

PSEUDODENDRITES NOT PSEUDOSCIENCE



A breakdown of herpes
zoster ophthalmicus.

BY JACOB LANG, OD, FAAO, DIPL ABO

Herpes zoster ophthalmicus (HZO), described as HZ activation within the ophthalmic division of the trigeminal nerve, accounts for 10% to 20% of all HZ cases.¹ The most common presenting signs are keratitis, uveitis, and conjunctivitis. Other ocular manifestations include episcleritis, scleritis, and acute retinal necrosis. Late complications include glaucoma, cataract, corneal scarring, and post herpetic neuralgia.¹ Before antiviral medications were available, approximately 50% of patients with HZO developed ocular involvement;¹ however, lower frequencies are now reported, ranging from 2% to 29%.¹

The pseudodendrites caused by HZ (Main Figure and Inset) can be differentiated clinically from true dendrites (herpes simplex viral dendrites), as pseudodendrites tend to be elevated, not ulcerated. Pseudodendrites lack fluorescein staining within the center of the lesion and lack terminal bulbs. Residual corneal hypoesthesia after either of these viral infections can be severe and lead to neurotrophic corneal disease.

PROTECTING AGAINST HZO

The double-masked, placebo-controlled, multicenter, randomized Zoster Eye Disease Study (ZEDS) began in 2017 and is set to conclude in the summer of 2024.² It will hopefully provide evidence on how to better care for patients with HZO and aims to evaluate whether prolonged suppressive oral antiviral treatment with oral valacyclovir (1,000 mg/day) reduces complications and improves clinical outcomes.² Specifically, the investigators will determine whether 12 months of valacyclovir reduces the rate of new or worsening dendriform epithelial keratitis, stromal keratitis, endothelial keratitis, or iritis at 12 and 18 months.² Investigators will also evaluate the treatment's effect on the severity and duration of postherpetic neuralgia.²

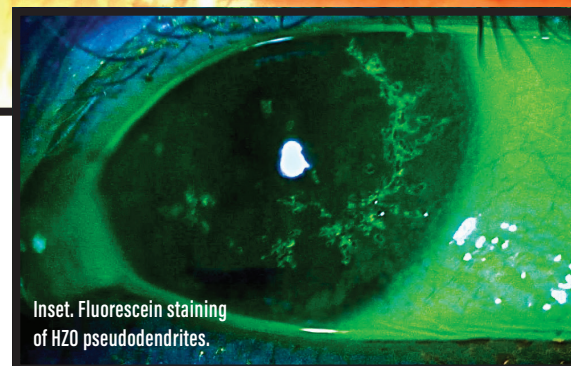
Up until recently, there were two vaccines available to protect against HZ: zoster vaccine live (Zostavax, Merck Sharp & Dohme), a live attenuated vaccine,³ and zoster vaccine recombinant, adjuvanted (Shingrix, GlaxoSmithKline).



Figure. Rose bengal staining of HZO pseudodendrites.

Clinical trials and post-release studies showed that zoster vaccine live offered approximately 50% protection against HZ.³ Zoster vaccine recombinant, adjuvanted, on the other hand, is a two-dose, sub unit vaccine. ZEDS demonstrated a 97.2% reduction in HZ with the use of this vaccine.³ Due to its superior results, zoster vaccine recombinant, adjuvanted became an obvious favorite—so much so that the production of zoster vaccine live was discontinued in July 2020.³

Zoster vaccine recombinant, adjuvanted is recommended for use in adults 50 years of age and older. Two doses are given separately by 2 to 6 months. It can also be used in adults 19 years of age and older who have or will have weakened immune systems that may put them at higher risk of developing HZ. In people 70 years of age and older who had healthy immune systems, zoster vaccine recombinant, adjuvanted immunity remained high even 7 years after vaccination.³ ■



Inset. Fluorescein staining of HZO pseudodendrites.

1. Tran KD, Falcone MM, Choi DS, et al. Epidemiology of Herpes Zoster Ophthalmicus: recurrence and chronicity. *Ophthalmology*. 2016;123(7):1469-1475.

2. Cohen EJ, Hochman JS, Troxel AB, et al; ZEDS Trial Research Group. Zoster Eye Disease Study: rationale and design. *Cornea*. 2022;41(5):562-571.

3. Sun Y, Kim E, Kong CL, Arnold BF, Porco TC, Acharya NR. Effectiveness of the recombinant zoster vaccine in adults aged 50 and older in the United States: a claims-based cohort study. *Clin Infect Dis*. 2021;73(6):949-956.

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