

Case Report

Herpes zoster ophthalmicus in a pediatric patient: a case report*Herpes zoster oftálmico em paciente pediátrico: um relato de caso*

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ABSTRACT: The herpes virus (HHV) is a heterogeneous family, which has eight distinct types of viruses, and may cause different manifestations in humans. This case report will address the infection in a pediatric patient with type 3 (HHV-3), called varicella zoster virus (VZV). Patient, male, eight years old, arrived at the emergency room, accompanied by his mother, complaining about the appearance of papular lesions on the left hemiface and 38°C fever for one day. He received an initial assessment indicating the use of symptomatic drugs and topical Acyclovir, followed by hospital discharge. He returned to the emergency room claiming headache and vomiting. He was admitted to the pediatric ward for CSF collection, which showed no changes, and intravenous Acyclovir was started. He had a secondary bacterial infection in the lesions, and antibiotic therapy with Oxacillin was started. He evolved with good clinical response, being discharged for outpatient follow-up. The present report exposed herpes zoster infection in an eight-year-old patient, an age that is described in the literature as having a low incidence of this disease. Also, the case elucidates the mistake in some conducts that were taken in relation to the workup, which caused a delay in the treatment, offered risks to the patient and could have generated more serious complications.

KEY WORDS: Herpes zoster; Therapy; Pediatrics.

RESUMO: O herpes vírus (HHV) é uma família heterogênea, que apresenta oito tipos distintos de vírus, podendo causar diferentes manifestações em humanos. Este relato de caso abordará sobre a infecção em um paciente pediátrico pelo tipo 3 (HHV-3), denominado vírus varicela zoster (VVZ). Paciente, sexo masculino, oito anos de idade, com cartão de vacina atualizado, chegou ao pronto atendimento, acompanhado pela mãe, com queixa de aparecimento de lesões papulares em hemiface esquerda e febre de 38°C, há um dia. Recebeu avaliação inicial com indicação de uso de sintomáticos e Aciclovir de uso tópico, seguida de alta hospitalar. Retornou ao pronto atendimento com quadro de cefaleia e vômitos em jato. Foi internado em enfermaria pediátrica para a coleta do líquido, que não demonstrou alterações, e iniciado Aciclovir endovenoso. Inter correu com infecção bacteriana secundária nas lesões, sendo iniciado antibioticoterapia com Oxacilina. Evoluiu com boa resposta clínica, recebendo alta para acompanhamento ambulatorial. O presente relato expôs a infecção por HZ em um paciente de oito anos de idade, faixa etária de baixa incidência da doença. O caso ressalta a importância do diagnóstico precoce e elucida o impacto do atraso no tratamento.

PALAVRAS-CHAVE: Herpes zoster; Terapêutica; Pediatria.

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INTRODUCTION

The herpes virus (HHV) is a heterogeneous family, which has eight different types of viruses, which can cause different manifestations in humans. This case report will address the infection in a pediatric patient by type 3 (HHV-3), called varicella zoster virus (VZV).¹ The infection caused by it occurs by air transmission and, after contagion, it courses with two clinically distinct diseases, chickenpox and herpes zoster (HZ). VZV belongs to the Herpesviridae family, being a neurotropic virus that only infects humans².

Regarding varicella, or popularly known as “chicken pox”, it is the primary infection and commonly manifests itself in children or young adults, through polymorphic lesions, with vesicles, crusts and scars on the torso and face. After this infection, happens the incubation of HHV-3 in nerve ganglia and, therefore, there is the possibility of later reactivation in periods of low immunity on the patient. When this occurs and there is VZV reactivation, it characterizes HZ, popularly known as “shingles”. There is restricted dermatomal involvement, with symptoms of pain or local paresthesia, after gaining access to the sensory ganglia. The most affected dermatomes are those of the lumbosacral regions, the trigeminal nerve, the intercostal nerves and the cervical region³. Then, gradually, after a few days, due to the latency period of the disease, painful unilateral vesicular eruptions appear that follow the course of the affected dermatome.

Worldwide, the epidemiology of the disease is directly proportional to factors that reduce host immunity. Most diagnoses of herpes zoster are in individuals over 45 years old⁴. In this way, it is observed that the main risk factor for HZ is ageing, because as studies show, in adults over 80 years old, the disease affects 10 in every 1000 adults per year, while the incidence in the range pediatric age is about 1 in 1000 children per year⁵.

There are still few published data on the incidence of HZ in immunocompetent pediatric patients vaccinated against varicella in Brazil. Therefore, the general objective of this case report is to demonstrate the relevance of carrying out more research on the subject, considering that such occurrence is not expected for the disease in this age group and to elucidate the procedures recommended in the literature for the treatment of this infection. The study was approved by the Research Ethics Committee of the Faculdade de Medicina de Barbacena (FAME).

METHODS

A case report was carried out regarding an 8-year-old male patient with ophthalmic herpes zoster. The Free and Informed Consent Form was signed, in duplicate, in which all clinical, laboratory and photographic data found in their medical records were provided to the researchers, for presentation at a scientific meeting and publication of the case in a scientific journal or book such as “Case report”. It should be noted that ethical guarantees were preserved and respected in the research, as recommended by Resolution of the National Health Council (CNS) 466/12. The case report was approved by the CEP of the Barbacena medical school – FAME, as CAAE no. 67599823.9.0000.8307.

