Disseminated Cutaneous Herpes Zoster in an Immunocompetent Patient

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Abstract
Disseminated cutaneous herpes zoster in healthy persons is not very common, though it has been described in immunocompromised patients. We present a case of a disseminated herpes zoster in a 33-year-old man with no apparent immunosuppressive condition after one single steroid injection. The patient was successfully treated orally with 800mg Acyclovir daily dose for one week.

Keywords Herpes zoster; Immunocompetent; Patient

Introduction
Disseminated cutaneous herpes zoster is a potentially serious infection which has been described in persons with low immunity due to Human Immunodeficiency Virus (HIV), hematological malignancy, chemotherapy, renal transplant, type II diabetes and dyslipidemia [1,4]. However, it is uncommon to see this particular disease in healthy individuals. In this case report, we describe the clinical scenario of an immunocompetent patient who was diagnosed with disseminated cutaneous herpes zoster in the absence of unknown immunosuppressive conditions.

Case Report
A 33-year-old Saudi male, who was not leukemic and did not have any immunological disorder, was seen for the second time at King Fahad Hospital's Dermatology Clinic with generalized and widespread vesicular rash covering his entire body with a few Bullae lesions appearing in the chest, abdomen, and one of his legs. On examination, the patient, who was very upset, claimed that this was the second time he visited the hospital. Two days earlier, he suffered from fever and myalgia but with no rash. He insisted that he needed urgent treatment. As a result, one dose of hydrocortisone was given to him intravenously in the Emergency Room (ER). The doctor who examined him informed him that he had nothing serious to worry about and wrote in his notes “nothing remarkable” and then advised him to go home and rest. The day after he was seen at the ER, the patient noticed diffuse blisters appearing rapidly in his chest, back, and extremities associated with severe pain and mild itching.

During his second visit at the Dermatology Clinic, the following tests were requested: a Complete Blood Count (CBC), an antinuclear antibody test (ANA), and a hemagglutination assay (HI). A skin biopsy was taken and a query regarding disseminated cutaneous herpes zoster was written on the lab request. During examination and history recall, the patient stated that he had chickenpox in his childhood. He also stated that he just came back from a trip abroad before he was seen at the ER but he argued that he had no possible exposure to the disease during his travel.

A microscopic examination of the skin biopsy revealed: ballooning degeneration in the epidermis with margination of chromatin in the nucleus of keratinocyte. A Tzank Smear shows multinucleated giant epithelial cells. Moreover, HIV was none reactive and both the Red Blood Cells (RBCs) test and HI were normal. In addition, there was no record of elevated ANA. Finally, liver enzymes, kidney functions, and chest X-ray were all normal.

A diagnosis of disseminated cutaneous herpes zoster was confirmed by the histopathology lab, and 800 mg of Acyclovir, 5 times per day for 7 days was prescribed for him. Two months later, the patient returned to the clinic for a follow-up. A skin wise procedure depicted only post-inflammatory hyperpigmentation. No other signs or symptoms of incomplete recovery or remarkable skin disorders were evident. The patient tolerated the treatment very well and no further action was done.

Discussion
Disseminated cutaneous herpes zoster or shingles is the consequence of the reactivation of latent Varicella Zoster Virus (VZV) from the dorsal root ganglia. The disease is usually seen more in senior and immunocompromised patients rather than young adults (up to 40%) [5,6]. Our case study however is an uncommon scenario as the patient was not immunocompromised, nor on long immunosuppressive therapy, or even elderly. He was diagnosed at the clinic with disseminated cutaneous herpes zoster which was confirmed through a skin biopsy. Although giving the patient systemic steroid treatment at the prodromal stage for a long time can shift his condition from a mild to a severe herpes zoster, it is worth pointing out that our patient was only administered one dose. Moreover, physical stress and/or emotional stress are often cited as precipitating factors for herpes zoster [6]. Yet, the patient during his history recall stated that he had no emotional problems that might have triggered the viral activation. Hence, there was no clear contributing factor that could explain the cause of the disease at this stage.

As stated earlier in this report, the patient was given a single dose of hydrocortisone intravenously on his first visit to the ER. It is not clear why it was prescribed to him especially since hydrocortisone is usually prescribed on a long term basis [7,8]. Moreover, administration of a single dose of intravenous hydrocortisone is usually used to treat other conditions such as acute asthmatic patients [9]. This however was not the case with our patient as he did not complain from any respiratory symptoms as was evident from his notes. Moreover, a single dose of hydrocortisone is not reported to play any role in the activation of the virus [10]. Therefore, there must have been an undetected reason that helped activate the virus and cause the eruption of the
symptoms. One explanation could be that he might have had an immunological disorder that was not identified during his examination but might have led to his severe condition.

A literature search identified more than 9 similar cases around the world [11-13] in addition to ours. Therefore, we believe further intensive immunological research is needed to identify the real cause of this disease especially since disseminated cutaneous herpes zoster is not only limited to immunocompromised patients but can target healthy individuals as well.

Conclusion

Disseminated herpes zoster is a serious infection that can be seen in the absence of immunosuppression and can possibly happen after a single dose of hydrocortisone injection. Thus, primary diagnosis and proper treatment with intravenous acyclovir can reduce morbidity and may help stop the severity of possible complications.

References