitting position.^{1,2}

Muscle enzymes such as creatine kinase can be elevated in patients with dermatomyositis. The patient may also be positive for autoantibodies, including antinuclear antibody and anti-Jo-1 antibody. Diagnosis may require electromyography or magnetic resonance imaging.^{1,2}

Dermatomyositis is associated with arthralgia, arthritis, dyspnea, dysphagia, interstitial pneumonitis, cancer, and cardiomyopathy.^{1,2} Steroids are the mainstay of treatment.

Allergic contact dermatitis presents as pruritic, eczematous dermatitis at the sites of allergen exposure. Allergic contact dermatitis of the hands involves the finger web spaces and dorsal hands, and pruritus is a predominant symptom.¹

Knuckle pads are a type of benign fibroma associated with repetitive friction or pressure. They typically occur over extensor aspects of proximal interphalangeal joints of the fingers and toes, but they can occur on the

Summary Table

Condition	Characteristics
Allergic contact dermatitis	Pruritic, eczematous dermatitis at the sites of allergen exposure; involvement of the finger web spaces and dorsal hands
Gottron papules	Erythematous, flat-topped, hyperkeratotic papules on the dorsal interphalangeal or metacarpophalangeal joints, elbows, or knees
Knuckle pads	Benign fibroma over extensor aspects of the fingers and toes; painless, freely movable, round, flesh-colored; associated with repetitive friction or pressure
Lichen planus	Pruritic, erythematous to violaceous, flat-topped, polygonal papules on the flexural areas of wrists, arms, and legs
Psoriasis	Symmetrically distributed, well-demarcated, scaly, erythematous patches and plaques on the extensor surfaces of extremities, scalp, buttocks, and genital areas

metacarpophalangeal joints and distal interphalangeal joints. They are painless, freely movable, and round. They appear flesh-colored but can have hyperpigmentation or hypopigmentation.³

Lichen planus is an inflammatory dermatosis involving skin and/or mucous membranes. It is characterized by erythematous to violaceous, flat-topped, polygonal papules, which may be grouped and may coalesce. Pruritus is often prominent. Lichen planus usually involves the flexural areas of wrists, arms, and legs.⁴

Psoriasis is a chronic and recurrent inflammatory disease of the skin characterized by symmetrically distributed, well-demarcated, scaly, erythematous patches and plaques. The lesions are usually located on the extensor surfaces of the extremities, particularly the elbows and knees, along with the scalp, buttocks, and genital areas. Scales are silvery-white, lamellar, loose, and easily removed by scratching.⁴

Address correspondence to Hei Sung Kim, MD, PhD, at hazelkimhoho@gmail.com. Reprints are not available from the authors.

Author disclosure: No relevant financial affiliations.

REFERENCES

1. Goldsmith LA, ed. *Fitzpatrick's Dermatology in General Medicine*. 8th ed. New York, NY: McGraw-Hill; 2012.
2. Maan MA, Akhtar SJ, Haque H. Dermatomyositis. *J Pakistan Assoc Dermatol*. 2008;18:33-43.
3. Nenoff P, Woitek G. Images in clinical medicine. Knuckle pads. *N Engl J Med*. 2011;364(25):2451.
4. Wolff K, Johnson RA, Fitzpatrick TB. *Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology*. 6th ed. New York, NY: McGraw-Hill; 2009. ■