

# A case of herpes zoster ophthalmicus with superimposed MRSA bacteremia

## complicated by ophthalmic vein thrombophlebitis

Alaa A. Sayed, MD, MSc, Aleesha Kainat, MD

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### INTRODUCTION

- Herpes zoster ophthalmicus (HZO) occurs due to varicella zoster reactivation, in the ophthalmic branch of the trigeminal nerve .
- It is often complicated by superimposed gram-positive infections including methicillin-resistant Staphylococcus aureus (MRSA).
- Blood cultures when complicated by MRSA bacteremia can remain persistently positive for several days despite appropriate therapy.

### CASE PRESENTATION

- A 76-year-old woman with medical history of type II diabetes mellitus and chickenpox presented with a 2-day history of left sided occipito - frontal painful vesicular lesions and orbital swelling.
- On presentation, physical examination revealed erythematous and edematous left eye, complete ptosis, inability to adduct, infraduct, or supraduct. Visual acuity was noted to be diminished.
- Urgent ophthalmology assessment showed retinal dot hemorrhages and inferior large snowball lesions at 6 o'clock, without retinitis.
- Laboratory workup: leukocytosis.
- An I&D of the posterior occipital lesion yielded purulent discharge

### DIAGNOSIS AND TREATMENT

- Specimen cultures grew MRSA, blood cultures also grew MRSA.
- Patient was diagnosed with herpes zoster in the distribution of V1 complicated by ocular zoster, and superimposed bacteremia, started on valacyclovir and vancomycin.
- Blood cultures remained persistently positive for 15 days for MRSA warranting further workup. Additional imaging including a computed tomography (CT) of the chest showed extensive bilateral lung nodules (consistent with septic emboli).

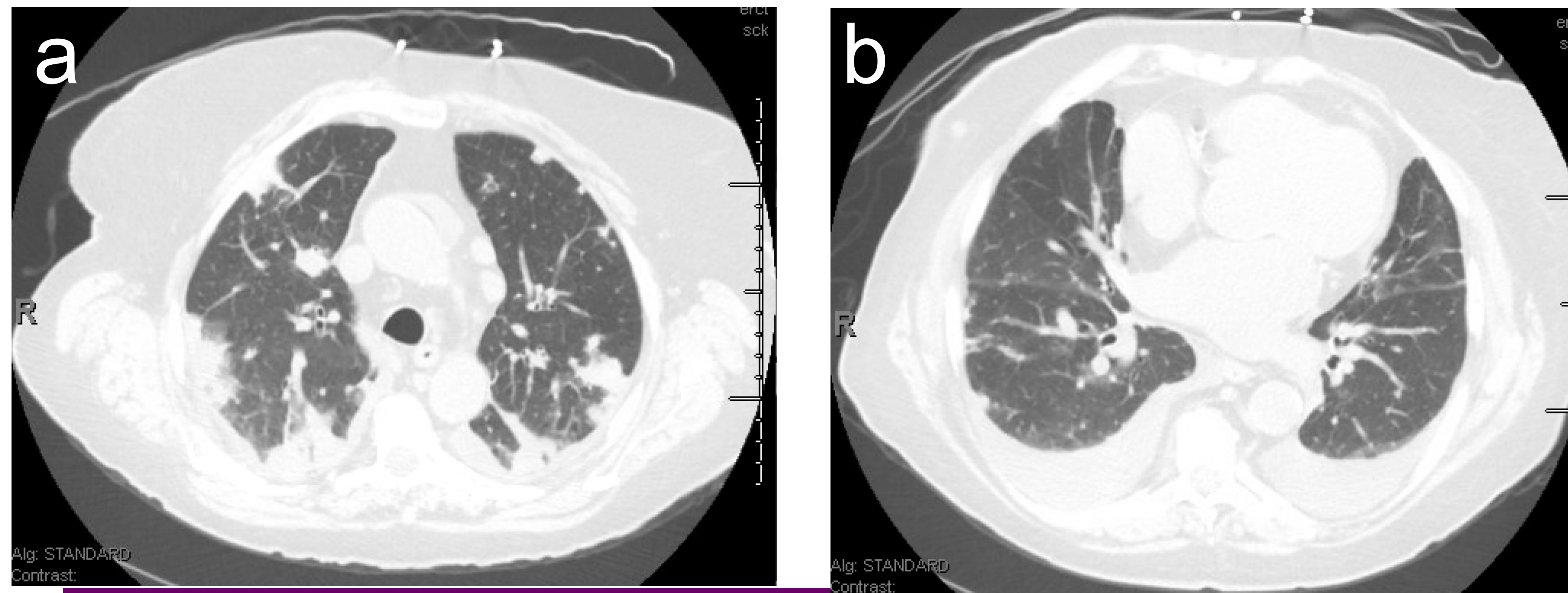


Figure 1 : CT of the chest showing (a) bilateral lung nodules (b) moderate effusions.

- Head and neck MRI showed left superior ophthalmic vein thrombophlebitis without cavernous sinus involvement and MRI of the spine was unrevealing for discitis or osteomyelitis.
- A transthoracic echocardiogram, and follow-up transesophageal echocardiogram were negative for vegetations.
- Her blood cultures cleared on week 3, and treatment was tailored to a total of 6 weeks of vancomycin and valacyclovir for 2 weeks with close multispecialty follow-up on discharge.

### DISCUSSION

- We described a case of MRSA bacteremia superimposed on V1 herpes zoster infection, in a patient with no prior history of zoster infection or history of shingles vaccine.
- Herpes zoster happens in the settings of reactivation of a prior VZV, rash is typically unilateral, within a dermatomal distribution, painful and vesicular.
- HZO happens with the infection typically involves V1 or V2 of the trigeminal nerve with ocular involvement, it can be complicated by recurrent or chronic eye disease, postherpetic neuralgia, and rarely strokes.
- Treatment include valacyclovir, acyclovir or famciclovir.
- This is important for physicians to recognize ocular involvement as it necessitates systemic antivirals and urgent ophthalmology evaluation, to avoid fatal complications such as keratitis, iritis, vision loss, scarring, neurotrophic keratopathy, perforation or superinfection.

### References

- 1.Vrcek I, Choudhury E, Durairaj V. Herpes Zoster Ophthalmicus: A Review for the Internist. Am J Med. 2017 Jan;130(1):21-26. doi: 10.1016/j.amjmed.2016.08.039. Epub 2016 Sep 17. PMID: 27644149.
- 2.Weinberg JM, Scheinfeld NS. Cutaneous infections in the elderly: diagnosis and management. Dermatol Ther. 2003;16(3):195-205. doi: 10.1046/j.1529-8019.2003.01629.x. PMID: 14510876.
- 3.Holland TL, Bayer AS, Fowler VG. Persistent Methicillin-Resistant Staphylococcus aureus Bacteremia: Resetting the Clock for Optimal Management. Clin Infect Dis. 2022 Oct 29;75(9):1668-1674. doi: 10.1093/cid/ciac364. Erratum in: Clin Infect Dis. 2023 Apr 3;76(7):1346-1347. PMID: 35535790; PMCID: PMC9617577.