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A Unilateral Facial Rash with Eye Involvement

Kevin G. Buell, MBBS[a,], Silas P. Trumbo, MD[a], Volker H. Haase, MD[a,b,c]

[a] Department of Internal Medicine, Vanderbilt University Medical Center, Nashville, Tenn; [b] Vanderbilt University School of Medicine, Nashville, Tenn; [c] Medical and Research Services, Department of Veterans Affairs Hospital, Tennessee Valley Healthcare System, Nashville.

PRESENTATION

A 67-year-old man with a history of chronic obstructive pulmonary disease came to the Emergency Department with a 2-week history of a left-sided facial rash. Two days after the rash appeared as small erythematous papules on his forehead, he was seen at an outside hospital and treated with oral cephalexin and doxycycline for presumed cellulitis. He presented to our Emergency Department due to progressive expansion of the rash despite compliance with antibiotics. His rash now extended over the left scalp and forehead, involving the upper eyelid, but did not cross the midline of the face. The ear and auditory canal were spared. His eye was swollen and could be opened only with use of his hands (Figure). The rash was associated with pruritus and a painful burning sensation. He had never had a similar rash. Review of systems was negative for fevers, headaches, or changes to hearing.

ASSESSMENT

On presentation, the patient was afebrile, with a heart rate of 97 beats per minute and blood pressure of 156/71 mm Hg. On physical examination, the rash was erythematous, weeping, and sloughing, with superficial crusting erosions overlying the left V1 dermatome. His eye had mechanical ptosis, was erythematous, and had mucoid discharge at the inferior fornix (Figure). There was no proptosis, ophthalmoplegia, pain with extraocular movements, or cranial nerve deficit. Laboratory evaluation, including complete blood count and complete metabolic panel, was unremarkable. A maxillofacial computed tomography scan with contrast showed signs of facial cellulitis and reactive sinusitis.

DIAGNOSIS

The differential diagnosis for a facial rash includes infectious, inflammatory, phototoxic, and systemic diseases. For unilateral rashes that do not cross midline, the most likely causes are herpes simplex infection, primary bacterial infections such as impetigo and erysipelas, and herpes zoster reactivation.[1] In this case, the patient's crusted-over lesions in a well-demarcated distribution of the V1 nerve are nearly pathognomonic for herpes zoster with secondary bacterial infection.

Herpes zoster infection, known as shingles, is caused by reactivation of the varicella zoster virus within sensory ganglia. With an estimated one million cases per year, the disease disproportionately affects adults above the age of 50 years.[2] It typically presents with a unilateral, vesicular rash in a dermatomal distribution. Pain, burning, or pruritus may precede or present in absence of rash. Detection of viral DNA in vesicular fluid with polymerase chain reaction is diagnostic but rarely required,[3] as the diagnosis is usually made clinically based on the distribution of the rash and associated symptoms.

MANAGEMENT

This case provides an excellent opportunity to review complications of herpes zoster infection. The most common complication is postherpetic neuralgia, with estimated incidence of 10%-13% among adults ages 50 years or older. Although they can be difficult to treat, the most serious complications of herpes zoster infection are neurological (eg, aseptic meningitis, motor neuropathy, and Ramsay Hunt syndrome), ophthalmic (herpes zoster ophthalmicus [HZO]), and dermatological (bacterial superinfection).[4]

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Requests for reprints should be addressed to Kevin G. Buell, MBBS, Department of Internal Medicine, Vanderbilt University Medical Center, 1161 21st Avenue South, D-3100 Medical Center North, Nashville, TN 37232.

