



CASE REPORT

Herpes-zoster virus ophthalmicus as presenting sign of HIV disease

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KEYWORDS

Chicken-pox;
Herpes zoster;
Varicella-Zoster;
Opportunistic
infection;
HZO;
Anti-viral;
HIV/AIDS

Abstract After a childhood episode of chicken pox, a Varicella-Zoster infection, the viral DNA reside in a dormant state in the dorsal root ganglia. The viruses get reactivated when the individual is immuno-compromised, in adulthood to cause characteristic lesions of Herpes zoster on the skin and the eyes. This case reports a 32 year old female who presented with neuralgia and clinical features of crusting skin ulcers involving the ophthalmic division of the trigeminal nerve, corneal dendritis and anterior uveitis with circumlimbal injection of the right eye. Visual acuity was OD: 6/60 and OS:6/9. These clinical signs and symptoms were consistent with Herpes Zoster Ophthalmicus (HZO). Further medical laboratory tests showed positive for HIV and patient had a CD4⁺ count of 350 cells/ μ l of blood with a viral load of 100,000 copies/ml. Patient was subsequently treated of the Herpes zoster infection with Acyclovir (800 mg) prescribed five times daily for 7 days. While, at the HIV/AIDS project facility she was placed on Hyper Active Antiretroviral therapy (HAART): Stavudine (30 mg) bid for 2/12, Zidovudine (300 mg) bid for 2/12 and Efavirenz (600mg) nocte for 2/12. There was complete resolution of the keratopathy, the visual acuity of OD improved to 6/12 by the 2nd month and the patient was without the experience of post herpetic neuralgia. At present (after 3 months) her CD4⁺ has increased to 1000 cells/ μ l. HIV infection should always be considered in patients younger than 65 years with Herpes zoster ophthalmicus.

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PALABRAS CLAVE

Varicela;
Herpes zóster;
Varicela-zóster;
Infección oportunista;
HZO;
Antivirico;
VIH/SIDA

Virus herpes zóster oftalmológico como indicador de presencia de la enfermedad del VIH

Resumen Después de un episodio de varicela en la infancia, una infección del virus varicela-zóster, el ADN vírico permanece en estado latente en los ganglios de la raíz dorsal. Los virus se reactivan cuando el sujeto está inmunodeprimido; en la edad adulta causa lesiones características del herpes zóster en la piel y en los ojos. Se reporta el caso de una mujer de 32 años con neuralgia y características clínicas de úlceras en la piel con costras implicando la división oftálmica del nervio trigémino, dendritis corneal y uveitis anterior con inyección circunlimbal del ojo derecho.

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La agudeza visual fue de OD 6/60 y OI 6/9. Estos signos y síntomas clínicos eran consistentes con manifestaciones del herpes zóster oftálmico (HZO). Los análisis clínicos posteriores dieron resultado de VIH positivo y la paciente presentó un recuento CD4⁺ de 350 células/ μ l en sangre con una carga vírica de 100.000 copias/ml. En consecuencia, la paciente recibió tratamiento con aciclovir (800 mg) 5 veces al día durante 7 días para la infección del herpes zóster. Asimismo, en el centro del proyecto HIV/AIDS la paciente recibió tratamiento antirretrovirico de gran actividad (HAART): estavudina (30 mg) 2 veces al día, zidovudina (300 mg) 2 veces al día y efavirenz (600 mg) noche 2 veces al día. La queratopatía se resolvió completamente, la agudeza visual del OD mejoró hasta 6/12 en el 2.º mes y la paciente no presentó neuralgia posherpética. Actualmente (3 meses después), su CD4⁺ ha aumentado hasta 1000 células/ μ l. La posibilidad de infección por VIH siempre debe considerarse en pacientes menores de 65 años con herpes zóster oftálmico.

