

A Burning Red Rash

SUET YIN CHOW, MMED (FAM MED), *Klinik Kesihatan Jinjang, Kuala Lumpur, Malaysia*

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.

A 43-year-old man presented with a painful rash on the chest and back. The rash started five days earlier on the left side of the chest and then spread to the left side of the back. The pain was burning in nature. He had no history of a similar rash. He had no exposure to chemicals or physical agents. He had diabetes mellitus, hypertension, and dyslipidemia.

On physical examination, the patient was afebrile. Clusters of vesicles with some pustules and crusting (*Figures 1 and 2*) were noted on the back and chest. The rest of the body was not affected.



Figure 2.

Question

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

- A. Bullous impetigo.
- B. Contact dermatitis.
- C. Herpes simplex virus infection.
- D. Herpes zoster.
- E. Varicella.

See the following page for discussion.

Summary Table

Condition	Characteristics	Location
Bullous impetigo	Vesicles with sharp margins and no surrounding erythema	Favors moist and intertriginous areas
Contact dermatitis	Lesions vary and can include erythema, vesicles, blisters, erosions, and crusts	Anywhere the causative agent contacts the skin
Herpes simplex virus infection	Painful clusters of vesicles on an erythematous base	Usually in mucocutaneous areas; generalized and disseminated
Herpes zoster	Unilateral, painful vesicular rash	Most common in T1 to L1 dermatomal distribution
Varicella	Crops of pruritic rash with lesions in different stages of development (macules, papules, vesicles, pustules, and crusted scabs)	Usually begins at the head and spreads to the trunk and extremities in a bilateral distribution

Discussion

The answer is D: herpes zoster. Herpes zoster is characterized by a unilateral, painful vesicular rash with a dermatomal distribution. It is caused by reactivation of the varicella zoster virus.¹ Herpes zoster most commonly affects dermatomes T1 to L2 and the first branch of the trigeminal nerve.¹ In this case, the patient had a painful vesicular rash distributed mainly at the T2 to T4 dermatomes. There are four stages of a varicella zoster outbreak: erythematous, vesicular, pustular, and ulcerative.¹ Occasionally, crusting develops after one week.² The pain, which is caused by acute neuritis, can be described as a burning sensation and a deep, prickling, or lancinating pain.² Reduced immunity states, such as advanced age and immunosuppression (e.g., malignancy, diabetes, human immunodeficiency virus infection), are risk factors for herpes zoster.²

Bullous impetigo is a result of superficial *Staphylococcus aureus* or group A *Streptococcus* skin infections.² It usually arises from a primary infection in minor superficial skin breaks or secondary infection of preexisting dermatoses.² The vesicles have sharp margins with no surrounding erythema.³ Bullous impetigo is more common in moist, intertriginous areas, such as diaper areas, axillae, and neck folds.^{2,3}

Contact dermatitis is an acute or chronic inflammatory reaction to substances that come into contact with the skin.² There must be a triggering agent to cause the reaction. Lesions vary and can include erythema, vesicles, blisters, erosions, and crusts.²

Herpes simplex virus infection usually occurs at mucocutaneous areas, such as the

orolabial area and genitalia.⁴ The lesions are clusters of painful vesicles on an erythematous base, which can evolve into pustules, erosions, and ulcerations.² Widespread cutaneous herpes simplex virus infection can occur on the trunk in patients with atopic dermatitis or an immunocompromising condition.² The lesions will be generalized and disseminated rather than grouped.²

Varicella, or chicken pox, is characterized by crops of pruritic rash with lesions in different stages of development (macules, papules, vesicles, pustules, and crusted scabs).^{2,5} The lesions usually begin on the head and spread to the trunk and extremities in a bilateral distribution.² The rash is pruritic rather than painful.³

Address correspondence to Suet Yin Chow, MMed (Fam Med), at chowsy82@gmail.com. Reprints are not available from the author.

Author disclosure: No relevant financial affiliations.

REFERENCES

1. Armando S, Nicoletta V, Sara P, Matilde G, Silvia L, Giovanni G. Herpes zoster: new preventive perspectives. *J Dermatolog Clin Res*. 2015;3(1):1042-1045.
2. Johnson RA, Wolff K, Fitzpatrick TB, eds. *Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology*. 6th ed. New York, NY: McGraw Hill Professional; 2009.
3. Cole C, Gazewood J. Diagnosis and treatment of impetigo. *Am Fam Physician*. 2007;75(6):859-864.
4. Emmert DH. Treatment of common cutaneous herpes simplex virus infections. *Am Fam Physician*. 2000;61(6):1697-1706.
5. Centers for Disease Control and Prevention. Epidemiology and prevention of vaccine-preventable diseases, 13th ed. Varicella. <https://www.cdc.gov/vaccines/pubs/pinkbook/downloads/varicella.pdf>. Accessed February 11, 2017. ■