Original Research Paper

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Dermatology

HERPES ZOSTER DUPLEX BILATERALIS (HZDB) WITH UNUSUAL PRESENTATION IN IMMUNOCOMPROMISED HOST

Dr Jincy John Ambalathinkal	MBBS, MD Clinical Associate, department of dermatology. Lilavati Hospital and research centre, Bandra, Mumbai
Dr Meghana Madhukar Phiske*	MBBS, DDV, DVD, DNB, MD Associate Professor, department of dermatology. MGM Medical College, Kamothe, Navi Mumbai. *Corresponding Author
Dr Shylaja Someshwar	MBBS, DVD, DNB, Professor and head, Department of dermatology. MGM Medical College, Kamothe, Navi Mumbai

ABSTRACT A rare phenomenon of HZ occurring concurrently in two non-contiguous dermatomes involving different halves of the body is termed herpes zoster duplex bilateralis (HZDB), with incidence < 0.5%, associated with a decline in cellular immunity,primary/acquired immunodeficiencies,and immunosuppressants. Due to decreased cell-mediated immunity, immunocompromised patients have a 20-fold increased risk for HZ, occurring at low CD4 count with atypical manifestations. A 49-year-old male had HZ on the right flank with extension to back, erythematous nodules, and plaques arranged in a dermatomal pattern extending from the left angle of mouth to the left temple for two days with pain and fever. Biopsy from the nodule showed acanthosis, intraepidermal vesiculation caused due to ballooning degeneration at the base of the vesicle and neutrophils in the dermis s/o HZ. HIV and HBsAG were reactive. Simultaneous reactivation of VZV in multiple noncontiguous dermatomes requires an immunocompromised milieu, also immunosuppressed patients have atypical presentations. Such patients should undergo a complete immune status evaluation.

KEYWORDS : Herpes zoster, Immunocompromised, Viral infection

INTRODUCTION:

Herpes zoster (HZ) is caused by reactivation of varicella zoster virus (VZV) from latency in sensory ganglion. It occurs because of decline in cellular immunity (age, HIV/AIDS, radiotherapy, malignancy, immunosuppressive/ chemotherapy, autoimmune disease, stress).[1] It presents as unilateral, vesicles, with prodrome of pain/ burning, involving single dermatome (usually thoracic) or adjacent same side dermatome in adults and elderly. [1] It might involve one one/two adjacent dermatomes or disseminate systemically. [2] Simultaneous reactivation of VZV from more than one ganglion is an extremely rare condition. Phenomenon of HZ occurring in two noncontiguous, widely separated dermatomes is called as zoster unilateralis (one side of body is affected) or bilateralis (both sides of body are affected). [3,4] It is associated with age-related decline in cellular immunity, primary / acquired immunodeficiencies. HIV patients are at increased risk for HZ (20 fold) with a typical manifestations.[1]

CASE REPORT

A 49-year-old male presented with fluid-filled lesions on the right side of the flank and raised lesions on the left face, with burning pain and fever for two days. Cutaneous examination revealed multiple vesicles on an erythematous base with dermatomal distribution on the right side of the flank (Figure 1), suggestive of HZ. Erythematous nodules and plaques in a dermatomal pattern extending from the left angle of the mouth to the left side of the temple were also seen (Figure 2). He also had tinea corporis and cruris. Biopsy (face nodule) showed irregular acanthosis; intraepidermal vesiculation caused due to ballooning degeneration at the base of the vesicle and neutrophilic infiltrate in the dermis (Figure 3a, 3b). Hemogram/ chemistry profile was normal, and ELISA for HIV and HBsAg was reactive. The diagnosis was HZDB with an unusual presentation in HIV and HBSAG-reactive patients with tinea corporis and cruris.

