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Pediatric Emergency

Herpes Zoster about 14-Month-Old Immunocompetent Infant

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Abstract **Case Report**

Herpes zoster in children is a rare but often mild disease requiring only symptomatic treatment. Antivirals are exceptionally used for complicated forms, for ophthalmic localization or for immunocompromised patients. For the infant, it is most often an in utero contamination during a maternal chickenpox. We report a rare case of HZ in an immunocompetent 14-month-old infant with no history of chickenpox or its exposure in babies, other siblings, and the mother during or after pregnancy.

Keywords: Infant, chickenpox, herpes zoster.

INTRODUCTION

Herpes zoster (HZ) usually occurs in the elderly, but it can occur in healthy, immunocompromised children. In infants, HZ can be acquired intrauterine, post-uterine after exposure to varicella-zoster virus (VZV) or due to vaccination with the live attenuated strain of the virus [1]. Primary infection with VZV manifests as chickenpox. These viruses remain latent in the sensory neurons of the dorsal root ganglion. In certain circumstances, its reactivation is manifested by painful vesicular lesions grouped along one and rarely of two dermatomes [1]. We report a rare case of HZ in an immunocompetent 14-month-old infant with no history of chickenpox or its exposure in babies, other siblings, and the mother during or after pregnancy.

CLINICAL CASE

A 14-month-old male infant was brought to the pediatric medical emergency department of the children's hospital for a fever for three days and painful rashes on the left side reaching the left iliac fossa. He has no medical history. He is up to date on his vaccinations according to our vaccination program. He is from a followed pregnancy; the maternal TORCH serology was negative. There was no concept of maternal chickenpox during pregnancy and postpartum, and none of those around her had chickenpox in the past. On examination, she was feverish at 38.6 ° C, the heart rate was 119 / min and the respiratory rate were 28/ min. The skin examination showed vesicles and crusts grouped on an erythematous base, limited by the center line, at the level of the left flank reaching up to the umbilical, the left iliac fossa and the upper part of the left crural external surface (figure1). This corresponded to the left T12 and L1 dermatome. The systemic examination was normal. No other anomalies were present. The diagnosis of HZ was made clinically, and he was treated with oral acyclovir for seven days, an oral antipyretic (paracetamol) and local care. At 1 week of follow-up, the lesions had disappeared and the patient was asymptomatic. Both verbal and written consents were obtained from the parents regarding the publication of the case and photographs.

DISCUSSION

Man is the exclusive reservoir of the varicella zoster virus (VZV), a neurotropic virus which has the particularity of remaining quiescent in the dorsal sensory nodes. VZV belongs to the family of Herpes viridae, envelope virus with DNA genome. He has a particular affinity for the skin, the nervous system and the lungs [2]. The primary infection with VZV causes chickenpox, the virus reaches the sensitive nodes hematogenously and / or neurogenically from the skin or mucous membranes. Upon reactivation, it migrates along the sensitive nerve fibers to the skin. The reactivation of the characteristic vesicular rash product then appears in the metamer corresponding to the spinal ganglion colonized during the primary infection, known as shingles [1]. Immunologically, it seems that humoral immunity can contain a VZV reactivated to a single dermatome as shown by the rise of anti-VZV antibodies of the IgA and IgG type. Cellular immunity involved in maintaining the latency phase. Reactivation is promoted by immunosuppression. HZ in early childhood differs

from that in adults because it is generally not associated with pain and postherpetic neuralgia. As the child was only 14 months old, we were unable to find out about the pain and discomfort. The first case of shingles in children has been reported in the literature by Feldman *et al*. In a four-day-old child in the United States [3, 4]. In her case, although the newborn was previously exposed to VZV during pregnancy, chickenpox did not occur in the immediate neonatal period.

The majority of cases of shingles in children occur after the age of 5 years. Among all the cases of shingles, less than 10% are less than 20 years old, and 5% are less than 15 years old4, and an incidence of 0.74 per 1000 in the population under 9 years of age [5].

