A Case of Zoster Duplex Bilateralis

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Herpes zoster involving noncontiguous dual dermatomes is very rare in both immunocompetent and immunocompromised persons. This unique presentation has been referred to as zoster duplex unilateralis or bilateralis, depending whether one or both halves of the body are involved.

A 22-year-old woman, who had been treated for acute leukemia, congestive heart failure and chronic disseminated candidiasis, was referred to our department for painful papulovesicular eruptions on the right side of the anterior chest and upper back for 2 days, and the left buttock for 1 day. Tzanck smear revealed multinucleated giant cells with intranuclear inclusion bodies. We report a rare case of zoster duplex bilateralis.

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Key Words : Zoster duplex

Herpes zoster is caused by the varicella zoster virus. Following natural infection or immunization the virus remains latent in the sensory dorsal root ganglion cells and begins to replicate at some later time, traveling down the sensory nerve into the skin. The clinical manifestations are characterized by several groups of painful vesicles situated unilaterally within the distribution of the cranial or spinal sensory nerve1. Bilateral involvement and recurrence are rare, and zosters involving two widely separated regions at one time are even rarer2.

The phenomenon of zoster occurring in two noncontiguous, widely separated dermatomes has been referred to as zoster duplex unilateralis or bilateralis, depending whether one half or both halves of the body are involved3. In Korea a case of zoster duplex unilateralis has been reported3 but zoster duplex bilateralis not yet.

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We report that a rare case of herpes zoster involving noncontiguous dual dermatomes on the both halves of the body that named zoster duplex bilateralis.

CASE REPORT

A 22-year-old woman was referred to our department from internal medicine because of painful vesicles for 2 days. She had been treated with chemotherapy for acute leukemia for 2 years and under complete remission state. Also she had been treated with digoxin and fluconazole for congestive heart failure and chronic disseminated candidiasis. Two days ago, several grouped erythematous papulovesicular eruptions developed with intermittent prickling pain on the right side of the anterior chest and upper back showing a band-like arrangement(right L7 dermatome, Fig. 1, 2), and the following day similar lesions with pain were also found on the left buttock(left S3 dermatome, Fig. 3).

Laboratory examinations including complete blood cell counts, routine urinalysis, liver function test, a test for VDRL and Chest PA were negative or within normal limits. Bone marrow examination showed no

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blast. Hepatobiliary ultrasonography and echocardiography revealed multiple hypoechoic nodular lesions in liver and spleen, which were consistent with chronic disseminated candidiasis, and moderate left ventricular dysfunction.

Tzanck smear was done at the vesicles of left buttock(Fig. 4) and microscopic exam showed multinucleated giant cells with intranuclear inclusion bodies.

She was treated with oral administration of famcyclovir 750 mg/day for 7 days, and skin lesions and pain subsided without complications.

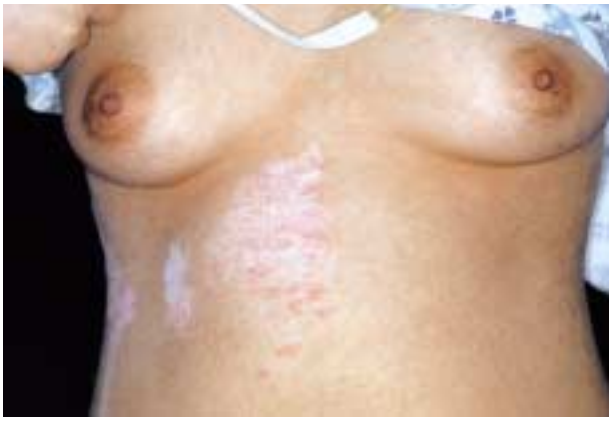

Fig. 1. The right side of the chest showed painful grouped vesicles on the erythematous base.

DISCUSSION

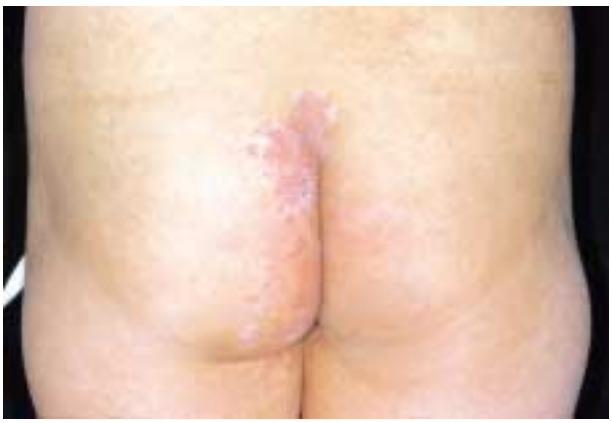

Fig. 3. Painful grouped papules and vesicles on the erythematous base developed on the left buttock.

