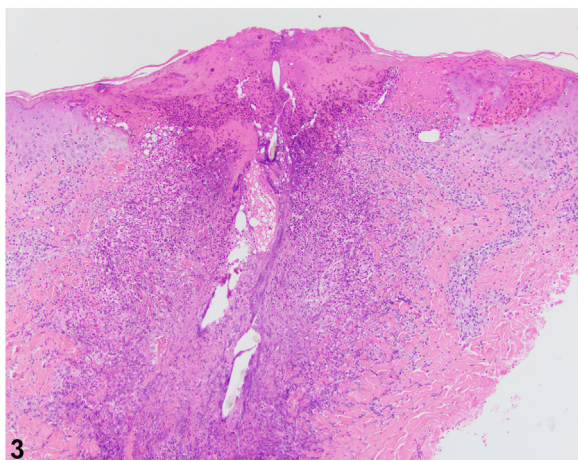


## Acute pruritic eruption



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## CASE

A 24-year-old primigravida female at 5 week gestation with no past medical history presented with an acute-onset mildly pruritic eruption involving the face, trunk, and extremities. She noted a concurrent mild sore throat and denied fevers, chills, malaise, recent sick contacts, new medication exposures, or new personal care products. The patient was sexually active without protection with 1 monogamous sexual partner, and was unsure of her childhood vaccination status. Physical examination revealed scattered erythematous, edematous papules and plaques, some with central erosion and heme crusting, and intermixed erythematous vesicles on the face (Fig 1), chest (Fig 2), and back (Fig 3). Examination of the oropharynx was unremarkable. Histopathology revealed acute necrosis of the follicular epithelium.

### Question 1: What is the most likely clinical diagnosis?

- A. Allergic contact dermatitis
- B. Herpes simplex virus (HSV)-1 infection
- C. Primary varicella-zoster virus (pVZV) infection
- D. Coxsackie A infection
- E. Herpes zoster infection

#### Answers:

**A.** Allergic contact dermatitis — Incorrect. This is less likely considering the patient's clinical history, rapid progression of her rash, and presence of scattered vesicles. In addition, she denied exposure to new personal care products.

**B.** Herpes simplex virus (HSV)-1 infection — Incorrect. While HSV-1 is a consideration for vesicular eruptions, it tends to be more localized and presents more classically as herpes labialis or herpes gingivostomatitis rather than a generalized eruption.

**C.** Primary varicella-zoster virus (pVZV) infection — Correct. The clinical history and acute onset are most consistent with an infection. Despite the absence of overt viral cytopathic changes (multinucleation, nuclear margination, chromatin molding) on pathology, follicular necrosis was noted — a feature of herpes virus infection. Thus, the clinical picture was most consistent with pVZV infection.<sup>1</sup> A swab of an unroofed vesicle for viral polymerase chain reaction and VZV stain on pathology confirmed this diagnosis.

**D.** Coxsackie A infection — Incorrect. While hand, foot, mouth disease can present with a similar eruption, this patient exhibited no oral, hand, foot, buttock, or scalp lesions, making this differential diagnosis less likely. Further, the exanthem of hand, foot, mouth disease is not pruritic.

**E.** Herpes zoster infection — Incorrect. While herpes zoster is a reactivation of the latent VZV, this typically presents with a dermatomal, unilateral vesicular eruption associated with pain, including sensations of burning and tingling.<sup>2</sup>

### Question 2: What is the most appropriate treatment in this scenario?

- A. Antiretroviral therapy
- B. Cephalosporin
- C. Acyclovir
- D. Hydrocortisone 2.5% ointment
- E. Topical cream containing pramoxine

#### Answers:

**A.** Antiretroviral therapy — Incorrect. VZV is not a retrovirus. This is the treatment for retroviruses, such as HIV.

**B.** Cephalosporin — Incorrect. VZV causes a viral infection, not a bacterial infection. Cephalosporins are a class of antibiotics.

**C.** Acyclovir — Correct. Treatment for uncomplicated pVZV is indicated in pregnant women. Acyclovir 800 mg 5 times per day for 7 days is standard of care. In pregnancy, concurrent varicella pneumonia or other signs of complicated infection are indication for inpatient admission for intravenous antivirals.<sup>3</sup> In immunocompetent adults who are not pregnant, oral valacyclovir is the preferred treatment, best initiated within 24 hours of symptom onset for a 5 to 7 day course.

**D.** Hydrocortisone 2.5% ointment — Incorrect. This topical corticosteroid may help relieve symptoms of allergic contact dermatitis.

**E.** Topical cream containing pramoxine — Incorrect. While this is an antipruritic agent and may aid her symptoms, it is not the most appropriate treatment for underlying viral infection.

**Question 3: A newborn presents with large indurated, erythematous, scarring plaques on the extremities. The mother reports receiving oral medication for a rash in her second trimester, but cannot remember the name. Which of the following additional complications is NOT associated with the newborn's most likely diagnosis?**

- A. Limb and muscle hypoplasia
- B. Cortical atrophy and microcephaly
- C. Erythematous maculopapular eruptions
- D. Chorioretinitis and microphthalmia
- E. Developmental delays

**Answers:**

- A. Limb and muscle hypoplasia — Incorrect. The diagnosis for this presentation is intrauterine VZV infection. One manifestation of congenital varicella syndrome is hypoplasia of the limbs and muscles.<sup>4</sup>
- B. Cortical atrophy and microcephaly — Incorrect. Neurologic abnormalities including cortical atrophy, developmental delay, and seizures are additional manifestations of congenital varicella syndrome.
- C. Erythematous maculopapular eruptions — Correct. Along with purpuric rashes, erythematous maculopapular eruptions are a common cutaneous

manifestation of congenital cytomegalovirus as opposed to congenital varicella syndrome, which commonly presents with scarring.

- D. Chorioretinitis and microphthalmia — Incorrect. Ocular defects such as chorioretinitis, microphthalmia, cataracts, and anisocoria are seen in congenital varicella syndrome.
- E. Developmental delays — Incorrect. See answer choice B.

**Abbreviations used:**

HSV: herpes simplex virus

pVZV: primary varicella-zoster virus

**Conflicts of interest**

None disclosed.

**REFERENCES**

1. Mueller NH, Gilden DH, Cohrs RJ, Mahalingam R, Nagel MA. Varicella zoster virus infection: clinical features, molecular pathogenesis of disease, and latency. *Neurol Clin.* 2008;26(3):675-697, viii.
2. Gómez-Gutiérrez AK, Flores-Camargo AA, Casillas Fikentscher A, Luna-Ceron E. Primary varicella or herpes zoster? An educational case report from the primary care clinic. *Cureus.* 2022;14(4):e23732.
3. Shrim A, Koren G, Yudin MH, Farine D, MATERNAL FETAL MEDICINE COMMITTEE. Management of varicella infection (chickenpox) in pregnancy. *J Obstet Gynaecol Can.* 2012;34(3):287-292.
4. Singh S, Sharma A, Rahman MM, Kasniya G, Maheshwari A, Boppana SB. Congenital and perinatal varicella infections. *Newborn (Clarksville).* 2022;1(3):278-286.