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Rowan-Virtua Research Day

23rd Annual Research Day

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May 2nd, 12:00 AM

### For Your Eyes Only, Herpes Zoster Ophthalmicus Case Study

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Fishman, Alexander; Ward, Jared; and Pescatore, Richard, "For Your Eyes Only, Herpes Zoster Ophthalmicus Case Study" (2019). *Rowan-Virtua Research Day*. 16.  
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## 'For Your Eyes Only'

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### Chief Complaint: Headache

#### HPI:

A 43 year old male presents with 3 days of worsening right-sided headache located over the right temple and behind the right eye. The patient reports that symptoms started gradually and were associated with right eye tearing. He denies any eye pain, vision changes, foreign body sensation, trauma, fevers, recent illness, neck stiffness, focal weakness, foreign travel, or history of similar symptoms. Light makes the symptoms worse. Patient states he tried taking Ibuprofen and Tylenol with minimal relief of symptoms. The patient has a history of MI s/p PCI, HTN, and tobacco abuse.

#### Physical Exam

Vitals: BP: 175/93 HR: 73 RR: 18 Temp: 97 Pulse Ox: 100% on RA.

GENERAL: No acute distress, appears stated age, sitting in dark room

EYES: EOMI, PERRL, Visual Acuity 20/20 both eyes, no nystagmus, fluorescein stain:

#### SEE PHOTO

ENT: TM clear, nares no erythema or edema, oro-pharynx clear

NECK: No lymphadenopathy, no JVD, no bruit

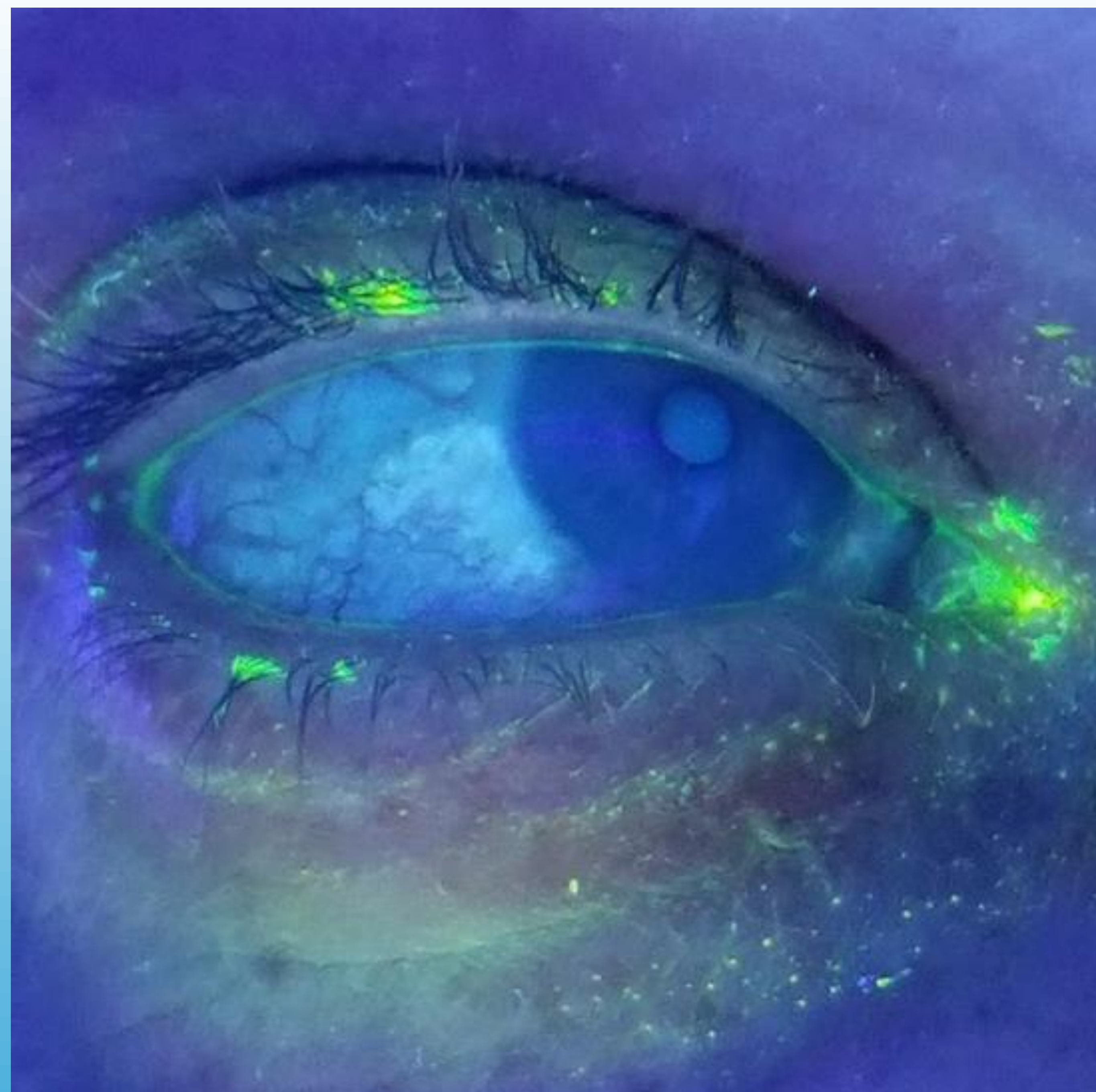
CV: Normal S1/S2, no murmurs, rubs, or gallop