Herpes zoster is a relatively common disease and characterized by several groups of painful vesicles with characteristic distribution of unilateral dermatomes1. The incidence rate is slightly different in Korean literature; Kim et al4 reported 0.79% in dermatologic outpatients; Kim et al5, 0.38%; Chun et al6, 1.7%; Yang et al7, 0.64%; Hong et al8, 2.84%; Kim et al9, 1.23%. Most of the skin lesions are in unilateral involvement

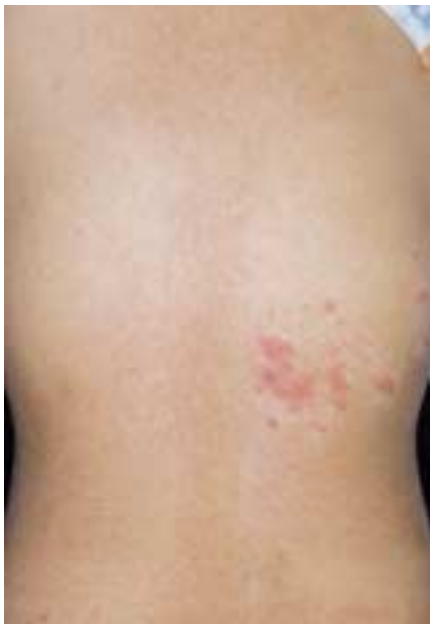

Fig. 2. Painful grouped erythematous papulovesicular eruptions on the right side of the upper back had a band-like arrangement.

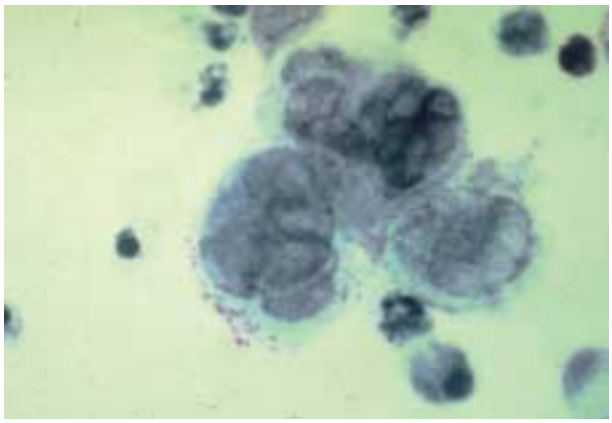

Fig. 4. Tzanck smear from the left buttock revealed multinucleated giant cells with intranuclear inclusion bodies. (Wright stain; ×400)

characteristically and the dermatomes most frequently affected are thoracic. Bilateral involvement is rare and the incidence is below 0.5%10. Moreover, zoster occurring in noncontiguous dual dermatomes is very rare. On the review of the medical literature of the last 3 decades, there have only been 7 cases reported, two in an immunocompetent person3,11, three in older persons on oral steroids for chronic illnesses12,13,14, and two in children with cancer (1 with lymphoma and 1 with leukemia)14,15. Varicella-zoster virus involving noncontiguous dermatomes is distinct from disseminated varicella-zoster virus infection that occurs in immunosuppressed renal transplant patients. The phenomenon of zoster occurring in two noncontiguous dermatomes has been referred to as zoster duplex unilateralis or bilateralis, depending whether one half or both halves of the body are involved3. Vu et al15 reported a case of herpes zoster in seven disparate dermatomes and suggested the term zoster multiplex when more than three noncontiguous dermatomes are involved.

In Korean literature, Lee et al2 reported a case of bilateral zoster occurring in the dermatomes of the left T2 and the right T5, and Jung et al3 reported a case of zoster duplex unilateralis that involved the unilateral dermatomes of V1-2 and L1-2, and had no history of malignancy, immunosuppressive agents and any other immunocompromised diseases.

Patients with malignancy, especially Hodgkin's disease and leukemia, are five times more likely to develop zoster than their age-matched counterparts1. Other patients who also have a higher incidence of zoster include patients with deficient immune systems, such as individuals who are immunosuppressed for organ transplantation, by connective tissue disease, and by the agents such as corticosteroids1. The clinical appearance of these patients is usually identical to typical zoster, but the lesions may be more ulcerative and necrotic and may scar more severely1.

In our patient she had the history of acute leukemia and skin lesions of characteristic painful vesicles involved two noncontiguous dermatomes on both halves of the body. Biopsy couldn't be done because of patient's refusal, but the diagnosis of zoster duplex bilateralis was made in the basis of the characteristic clinical features and Tzanck smear. We speculate that she was under immunocompromised state that led to have defective cellular immune response and develop zoster duplex bilateralis. She was successfully treated with antiviral agent without complication.

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