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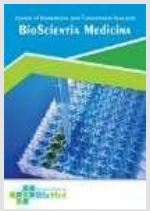

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Disseminated Herpes Zoster in Elderly with Human Immunodeficiency Virus (HIV) Infection: A Case Report

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A B S T R A C T

Background: Disseminated herpes zoster (HZ) is one of the complications of HZ in the form of the appearance of the main lesion accompanied by the spread of solitary vesicles on the body. This condition occurs in 2% of the general population and 15-30% of immunodeficient patients, such as the elderly and HIV infection. **Case presentation:** A 64-year-old man came with the complaint of rashes all over his body four days ago. Vesicles and erosions are multiple in 1 dermatome and are discrete and scattered throughout the body on dermatological examination. The diagnosis of disseminated HZ, in this case, was established based on history, physical examination, and Tzank examination. HZ spread is less common and is characterized by the appearance of more than 20 vesicles or more than 2 consecutive dermatomes. Old age and HIV infection are immunocompromised conditions causing reactivation of the varicella-zoster virus and other infections. The patient received oral acyclovir, vitamins B1, B6, and B12, salicylic powder and topical fusidic acid, antiretrovirals (ARVs), azithromycin, intraoral cotrimoxazole, ceftriaxone, and intravenous fluconazole for 10 days. Skin lesions improved in 10 days without complications. **Conclusion:** Disseminated HZ in HIV patients should be considered because of complications, recurrence, more difficult with a treat, and a higher risk of acyclovir resistance.

1. Introduction

Herpes zoster (HZ) is a skin disorder caused by the reactivation of the varicella-zoster virus (VZV). Disseminated HZ is characterized by the appearance of more than twenty vesicles outside the area of the primary and adjacent dermatomes or the involvement of 3 or more dermatomes.[1,2] The incidence of HZ reaches 1.5 to 3 people per 1000 population per year in Europe and North America and increases with age. HZ is most often found in the 45-64 year age group.[3] The incidence of HZ is 3 to 10 times higher in patients with HIV.[4] At Sanglah Hospital Denpasar, there were 75 cases of HZ during January 2019-2021, 3 cases among them were disseminated HZ accompanied by HIV infection. Increasing age and HIV infection were immunocompromised conditions that increased the incidence, severity, and complications of HZ. The management of disseminated HZ in the immunocompromised patient is challenging due to prolonged treatment and a higher risk of complications.[5]

2. Case Presentation

A 64-year-old man, the Balinese, was consulted by the internal medicine department with a complaint of blisters all over the body 4 days ago. Initially, the lesions appeared as several grouped blisters on the

right chest, then developed multiple scattering blisters on the face, neck, chest, back, both arms, and thighs. Some blisters were still appearing and were painful. The patient got a fever and burning sensation before the blister appeared on the chest.

There was a history of chickenpox when he was 10 years old. He was a truck driver but retired 20 years ago. The history of sexually transmitted diseases or HIV infection in male sexual partners was unknown. The patient was admitted with HIV infection stage IV (WHO) pre HAART, community-acquired pneumonia (CAP), mild normochromic normocytic anemia et causa suspect, chronic inflammation, hypoalbuminemia, et causa suspect, chronic inflammation, and low intake.

On physical examination, the patient was compos mentis, and vital signs were within normal limits. The body mass index was underweight. VAS 1/10. There was no lymphadenopathy, splenomegaly, or hepatomegaly. Dermatologic examination of the face, external auricles, thoracoabdominal anterior et posterior, and upper and lower extremities showed multiple vesicles, vary in size, disseminated distribution, and multiple erosions partially covered by brownish crusts. Grouping multiple vesicles and erosions with dermatomal distribution on the T4 level (Figures A & B). On the Tzank test, we found multinucleated giant cells, and the Gram staining revealed no bacteria (Figure B). Then, the patient was diagnosed with disseminated HZ.

