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RESEARCH ARTICLE

PERIPHERAL FACIAL PARALYSIS FOLLOWING CHICKENPOX INFECTION IN ADULTS: A RARE COMPLICATION

Fajri Zineb, Meryem Soughi, Zakia Douhi, Sara Elloudi, Hanane Baybay, Fatima Zahra Mernissi
Department of Dermatology, University Hospital Hassan II, Fez, Morocco.

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Abstract

Chickenpox is caused by the varicella-zoster virus (VZV/HHV-3), one of the eight human herpesviruses. VZV virus-associated peripheral neuropathies usually occur after shingles in adults and more rarely after chickenpox in children. Although chickenpox has a good prognosis, neurological complications such as encephalitis, acute cerebellar ataxia, myelitis, and meningitis are rarely associated with the disease. Peripheral facial paralysis (PFP) is an extremely rare complication in patients with chickenpox. We report the case of a 19-year-old woman with unilateral PFP, which developed after varicella infection, who was successfully treated with acyclovir, short-term steroids, and physical rehabilitation.

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Introduction:-

Chickenpox is a highly contagious disease caused by the varicella-zoster virus (VZV), a human herpesvirus. Primary VZV infection results in chickenpox, generally developing 10-21 days after exposure, and usually clinically manifested with characteristic small, itchy vesicular rash. Typically, lesions appear at different stages of development on the face, trunk, and extremities. The virus then becomes latent in the dorsal root ganglia and can manifest later in life as herpes zoster, characterised by a painful rash with blisters confined to one or more adjacent sensory dermatomes [1-2]. In general, varicella is a benign infection with a good prognosis; however, severe complications can occur [3].

The most common complication is bacterial superinfection of the skin, lungs, or bones. Neurological complications occur in up to 0.03% of cases [4]. The most common neurological syndromes are encephalitis, acute cerebellar ataxia, myelitis, and meningitis [2]. Peripheral facial paralysis (PFP) is a rare neurological complication of varicella, that can occur from five days before to sixteen days after the onset of exanthema [7, 9].

We report the case of a 19-year-old woman with unilateral PFP that developed after varicella infection and discuss management strategies.

Case Report:

A 19-year-old female patient with no medical history presented to the emergency department with a pruritic vesicular rash involving the face, trunk, and extremities, developing in a febrile context. 4 days later, she presented with difficulty chewing and hypoesthesia of the face, followed by paralysis of the right side of the face, which worsened within 48 hours.

Corresponding Author:- Fajri Zineb

Address: Department of Dermatology, University Hospital Hassan II, Fez,

Dermatological examination revealed umbilicated vesicles on the face, trunk, and limbs with oral enanthema and erosions covered by hemorrhagic crusts. Neurological examination revealed asymmetries in the ability to close the eyelids and asymmetries in the labial movements, which were not evident at rest due to normal facial symmetry. The observed decreased ability to close the right eyelid with concomitant drooping of the left corner of the mouth was compatible with right PFP as a neurological complication of varicella. Otoscopy revealed a grey and translucent tympanic membrane in the neutral position. There was no evidence of otitis, mastoiditis, or ear trauma. There was no evidence of dental abscess. Ophthalmological examination revealed symmetrical pupillary reflexes, normal eye movements and preserved convergence, routine laboratory tests and serum electrophoresis were normal, HIV serology was negative, fasting blood glucose was normal.

As varicella and PFP are two clinical diagnoses and this adolescent had pathognomonic signs and symptoms of varicella complicated by PFP, no further serological or imaging studies were performed.

She was treated with acyclovir (10 mg/kg/8h)/day for 10 days, artificial tears and physical rehabilitation. At follow-up, there was complete recovery of the initial deficits and restoration of normal function.



Fig A:- Umbilicated vesicles on the face, trunk, and limbs with oral enanthema and erosions covered by hemorrhagic crusts.



Fig B : Asymmetries in the ability to close the eyelids and in the labial movements

Discussion:-

Chickenpox is a highly contagious disease with a typical exanthematous rash. It is usually diagnosed in young children, but there is a lifelong risk for those who have not been immunized against varicella.

Chickenpox generally has a benign course, although it may be associated with various complications, depending on immune status and the existence of chronic diseases.

Peripheral neurological complications of VZV infection in adults consist mainly of paralysis of the cranial and spinal nerves in herpes zoster, which is the result of reactivation of latent virus in the nervous system following primary infection in childhood. While peripheral facial paralysis is a classic complication of herpes zoster (shingles), it is rare after chickenpox.⁴

PFV can occur before, during or after the appearance of exanthema. This peripheral neuropathy may be isolated or bilateral and may have varying degrees of functional impairment.

The relationship between PFV and varicella is neither common nor fully understood. Two possible mechanisms exist: direct nerve lesion due to direct viral toxicity or nerve damage associated with an immunologically mediated inflammatory response.

There are no established guidelines for the management of varicella-zoster-related neurological complications, and treatment must be individualized for each patient. In most published reports, pediatric patients have been treated with acyclovir and/or steroids.

However, there is no definitive treatment strategy for PFV patients with varicella. ⁵

In the present case, given the minimal neurological compromise, treatment didn't include steroids, it was oral acyclovir and artificial tears, along with physical rehabilitation. After 10 days of treatment, the adolescent had significantly recovered from her previous deficits, confirming the efficacy of the therapeutic measures applied^[5-6].

Although few, the available reports show a good prognosis of PFP associated with varicella with 80% of patients recovering completely even without treatment. However, acyclovir and/or steroids may accelerate the expected recovery.

Conclusion:-

Human herpes virus varicella or Chickenpox is a highly contagious disease caused by primary varicella-zoster virus (VZV) infection. It is common in children, usually with good resolution, and rare in adults, with more serious forms and more frequent complications, that we can and have to prevent with early treatment preventof the disease.

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