RESPIRATORY: Breath sounds clear to auscultation bilaterally

ABDOMEN: Soft, non-tender, non-distended, normal bowel sounds

SKIN: Warm, dry, red raised vesicular rash in clusters on the right forehead and temple, tender to palpation.

NEURO: AAOx3, 5/5 motor strengths, normal sensation through out



#### ED Course

The patient's physical exam was pertinent for tenderness to palpation over the V1 distribution of CN-V, as well as a vesicular rash extending from the midline forehead to right temple that was partially hidden by his hairline. Under fluorescein examination of the cornea, a dendritic lesion was noted at the margin of the right lateral iris. Due to the lack of ophthalmology consultation at our institution, the patient's uninsured status, and concern for an inability to obtain appropriate outpatient resources, a decision was made to transfer the patient to a nearby hospital facility with ophthalmology services for immediate evaluation and treatment for Herpes Zoster Ophthalmicus. He received IV acyclovir prior to transfer.

#### Questions:

What physical exam finding is depicted in the above photo?

What is the next step in the management of this patient?

#### Discussion

Herpes Zoster Ophthalmicus is a reactivation of a latent Varicella Zoster Virus that specifically involves the eye. The reactivation often occurs during immunocompromised states which allows latent virus in the dorsal root ganglia of sensory nerves to begin viral replication and spread via peripheral axons. Diagnosis is based on two characteristic findings; herpetic lesions on the eyelids, forehead, or elsewhere within the V1 dermatome, and ocular findings. Symptoms can vary but are often quite painful. Some patients experience a prodrome of tingling sensation prior to the appearance of a zoster dermatitis. HZO can also present initially as flu-like symptoms before developing into pain over a trigeminal nerve dermatome followed by a zoster rash. The rash manifests as an erythematous macular rash that progresses to raised papules, vesicles, and pustules that eventually rupture. Patients with nasociliary nerve involvement often develop zoster lesions of the distal nose (Hutchinson's sign). This subset of patients is at much higher risk of developing involvement of the globe. Ocular pain, edema, conjunctival hyperemia, and photophobia are all suggestive of globe involvement. HZO is considered an ophthalmologic emergency. If the infection is left untreated, keratitis, uveitis, retinitis and permanent and severe irreversible vision loss are all potential complications. The diagnosis of HZO is typically made clinically from history and physical exam. Diagnostic testing is not indicated unless there are complications with the course of disease or atypical symptoms leading to clinical uncertainty.

Treatment consists of oral acyclovir or alternate antivirals which have been shown to decrease the adverse outcomes related to HZO, particularly if started in the first 72 hours of initial onset of symptoms. Additionally, patients with eye involvement should receive topical hydrocortisone ophthalmic ointment to promote skin healing and provide additional analgesia. Steroid therapy comes with potential risks of immunosuppression and worsening ulceration, however, it should always be used in conjunction with antiviral medications and urgent ophthalmology consultation. Finally, attentive pain control with multimodal analgesia is important to help patients manage painful symptoms.

In high-risk patients, IV acyclovir and emergent ophthalmology consultation are recommended. These patients include immunosuppressed patients, those with involvement of the retina or cornea, and those with superimposed bacterial infection.

#### Answers:

1. The above image demonstrates the classic pseudo-dendrite finding of HZO. Coupled with characteristic dermatologic findings, HZO can be diagnosed clinically by the astute clinician.
2. Mainstays of treatment should include oral acyclovir and topical steroids. For severe disease and high risk individuals, IV acyclovir and emergent ophthalmology evaluation is recommended.