

Periorbital Swelling and Rash Following Trauma

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A 56-year-old man presented to an urgent care clinic with right periorbital swelling. He reported hitting his head on the door to a storage unit 2 days prior but did not lose consciousness. The swelling presented 2 days later. He reported mild headache and swelling around the right eye that coincided with an uncomfortable rash on the face and scalp. He also reported visual disruption due to the swelling but denied any eye pain, discharge from the eye, or painful eye movements. He had no lesions on the lips or inside the mouth. He denied any history of skin conditions. He further denied fever, joint pain, or any other systemic symptoms. His chronic medical conditions included diabetes mellitus, hypertension, and hyperlipidemia that were stable on metformin, carvedilol, amlodipine, enalapril, and simvastatin, which he had taken for several years. He had not started any new medications, and there were no recent changes in the dosing of his medications.

WHAT'S THE DIAGNOSIS?

- contact dermatitis
- herpes zoster ophthalmicus
- pemphigus vulgaris
- periorbital cellulitis
- preseptal cellulitis

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THE DIAGNOSIS: Herpes Zoster Ophthalmicus

Due to the potential concern of vision loss, the patient was directed to a local emergency department for immediate ophthalmologic evaluation. He was diagnosed with herpes zoster ophthalmicus (HZO) and treated with oral acyclovir and prednisone. The rash and periorbital swelling resolved within 2 weeks of treatment, and he remained asymptomatic at follow-up 3 months later.

Herpes zoster ophthalmicus presents with an erythematous and vesicular rash in the distribution of cranial nerve V1. The herpetiform grouping of lesions on the forehead is diagnostic of HZO. Varicella-zoster virus (VZV) infection presents in 2 distinct forms. Primary infection (commonly known as chickenpox) presents clinically as a vesicular rash usually located on the face, arms, and trunk. Although the initial presentation usually occurs in childhood and is self-limited, the virus becomes latent in the dorsal root ganglia of sensory neurons. Varicella-zoster virus may become reactivated later in life and is termed *herpes zoster* (commonly known as shingles). It most often presents as a painful vesicular rash that may later form pustules.

Zoster outbreaks typically do not cross the midline but may in disseminated disease. Patients may experience a prodrome in the form of pain or less commonly pruritus or paresthesia along the dermatome between 1 and 10 days before the rash appears. Triggers for herpes zoster include illness, medications, malnutrition, surgery, or the natural decline in immune function due to aging. Trauma is another important precipitating event for VZV reactivation; one case-control study showed that zoster patients were 3.4 times more likely than controls to have had trauma the week prior.¹ Patients with cranial zoster are more than 25 times more likely to have experienced trauma in the preceding week. Local trauma may predispose these patients to VZV reactivation by stimulating local sensory nerves or by disrupting local cutaneous immunity.²

Herpes zoster ophthalmicus occurs when zoster presents in the ophthalmic division of the fifth cranial nerve. It is a serious, vision-threatening condition with a presentation that can include conjunctivitis, scleritis, keratitis, optic neuritis, exophthalmos, lid retraction, ptosis, and extraocular muscle palsies. Treatment includes antiviral medication (eg, acyclovir, valacyclovir, famciclovir) and prompt ophthalmologic consultation due to potential vision-threatening complications, such as acute retinal necrosis. Acute pain control may be necessary with nonsteroidal anti-inflammatory drugs, opioids, steroids, tricyclic antidepressants, or anticonvulsants.³ Wet-to-dry dressings with sterile saline or Burow solution and/or calamine lotion can provide symptomatic relief of itching.

Periorbital and preseptal cellulitis typically present with more erythema of the skin surrounding the eye and without the accompanying rash. Periorbital cellulitis is the more serious infection and may be clinically distinguished by the presence of pain with extraocular muscle movement. Contact dermatitis and pemphigus vulgaris are possibilities, but both were less likely than HZO in this case presentation given the distribution of the rash and the patient history. Contact dermatitis typically presents with no prodrome with a main concern of pruritus. Pemphigus vulgaris nearly always includes involvement of the oral mucous membranes.

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