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A CASE SERIES OF VARIABLE PRESENTATIONS OF HERPES ZOSTER IN IMMUNOCOMPROMISED STATE

Dermatology

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ABSTRACT

Introduction: Herpes zoster is caused by the varicella-zoster virus (VZV), the VZV genome consists of about 125,000 base pairs of linear double-stranded DNA, and its nucleocapsid consists of 162 capsomers. The virus is highly cell-associated and only infects human cells, such as epithelial cells, T lymphocytes, and ganglionic neurons [1] which after initial infection, remains latent in posterior root ganglia of the human spinal cord and can be reactivated in the presence of multiple factors, such as advanced age, physical trauma, psychological stress, cancer, radiotherapy, or states of immunosuppression [1]. Reactivation of the infection typically manifests as a painful rash accompanied by blisters involving a specific dermatome. Patients infected with herpes zoster have a history of childhood chickenpox, neuropathic pain along a dermatome, prodrome, fever, headache, and itching or burning sensation in the affected area [5]. The prolonged use of corticosteroids in the geriatric and paediatric population can increase the risk of developing herpes zoster due to its immunosuppressing effects [3].PHN defined as dermatomal pain lasting for at least three months after the acute phase of a HZ [9]. The risk of suffering HZ in ageing person, with immunocompromised (IC) conditions due to diseases or treatments that alter the immune response, Immunodeficiency disorders and autoimmune diseases, human immunodeficiency virus (HIV), cancer, organ transplantation, pneumonia[4]

KEYWORDS

Herpes zoster, immunocompromised, Postherpetic neuralgia, VZV, HIV, organ transplantation, pneumonia

Case 1 - A 68 years old Female of chronic diabetic, hypertensive and psoriatic patient was on medications for controlling diabetes (oral hypoglycaemic drugs, insulin therapy, antihypertensive, telmisartan) for 15 years and on oral methotrexate 7.5mg weekly once for 10years was recently diagnosed with Pott spine since 6months started on ATT therapy. Patient has developed severe pain and erythematous grouped vesicles over left side of upper face. She was diagnosed with herpes zoster ophthalmicus (V1), Hutchinson sign positive, herpetic keratitis with iridocyclitis was seen on ophthalmologist evaluation. Patient was given oral acyclovir and symptomatic treatment, but post herpetic neuralgia was troublesome for 6months, patient was kept on methylcobalamine and gabapentin 300mg three times a day for 3months.patient is still for follow-up for post herpetic neuralgia.

Case 2 - A 50 years male seropositive patient having renal failure (hyperkalaemia, high creatinine) on peritoneal Dialysis developed severe pain, multiple grouped vesicles with facial oedema, Patient was labelled as herpes zoster ophthalmicus(V1,V2) and started on IV Acyclovir at 20 mg/kg bodyweight along with HAART therapy, ophthalmic referral for managing herpetic keratitis. Patient showed good improvement as the vesicles healing with scarring but having post herpetic neuralgia. Patient was kept for follow-up with pregabalin and methylcobalamine supplementation.

Case 3 - A 58years old obese female having unstable diabetes, hypertensive got pink eye, pharyngitis since a week. She went to the local practitioner and got injectable steroids IV for 3 days. Patient suddenly developed Mult dermatomal, pustular lesions on her left side of abdomen(T8,9,10,11) with bilateral herpetic keratitis. Patient was given I Acyclovir 30mg/kg bodyweight, injectable meropenem and kept for follow-up with ophthalmic supportive management.

Case 4 - A 45year old male patient taking chemotherapy treatment for Lymphoma since 8months has developed severe excruciating pain all over face and erythematous vesicle on left half of face, patient has applied topical steroid for this lesions which got increased in severity, and periorbital oedema, herpetic keratitis. Patient was started on IV acyclovir at 10 mg /kg was kept for follow-up.