CASE REPORT

Patient, male, eight years old, with Autistic Spectrum Disorder, using Risperidone 2mg/day, with anopsia in the right eye due to a scar in the macular region caused by an ophthalmological surgery performed in 2019, arrived at the emergency room, accompanied by the mother, complaining of the appearance of papular lesions on the left hemiface and a 38°C fever for one day.

He received an initial assessment indicating the use of symptomatic drugs and topical Acyclovir (50 mg/g), followed by hospital discharge.



Figure 1 - Papular lesions on the left hemiface, with one day of appearance

He returned to the emergency room the next day with headache and vomiting. On physical examination, he was hydrated at the threshold, with herpetiform lesions in the left fronto-parietal and left orbital regions, respecting the midline of the face. Cranial computed tomography was performed with signs of sinusopathy. He was admitted to the pediatric ward for CSF collection, which showed no changes, and intravenous Acyclovir 750mg / day was started.



Figure 2 - Patient on the day of admission, with herpetiform lesions in the left fronto-parietal and left orbital regions

The patient had a secondary bacterial infection in the lesions, and antibiotic therapy with Oxacillin was started.



Figures 3 - Worsening of the patient's general condition, with the presence of eyelid edema and phlogistic signs on the left

After 10 days of intravenous therapy with Acyclovir and Oxacillin, the patient evolved with good clinical response, being discharged for outpatient follow-up.



Figure 4 - Improvement in the general condition of the patient, with crusted lesions, already in a state of resolution

DISCUSSION

The exposed case is a report of HZO in an eight-year-old boy, which is a rare diagnosis in a vaccinated and healthy pediatric patient, when compared to adult and elderly patients. Reactivation of a primary VZV infection causing HZ is presumed to be a consequence of age-related decline in immunity in older adults or due to a health condition that lowers immune function, such as in immunocompromised people.⁶ In the literature, the following are reported as predisposing factors for the development of HZ: depression of cellular immunity secondary to aging, acquired immunodeficiency syndrome, neoplasms, blood dyscrasias and iatrogenic immunosuppression in transplant patients⁷, with the aforementioned patient not having any of these characteristics,

which makes the case worthy of relevance.

In view of the description of the clinical history, it is observed that there was a delay in recognizing the condition, since, in suspected HZO, the patient should have been medicated with intravenous Acyclovir and lumbar puncture should have been obligatorily performed, to rule out infection in the system central nervous system (CNS). However, the patient was discharged with guidance on the use of topical Acyclovir, even though there was no evidence in the literature for such a prescription, and the lumbar puncture was not performed initially, causing a delay in taking the appropriate approach and a worsening of the condition^{8,9}.

Also, after the patient's return to the hospital with successive hospitalization, there was a secondary infection in the herpetic lesions, aggravating the symptoms. Bacterial infection is considered one of the main complications caused by HZ and is worthy of attention, as it can lead to even more serious morbidities, such as arthritis, pneumonia, glomerulonephritis, sepsis, endocarditis, encephalitis and meningitis¹⁰, requiring, therefore, intense monitoring for its prevention.

Furthermore, because the patient described had contracted HZO, thus compromising the ophthalmic nerve, branch of the trigeminal nerve, ocular complications, such as conjunctivitis, keratitis, uveitis, choreoretinitis, optic neuritis, eyelid scarring and entropion¹¹ are likely to occur, hence the importance of carrying out an ophthalmological examination, as well as guidance regarding the possibility of recurrence¹². In the case described, such measures were not taken, in opposition to the literature, which describes that in symptomatic patients, immediate evaluation by an ophthalmologist is of paramount importance, especially if the skin lesions extend to the medial side of the nose (Hutchinson sign)¹³, aiming to prevent such ocular complications with an efficient treatment¹⁴ and perform a differential diagnosis, if necessary, depending on the clinical characteristics of the pain and the location of the affected nerve⁸.

Finally, in cases like the one above, the possibility of infection in other sites must be considered. The CNS is the most frequent extracutaneous location of HHV-3 infection and the most common form of neurological involvement is encephalitis¹⁵, deserving investigation, in case of suspicion. In encephalitis, the investigation is carried out through lumbar puncture, as was done in the patient after his hospitalization. CSF findings that suggest viral encephalitis are: increased opening during puncture, lymphocytic pleocytosis, normal glucose and slightly elevated protein⁹. Still, in case of doubt, the investigation can be complemented with neuroimaging.¹⁶ In the patient in this case, the cerebrospinal fluid was normal and the infection was limited only to the skin, not requiring additional workup.

CONCLUSION

The present report exposed HZ infection in an eight-year-old patient, an age that is described in the literature as having a low incidence of the disease, especially in the case of an immunocompetent and vaccinated patient. Thus, in addition to discussing epidemiology, diagnosis, complications and treatment, the case explains the good prognosis based on adequate and early therapeutic management, as well as the need for further research on the subject.

Participation of the authors: Amanda Maria e Silva Coelho: elaboration of the text and data collection; Clara Soares Costa: writing the text and collecting data; Gabriel Campos Bomtempo: writing the text and collecting data; Herbert José Fernandes: writing the text and collecting data; Matheus Carvalho Nascimento de Andrade: elaboration of the text and data collection; Pedro de Moura Campos Montoro: writing the text and collecting data.

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