Most reported cases of childhood shingles contract mother's VZV infection during intrauterine life or during childbirth [3, 6]. Some may contract infection from other family members or in one study by Vora *et al*. 56% of children with shingles had a history of exposure to VZV [7]. In some cases, neither the mother nor the child had a history of infection with VZV before onset zoster [8]. In our case too, neither the mother nor the infant had a history of chickenpox. In this case, VZV contamination may be due to an unrecognized subclinical chickenpox infection as well as an occult trigger in an infant born to a mother immunized against chickenpox6. 26 cases of shingles in infants have been reported in the literature. Among these cases, 15 appear to have originated from intrauterine exposure and 6 cases had no history of previous exposure to the virus [9, 10].

The maternal antibody VZV in the infant offers protection for a few months but the level decreases quickly, and after 4 months, they are no longer protected [12]. in our case, The VZV antibodies in the mother and in the child did not was made due to financial constraints. Children's shingles is slightly more common in boys and generally all dermatomes may be involved [10].

The diagnosis of shingles is usually clinically supported by the Tzanck smear test. Tzanck's smear is not specific to infection and may suggest other viral infections such as Herpes simplex virus (HSV). Although the final diagnosis of HZ requires a polymerase chain reaction (PCR), the clinical presentation of the vesicular skin lesion in the dermatomal distribution strongly suggests a diagnosis of shingles whereas HSV infection is more likely to cause lesions oral and genital. In addition, even the Centers for Disease Control and Prevention (CDC) does not recommend the systematic use of PCR to diagnose typical shingles and is only indicated in children with an atypical presentation (in case of immunosuppression and herpes zoster) [11]. The treatment first calls for daily baths; local care with an antiseptic, Aciclovir by mouth is the first-line treatment at a rate of 20 mg / Kg / 8h for 5 to 7 days. Other antivirals such as famciclovir and valacyclovir are not indicated for infants [12].

In our case, oral acyclovir was administered because the presentation was early. The prognosis is excellent, as in our case, but the most frequent complications are secondary bacterial infection, depigmentation and scarring, other complications are rarer such as encephalitis, ventriculitis, sclerokeratitis and anterior uveitis [12].

Herpes zoster is a rare disease in children. Its diagnosis is essentially clinical. It does not require any specific treatment apart from ophthalmic forms, complicated forms or in the case of immunocompromised terrain. The evolution is most often favorable without sequelae.

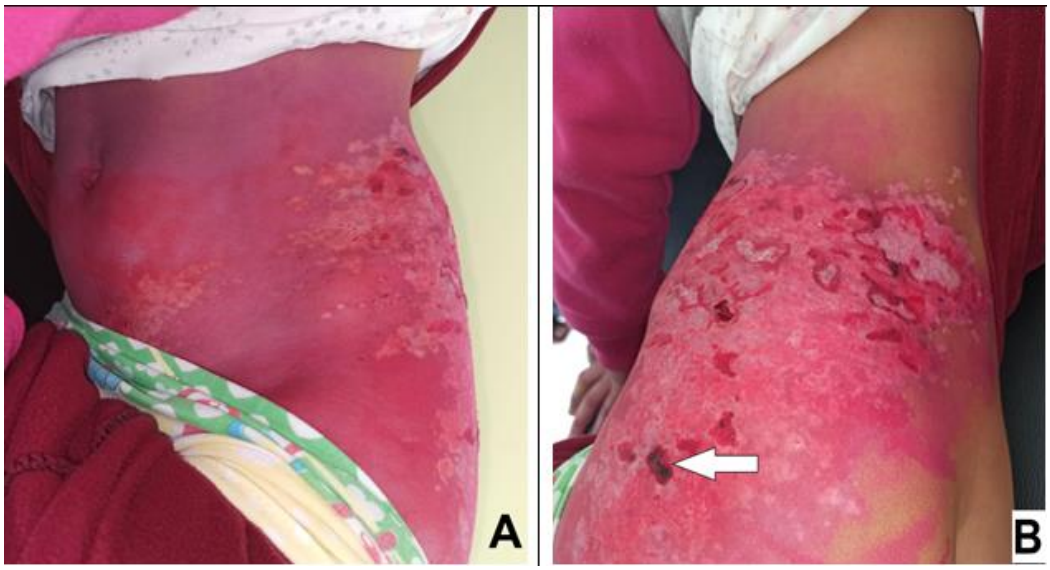

Fig-1: Vesicles and crusts grouped on an erythematous base, limited by the center line, at the level of the left flank reaching up to the umbilical (a), the left iliac fossa and the upper part of the left crural external surface (b) with some necrotic lesions (arrow)

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