Case 5 - A 1year old preterm baby born to TORCH Positive primigravida developed multiple erythematous vesicles on the back in the dermatomal fashion, the grand parents have applied ayurvedic medication on it just for 1 day the next day the lesion got necrotic, disseminated. Baby was not accepting feeds. Baby was advised oral antivirals 10mg/kg and nutritional supplements. Skin lesions improved and baby irritability has relieved.

Case 6 - A 60 years female patient on oral hypoglycaemic drugs for 10years was in depression due to demise of her son was given psychiatric counselling and antipsychotics, patient had fits, raised intracranial pressure and was treated for pseudotumor cerebri. patient had painful erythematous vesicular lesions on the abdomen(T7,8,9) or which general practitioner has advised Augmentin, painkillers for a week but no relief, erythematous grouped vesicles were progressing and liver function were deranged, patient developed jaundice which was confirmed due to cholecystitis. Patient was advised oral antivirals and livogen tablets. Patient has improved with lesions crusting, but was kept on post herpetic neuralgia management

Case7 - 8 yr old male child was brought with complaints of tensed serous fluid containing blister lesions over left upper limb from past 6 days associated with pain and burning sensation. History of fever present from past 5 days. History of application of clobetasol cream / BD for 3 days is strongly present.pt was given high dose of acyclovir at 20mg/kg for 10 days and kept for follow up diagnosing herpes zoster intercoastalis [C8, T1, T2] incognito.

DISCUSSION

Herpes zoster (HZ) is a painful rash illness, which results from reactivation of latent varicella zoster virus (VZV). Its latency is controlled largely by cell-mediated immunity, and reactivation is considered a result of loss of such immune surveillance [7] Common risk factors for HZ are age > 50 years, immunosuppression, infections, and mental stress, smoking [14]. A meta-analysis of 16 studies till January 2021 confirmed that patients with diabetes mellitus [15] also have a higher risk (pooled relative risk: 1.38; 95% confidence interval. Increasing HZ incidence [2] with age has been well defined, the risk for HZ conferred by immunocompromising conditions or immunosuppressive drugs has not been as well defined [5]. Immunosuppression is also known to increase the incidence of HZ complications [8] and disease severity. The most common HZ complication is postherpetic neuralgia (PHN)[9] a painful, persistent condition that can substantially affect quality-of-life among the aged and to be more common among immunosuppressed patients[6]. HZ may also require hospitalization when it presents with severe ocular/otic, encephalitis as complications [10], About 50–85% of HZO cases experience ocular complaints such as conjunctivitis, uveitis, episcleritis, keratitis, or retinitis [16,17]. Rare manifestations are the sterile iris abscess [18], oculomotoric nerve palsy [19], superior orbital fissure syndrome [20], orbital apex syndrome [21], and isolated nonreactive mydriasis [22,23]. and am86 rity of the infection, the duration of the eruptive phase, and the intensity of acute pain [8]. Varicella-zoster virus vaccine [13] and early treatment with either Acyclovir, famciclovir or valacyclovir are the only measures proven to prevent PHN. The options for treating PHN include topical agents, such as lidocaine patches, and systemic agents, such as the anticonvulsants gabapentin and pregabalin [9]. Measures for preventing Hz include infection control through routine hand hygiene

and appropriate use of isolation precautions and personal protective equipment; immunoglobulins, such as the varicella-zoster virus immunoglobulin and vaccine; and antiviral agents [10].

CONCLUSION

This case series help us to find out the immunocompromised individuals or the situations where the immunity is compromised, and the urge of early treatment and prevention should be practiced. A complete history taking and thoroughly examination is mandatory for coming to a conclusion and for deciding on the treatment options and for taking urgent preventive measures.

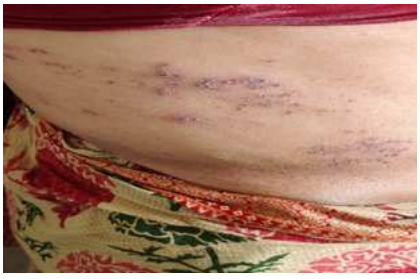
Case1

Case 2

Case3

Case 4

Case5



Case6

Case7

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