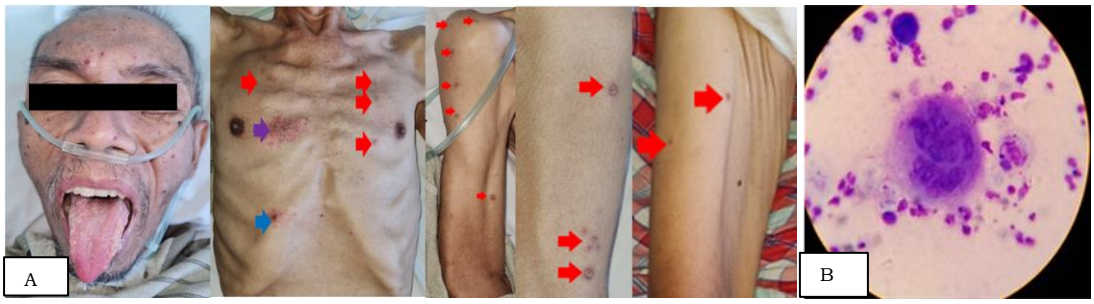

Figure A. Multiple vesicles on erythematous skin on T4 dermatome (purple arrow) and scattering (red arrows), multiple erosions (blue arrows), B. Tzank examination showed multinucleated giant cells.

Laboratory examination revealed lymphocytopenia, anemia, hypoalbuminemia, and liver and renal function test were within normal limits. CD4 27 cells/µL, CD8 250 cells/µL, VDRL, and TPHA non-reactive. Chest x-ray imaging revealed right lower lobe pneumonia.

From the dermatovenereology department, the patient got acyclovir 800 mg tablets every 4,5 hours intraorally for 10 days, vitamin B1, B6, and B12 tablets every 24 hours intraorally, salicyl powder on vesicles and fusidic acid 2% cream every 12 hours topically on erosions. After ten days, the lesions were improved, leaving hyperpigmentation. No complication of disseminated HZ in this patient. From the internal medicine department, the patient got IVFD NaCl 0,9%, a diet of 1900 kcal/day, ceftriaxone 2 grams every 24 hours for 9 days and fluconazole 200 mg every 24 hours intravenously, azithromycin 500 mg tablet every 24 hours for 9 days, cotrimoxazole 960 mg tablet every 24 hours, paracetamol 500 mg tablet every 8 hours and N-acetylcysteine 200 mg tablet 8 hours intraorally, PRC transfusion and started ARV tenofovir/lamivudine/dolutegravir 300/300/50 mg every 24 hours. The patient was discharged on day 10 post-admission with improved skin lesions and complete resolution of respiratory symptoms.

3. Discussion

Elderly and HIV infections have a higher risk of HZ due to declined cell-mediated immunity. Disseminated

HZ in HIV is challenging due to a comorbid, higher risk of complications, and frequently prolonged treatment is needed.[6] The common complications are postherpetic neuralgia (PHN), secondary bacterial infection, cutaneous complications, encephalitis, cerebral vasculopathy, and acyclovir resistance.[7,8] PHN in HIV commonly was longer and more severe.[9,10]

The dissemination of HZ is thought to be via viremia. Patients are often treated with intravenous antivirals to prevent visceral dissemination, especially lungs, liver, and brain. HZ with HIV and severe immunocompromise with systemic complications with standard therapy given intravenous acyclovir 10 mg/kgBW every 8 hours for 7 days.[11] However, if intravenous acyclovir was unavailable, acyclovir tablets could still be given at a dose of 800 mg 5 times a day for 7-10 days.[12] In addition to acyclovir, other antiviral drugs that can be used are famciclovir and valaciclovir. Someone who is resistant to acyclovir, possibly resistant to famciclovir and valaciclovir. Therefore, foscarnet 40-80 mg/kg every 8 hours intravenously should be given.[13] Acyclovir resistance is suspected if persistent lesions persist after 10 days of acyclovir. Early treatment is needed to prevent complications. If the varicella-zoster virus (VZV) vaccine is available would give additional benefits for prevention.[14,15] The patient did not receive intravenous acyclovir, foscarnet, or VZV vaccine as recommended because of the unavailability of drugs. According to the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA), the VZV vaccine is indicated in patients aged 60 years and over and CD4 count > 200.[16] In this case, the patient was completely improved with oral acyclovir therapy without any complications or acyclovir resistance. The patient still under monitoring are at risk for complications and recurrence in the future due to their immunocompromised condition.

4. Conclusion

Disseminated HZ occurs more frequently in older adults and those with cellular immunodeficiency, including HIV infection. Disseminated HZ is primarily seen as a cutaneous disease, but HIV infection is more likely to have extracutaneous manifestations and complications. Despite cutaneous dissemination, overall mortality and morbidity are low with appropriate antiviral therapy should be performed as early as possible.

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