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Introduction

Chicken pox (varicella) is a highly contagious skin disease primarily in children 2 to 7 years of age.¹⁻³ The causative agent is the Varicella-Zoster virus, a member of the family Herpesviridae, which is acquired by droplet inhalation into the respiratory system.¹ Following an incubation period from 10 to 23 days,⁴ small vesicles erupt on the face or upper trunk. These get filled with pus, get broken and become covered by crusting with an intense sensation of itching. Individuals who recover from chicken pox are subsequently immune to this disease; however they are not free of the virus as viral DNA resides in a dormant (latent) state in the dorsal root ganglia.⁵

Later in life when this primary infected person is immuno-compromised, the virus may become activated.^{3,6,7} The viruses migrate along afferent sensory nerves to the skin and eye where they replicate and cause the characteristic lesions.^{7,8} This reactivated form of chicken pox (Varicella) is termed Herpes Zoster. This report describes a HIV-2 positive patient who presented with Herpes zoster infection which affected the ophthalmic branch of the right trigeminal nerve.

Case report

A 32 year old female presented to the optometric facility of Central ophthalmic clinic in Eket, with complains of burning sensation and deep lancing pain on the surface of the right eye, upper lid, anterior scalp and forehead which followed soon after few days of fever, malaise and headache. Inspection showed skin lesions on the right half of the face, the frontal and the nasociliary i.e. the ophthalmic branch of the trigeminal nerve which have formed crusting ulcers.

The ocular signs were microdendritic ulcers on the right eye which were mostly peripheral with few central ones that abutted the visual axis. The microdendrites stained with Rose – Bengal. Another ocular sign on the OD was the presence of anterior uveitis with a circumlimbal injection. There was transient diplopia with restricted ocular movement when gaze was directed laterally and upward due to the involvement of the 3rd cranial nerve. Funduscopic examination revealed no retinal involvement. There was no abnormality detected (NAD) on the left eye. Visual acuity

was OD: 6/60 and OS: 6/9. In addition the patient disclosed a previous childhood history of chickenpox during her primary school days, about 25 years ago. These signs and symptoms were consistent with Zoster.

Patient claimed to have enjoyed a general good health till this event, though agreed to have recently lost some weight. The patient was referred to the state owned Immanuel General Hospital, Eket for further medical laboratory tests. PCR test for Varicella – Zoster was positive. Genie II rapid HIV screening test was positive for HIV-2. The CD4⁺ count was 350 cells/ μ l blood and viral load was 100,000 copies/ml.

In the optometric facility, patient was treated for Herpes Zoster Ophthalmicus (HZO) with oral Acyclovir (800 mg) prescribed 5 times daily for 7 days and topical prednisolone acetate (1%) 2 drops instilled four times daily for 7 days. The pupil of the right eye was kept dilated with Atropine (1%) of which 1drop was instilled three times daily for one week.

After one month, on appointment she returned to Immanuel General Hospital, to the Global HIV/AIDS initiative of Nigeria (GHAIN) project facility for her counseling. She was categorized "stage 2B" by the CDC clinical and immunological staging¹⁴ and placed on Hyper Active Antiretroviral Therapy (HAART): Stavudine (30 mg) bid \times 2/12, Zidovudine (300 mg) bid \times 2/12 and Efavirenz (600 mg) nocte \times 2/12.

After 3 months on her HAART, her CD4⁺ count was increased to 1000 cells/ μ l and the viral load markedly reduced to less than 1,000 copies/ml.

Her ophthalmic and Acyclovir medications prevented synaechia and the chronic form of cornea ulcer. There was a total resolution of the keratopathy. The visual acuity (VA) on the right eye improved to 6/12 by the second month; and presently the VA stands at 6/6⁺ on either eye. The patient also restored is a smooth ocular motility without the experience of diplopia. Patient has been also without the experience of a post-herpetic neuralgia.

Discussion

A Herpesviridae is a double stranded DNA virus, with the outstanding property of establishing a lifelong persistent infection in their hosts by undergoing reactivation; with the

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