E-mail address: kevin.g.buell10@vumc.org

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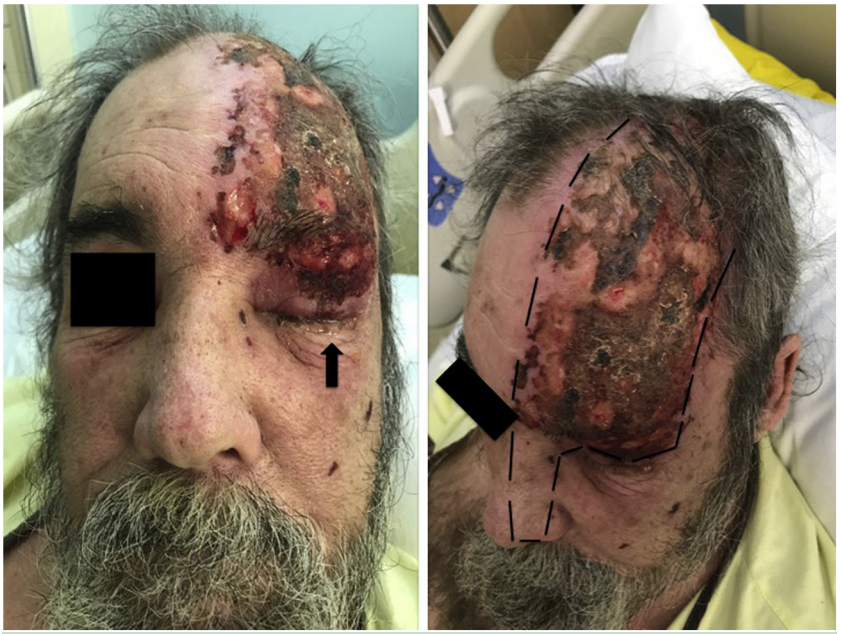

Figure Left-sided weeping and sloughing rash with superficial crusting erosions in a V1 distribution. The left panel shows the mucoid discharge at the inferior fornix. The right panel demonstrates the affected left V1 dermatome.

Based on this patient's examination, we considered ophthalmic and dermatological complications. In the Emergency Department, the patient was seen by an ophthalmologist who determined that ocular structures were not involved. A careful cranial nerve examination was performed to rule out septal cellulitis. Preseptal and septal cellulitis both present with ocular pain, eyelid swelling, and erythema. However, septal cellulitis can be distinguished by the presence of proptosis, pain with eye movements, and diplopia on clinical examination. Radiological findings such as fat stranding of the orbital contents and edema of the extraocular muscles are also unique features of septal cellulitis.[5] Our patient did not have these findings.

Although our patient had no ocular disease from herpes zoster, the prevalence of ophthalmic complications has been estimated to be ~9% in a large 27-year retrospective cohort study.[6] HZO is caused by varicella zoster virus reactivation within the ophthalmic division of the trigeminal nerve. Severity is variable and manifestations include uveitis/iritis, episcleritis, keratitis, conjunctivitis, and acute retinal necrosis. Irreversible vision loss and chronic eye pain are potential debilitating sequelae.[7] Unlike postherpetic neuralgia, age does not predispose to ophthalmic complications.[8] However, the appearance of vesicular lesions on the lateral aspect of the nose, known as Hutchinson sign, is a clinically useful prognostic sign that is associated with HZO and results from the dual innervation of the cornea and lateral dorsum of the nose by the nasociliary branch of the trigeminal nerve.[9]

When eye involvement is suspected, Ophthalmology should be consulted urgently. Patients should undergo a thorough assessment of their visual acuity, visual fields, extraocular eye movements, and intraocular pressure with fundoscopy, chamber slit lamp, and corneal examination with and without staining.[10] The diagnosis of HZO is established by the presence of dendritic or punctate keratitis, although their absence does not exclude the diagnosis.[11]

The patient was treated empirically for bacterial conjunctivitis and with intravenous vancomycin, ceftriaxone, and metronidazole for facial and preseptal cellulitis. Intravenous acyclovir was not administered as the patient presented 2 weeks after rash onset and had no active vesicles on examination. Antiviral therapy for shingles should generally be started within 72 hours of rash onset for its potential to reduce postherpetic neuralgia.[12]

CONCLUSION

Clinicians must be able to recognize common diseases, especially when these present atypically. We present a striking image of our patient with a delayed presentation for secondary bacterial superinfection of herpes zoster rash. Prompt recognition of the characteristic herpes zoster rash is required for early antiretroviral therapy. All patients presenting to the hospital with shingles should be evaluated and monitored for secondary complications, particularly in cases of delayed presentation. Patients with eye involvement must be rapidly assessed by Ophthalmology.

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