

Disseminated herpes zoster with mucosal involvement in an immunosuppressed child

To the editor:

We report the case of a 14-year-old boy who presented with some painful, confluent, and erythematous vesicles on the left lumbosacral side, with a 2-day history of fever, severe headache, and fatigue (Figure 1A). There were no convulsions, abdominal pain, or diarrhea. Over the next 5 days, the skin lesions progressed to scattered vesicles throughout the face, trunk, extremities, and oral mucosa (Figure 1B). The boy had a medical history of juvenile rheumatoid arthritis for 7 years and was taking prednisone and thalidomide. He had experienced chicken pox before.

The level of C-reactive protein was 71 mg/L (normal range, <8 mg/L), and the immunoglobulin M antibody against varicella zoster virus (VZV) was positive. A biopsy of the lumbosacral lesion revealed the vesicle ballooning degeneration of intraepidermal keratinocyte, and wedge necrosis of the epidermis and dermis (Figure 1C). Localized lymphocytes and sporadic neutrophils, histiocytes, and plasma cells infiltrated the perivascular area in the superficial dermis. The final diagnosis was disseminated herpes zoster (HZ). The patient was treated with intravenous acyclovir for 2 weeks. The vesicles dried up after 7 days, and the skin lesions were resolved after 2 weeks.

Disseminated HZ is a serious complication of VZV infection, which may be related to increased risk and potentially fatal complications.¹ This almost always happens in immunocompromised people who present with more than 20 vesicles outside the area of primary or adjacent dermatomes, and where mucous membranes are involved. Disseminated HZ may also occur during medication, including with biological agents and small molecule drugs.^{2,3} This patient was immunocompromised owing to the long-term use of prednisone. To summarize the mucosal involvement of HZ, a literature review was performed at PubMed from inception to April 15, 2022. The search strat-

egy included “herpes zoster” AND (“mucosa” OR “mucous membrane”) AND “case”; only English-language studies were included. Thirty-one references with 34 cases were ultimately included. The results of mucosal involvement and complications are listed in Table S1. The reported mucosal involvement included oral, tongue, gingiva, pharyngeal, larynx, esophagus, gastric area, intestine, and ears. Oral mucosal involvement was common in patients with Ramsay Hunt syndrome (RHS).⁴ Most reported cases with mucosal involvement were adults. Most patients recovered after antiviral treatment but several patients died because of complications and organ failure. Systemic treatment with acyclovir and famciclovir can reduce the duration of skin lesions.⁵ In this case, the patient was a child without RHS and the lesions were resolved after acyclovir treatment without any complications with post-herpetic neuralgia.

In summary, disseminated HZ, as a severe form of HZ, should not be ignored. Both the skin and mucosa can be involved, and early diagnosis and antiviral treatment are important to shorten the duration of the disease and improve the prognosis.

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DOI: 10.1002/ped4.12338

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FIGURE 1 Images of the child with disseminated herpes zoster. (A) Clinical appearance of skin. (B) Image of the mucosal lesions. (C) Histopathological examination showed keratinocyte necrolysis and wedge necrosis of the dermis (HE, $\times 100$).

ACKNOWLEDGMENTS

This work was supported by Beijing Natural Science Foundation (No. 7222058).

CONSENT FOR PUBLICATION

Informed consent was obtained from the patient's parent.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the supporting information tab for this article.

How to cite this article: Miao C, He R, Zhang B. Disseminated herpes zoster with mucosal involvement in an immunosuppressed child. *Pediatr Investig*. 2022;6:226–227. <https://doi.org/10.1002/ped4.12338>