An 82-year-old Korean-American woman with a history of EGFR-positive metastatic lung adenocarcinoma, lower extremity deep venous thrombosis, pulmonary embolism, atrial fibrillation, and hypertension presented to her Geriatrician’s office for a new facial rash.

The rash was described as initially light pink and indolently becoming dark red in hue over two weeks. The rash first appeared in the right periorbital area, but three days prior to presentation, the rash had spread contralaterally. The patient’s family applied mupirocin on the day prior to presentation at the suggestion of a family friend, and the following morning the area of the rash had evolved to include hemorrhagic scabbing and crusting, a change prompting the patient to seek medical attention. The rash had been itchy but not painful, and she noted frequent scratching of the area. There were no vesicles noted, and the patient denied eye pain or visual symptoms. She had never had herpes zoster before. Because of concern about potential herpes zoster ophthalmicus, the patient was sent to the hospital for direct admission.

Her medications were osimertinib, alendronate, mirtazapine, megestrol, rivaroxaban, cholecalciferol, ferrous gluconate, thiamine, oxycodone-acetaminophen as needed, zolpidem as needed, and alprazolam as needed. Osimertinib, which the patient had been taking for metastatic lung adenocarcinoma, had been increased two months prior to presentation because of progression. A consulting dermatologist unroofed a crusted lesion and sent it for evaluation of herpes simplex virus and varicella zoster virus PCR tests. Given that the lesions were completely crusted, the patient was discharged home to complete a 7-day course of valacyclovir. Just after discharge, varicella zoster PCR test returned positive. At follow up visit, it was noted that patient’s rashes had resolved.

### Herpes Zoster in the Immunocompromised Patient

Herpes zoster is classified as localized or disseminated depending on whether the rash is localized to one dermatome. The pathophysiology of localized herpes zoster is reactivation of latent varicella zoster virus in previously infected dorsal root ganglia. The most frequent location of reactivation is the trunk, but infection and reactivation can also occur in the cranial nerves. Whereas localized herpes zoster of the trunk carries a benign prognosis, infection of the ophthalmic division of the trigeminal nerve can cause loss of eyesight by mechanisms such as ulcerative keratitis, ischemic optic neuritis, and acute retinal necrosis. Disseminated infection may also have serious consequences, but it is seen much more frequently in immuno-suppressed patients, such as in cancer patients receiving chemotherapy and organ transplant recipients.

Herpes zoster has been reported to have atypical presentations, particularly in the immunocompromised patient. A frequently described variant is “zoster sine herpette,” in which patients present with dermatomal pain or visceral involvement of zoster without cutaneous manifestations. Rarely, the zoster rash also may remain papular without evolution to the classic vesicular appearance. More typically, appearance of vesicles can be uncharacteristically late, leading to delay in the diagnosis.

Presence of herpes zoster in localized but contralateral dermatomes has been called herpes zoster duplex bilateralis (HZDB). It occurs principally in the immunocompromised and
Early recognition of herpes zoster in the immunocompromised patient is paramount. Localized disease can become disseminated (and become life-threatening when visceral organs become involved), but dissemination can be prevented by early recognition and treatment.10 Moreover, as opposed to immunocompetent individuals, evidence is stronger for therapy after the 72-hour mark of onset of rash.11 In severely immunocompromised patients (stem cell transplant patients and transplant recipients receiving aggressive antirejection therapy) with local or disseminated disease, intravenous acyclovir with dosing of 10 mg/kg every 8 hours for 7 days is recommended. For less immunosuppressed patients, oral therapy with valacyclovir with dosing of 1000 mg every 8 hours is considered a reasonable alternative, though few data are available to support this approach.12

**Discussion**

Our patient had reactivation of herpes zoster that was atypical in multiple ways: One, it involved symmetric dermatomes with non-synchronous onset; two, the rash was atypical in appearance before the characteristic vesicles and hemorrhagic crusting occurred; and three, the prodromal symptoms that often raise suspicion for the diagnosis were absent. Given that the prevalence of zoster is high in an elderly and immunocompromised individual, the pretest probability of zoster remained high, even though a hypersensitivity reaction to osimertinib or contact dermatitis were attractive alternate diagnoses. Once zoster ophthalmicus was ruled out but before the varicella PCR test returned positive, the patient was started on oral valacyclovir therapy even though clinical suspicion for zoster was low-to-intermediate, given the low probability of valacyclovir toxicity. A more aggressive approach with intravenous acyclovir may also have been justified. Fortunately, our patient had a benign course with oral therapy.

Our case underscores that suspicion for atypical presentations of a disease should remain high in patients with a high disease prevalence, and that it is often justified to start empirical therapy for herpes zoster despite intermediate clinical suspicion given the high prevalence of zoster and the relatively low toxicity of oral treatments.

**REFERENCES**


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