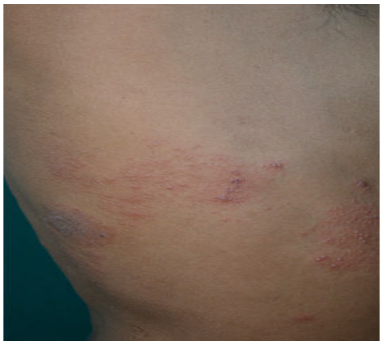

Figure 1- Multiple vesicles on an erythematous base with dermatomal distribution on the right side of the flank

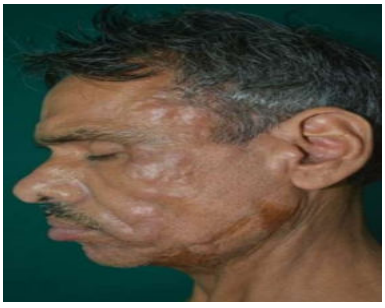

Figure 2- Erythematous nodules and plaques in a dermatomal pattern extending from the left angle of the mouth to the left side of the temple

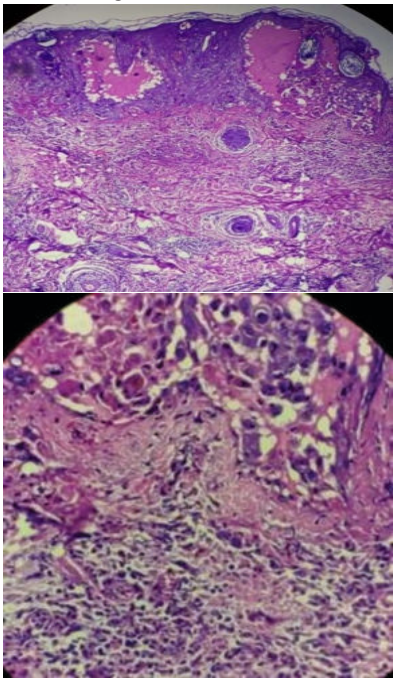

Figure 3a and 3b- Biopsy (face nodule) showed irregular acanthosis; intraepidermal vesiculation caused due to ballooning degeneration at the base of the vesicle and neutrophilic infiltrate in the dermis

DISCUSSION:

HZ duplex might be associated with Asia region, advanced age, immunosuppression and being female. Maximum HZ duplex patients are observed in Asia, suggesting genetic susceptibility. Approximately 50% of HZ cases occur at 50 years or older in US each year. With decreased cell immunity, wide spread and multisite HZ increases in frequency. [4] Hernandez et al. suggested that genetic predisposition to HZ is more frequently inherited along maternal lines. Being female is an independent risk factor for rare presentations of HZ duplex. [5] Only 23 cases of HZ duplex unilateralis/ bilateralis have been reported. Incidence of HZDB is below 0.5%.[6] Age distribution worldwide of HZDB is 3- 77 years.[1]

HZ duplex is ultimate clinical proof that VZV remains latent in majority of sensory dorsal root ganglia. Reason why viral reactivation leads to only single unilateral dermatomal HZ eruption is probably related to quantity of VZV viral genome load distribution in different dorsal root ganglia. It is hypothesized that highest viral genome load leads to clinical HZ. Concurrent VZV-specific immunoboosting induced by HZ eruption probably avoids other eventual reactivations to become clinical. Only in cases of severe immunosuppression, VZV can be reactivated in multiple dorsal root ganglia's causing multidermatomal HZ.[1, 2, 6] Clinical features of HZDB are same as HZ. [4] Simultaneous trigeminal and lumbar, asymmetrical trigeminal and thoracic and bilaterally symmetrical thoracic involvement is reported. Diagnosis is clinical, confirmed by Tzanck smear / biopsy. [6] Simultaneous reactivation of varicella zoster virus (VZV) in multiple noncontiguous dermatomes requires an immunocompromised milieu and also HIV patients have atypical presentations. Hence immuno suppressed patients require high index of suspicion and adequate diagnostic testing for proper management as HZDB has good prognosis. [6]

CONCLUSION

Occurrence of HZDB raises question regarding pathogenesis of reactivation of VZV simultaneously at two different dermatomes or from one dermatome bilaterally which requires further research.[1]

Key Messages: HZDB is a rare phenomenon of HZ occurring concurrently in two non-contiguous dermatomes involving different halves of body

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