

A Case Report on Herpes Zoster Eruption Associated with Chronic Obstructive Pulmonary Disease

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ABSTRACT

Herpes zoster is the secondary infection of reactivated varicella zoster virus. This condition is associated with vesicular rashes accompanied by severe pain. The risk of herpes zoster occurrence is more in people with diseases such as human immunodeficiency virus, chronic obstructive pulmonary disease (COPD), and asthma including the elderly and those receiving chemotherapy or steroids. Hereby, we report a case of 67-year-old male patient who is a known case of COPD and developed features such as exfoliation of skin and vesicular lesions over thoracic region during his stay in the hospital. His condition was diagnosed as herpes zoster infection and treated with oral and topical antiviral agents. The patient was recovered from his condition and got discharged after a week.

Key words: Chronic obstructive pulmonary disease, herpes zoster, immunity, steroids, viral reactivation

INTRODUCTION

Herpes zoster or shingles is the reactivation of endogenous varicella zoster virus (VZV) that was present in latent form within sensory ganglia following a prior attack of chickenpox.^[1] It is characterized by symptoms such as fever, malaise, and burning pain followed by the outbreak of vesicular rash limited to the area of skin. It can be diagnosed based on the physical examination by the presence of the distinctive dermatomal rash and laboratory testing such as serology and polymerase chain reaction is rarely required to differentiate it from herpes simplex.^[2] Management depends on whether the patient is immunocompetent or immune compromised. This case report emphasizes the risk of acquired infections and viral reactivation during the hospitalization period in the chronic obstructive pulmonary disease (COPD) patient and its management.

CASE REPORT

A 67-year-old male patient was admitted in Government General Hospital, Kadapa, with complaints of breathlessness associated with chest pain and cough due to acute exacerbation of COPD. His vitals were blood pressure 120/80 mmHg, heart rate 72 bpm, and respiratory rate 20/min. Chest X-ray revealed hyperinflation of lungs and ECG was found to be normal. Laboratory investigations include Hb – 11 g%, Tc: 9000 cells/mm Dc (70, 30, 3, 1, 0), platelets – 4 lak, and sr. creatinine – 0.8 mg/dl. He was treated with theophylline 100 mg P/O OD, salbutamol

2 mg P/O OD, and amoxicillin 1 g IV BD, and oxygen inhalation support was provided.

During the 3rd day of hospital stay, he developed symptoms like exfoliation of skin on the left side of chest [Figure 1]. On dermatological examination, these exfoliations were associated with the vesicular lesions hyperpigmented with pain over the thoracic (T₄) dermatome. His condition was diagnosed as herpes zoster infection due to the immune suppression of existing disease COPD.

He was prescribed with T. acyclovir 5 times a day for 7 days, calamine lotion, and 5% w/v of acyclovir cream. After using the medications for 1 week, the patient condition was improved symptomatically and skin lesions were subsided and got discharged.

DISCUSSION

VZV is highly contagious and occurs during childhood leading to chickenpox or primary VZV infection. During this stage, virus enters the endings of sensory nerves in the skin and remains inactive as dormant stage in those sensory neurons. Later, the viral reactivation occurs due to various factors such as age, use of chemotherapy, and steroids, several disease conditions including autoimmune diseases, human immunodeficiency virus, diabetes mellitus COPD, and asthma. This outbreak is clinically recognized as herpes zoster.^[3,4] This is also associated with a decline in cell-mediated immunity either due to aging or as a result of immune suppression.^[5] Here, the patient had a history of varicella infection during his childhood and current outbreak of herpes zoster can be correlated to his age, comorbidities such as COPD, and usage of steroids

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Figure 1: Revealing zoster eruptions over the thoracic dermatome

that together contribute to immune suppression and virus reactivation. Existing evidences suggest that incidence of infection was strongly associated with the age above >50 and also due to concomitant diseases such as COPD and diabetes^[6] that were exactly seen in our case. Other supporting evidences were as the patients with COPD are using the corticosteroids as their regular treatment regimen which had an immunosuppressant effect and are at a greater risk for the viral reactivation and occurrence.^[7]

CONCLUSION

The case poses a challenge to clinicians and other health-care professionals to prevent the recurrence

of such viral infections, particularly in COPD patients because of risk factors such as age and corticosteroids treatment regimen which cause the suppression of immune system apart from curing a disease. Hence, such patients need a careful monitoring and early diagnosis could be beneficial to prevent further complications.

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