

Herpetic encephalitis during pregnancy: case report

Abstract

The Simple Herpes Virus (HSV) is the most frequent sporadic cause of viral encephalitis during pregnancy. We report a case of herpetic encephalitis during pregnancy and underscore the importance of prompt diagnosis and treatment.

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Ricardo Illia, Ceretti S, Codoni MJ, Sánchez AV, Fiameni F, Uranga Imaz M

Department of Obstetrics & Gynecology, Alemán Hospital, Argentina

Correspondence: Ricardo Illia, Chief of Obstetrics Service, Department of Obstetrics & Gynecology, Alemán Hospital, La Pampa 2219 5A, Argentina, Tel 1161859985, Email rillia@gmail.com

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Introduction

The Simple Herpes Virus (HSV) is the most frequent sporadic cause of viral encephalitis. During pregnancy, it appears mainly during the last trimester though there are cases described during second trimester. It is important to make the differential diagnosis between obstetrical and non obstetrical diseases, i.e. ACV (brain stroke, eclampsia, thrombosis of venous sinus and metabolic changes). It is important too, to start immediately the right treatment and avoid maternal and fetal complications. Herpes virus infection (HSV) is one of the most frequent and serious sporadic cause of viral encephalitis during pregnancy. During pregnancy, it appears mainly during the last trimester though there are cases described during second trimester. RMN showing diffuse alteration mainly in right hemisphere (Figure 1).

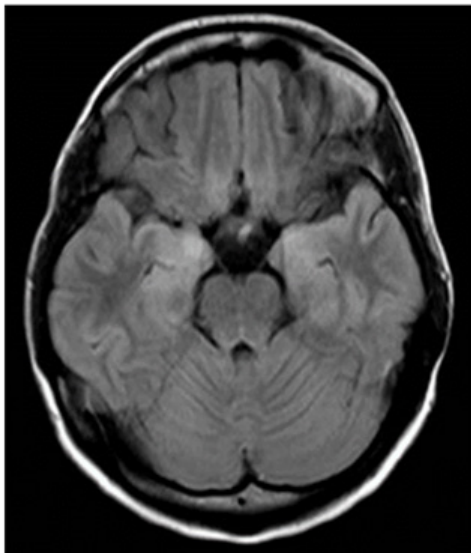


Figure 1 RMN showing diffuse alteration mainly in right hemisphere.

Objective

Report a case of herpetic encephalitis during pregnancy and underscore the importance of prompt diagnosis and treatment.

Case

A patient 30 years old, without personal important background, gravida I, with pregnancy of 32.5 weeks booked at Emergency Service at our Hospital because acute confusional syndrome associated to fever (more than 38° Celsius) since 4 days ago. The laboratory tests showed metabolic acidosis (PH 7.28 and bicarbonate 12.9 mEq/L). She was taken to Intensive Care Unit with requirement of hemodialysis. It was performed a Magnetic Nuclear Resonance of brain that showed changes in diffusion at temporal level specially in right hemisphere, and the spinal fluid sample showed fluid compatible with viral encephalitis. We started empirical treatment with intravenous acyclovir 10 mg/kg every 8 hours. The electroencephalogram showed unorganized brain activity. The PCR was positive for HSV type 1. We administered steroids to induction of fetal lung maturity with betamethasone (24 mg in 48 hours). The patient impaired her internal media (PH 7.27 and bicarbonate 10 mEq/L), so we decided to perform an emergency cesarean section because of critical maternal status. It was delivered an alive newborn, weighing 1905 grams, Apgar 7/9 of 33 weeks of gestational age by physical examination. The pathological anatomy of placenta revealed little changes attributable to fetal hypoxia. The placental culture and newborn serologies were negative. We completed 21 days of treatment with acyclovir. The patient developed amnesia as sequelae.

Comment

The herpetic encephalitis is a weird but serious complication during pregnancy, so is very important to work as a team with different specialists to achieve as fast as possible the diagnosis to proceed to immediate treatment with the target to decrease the rate of maternal mortality from 70% to 20 to 30%. Neural penetration of HSV along nerve roots can lead to central nervous system infections (CNSI), being the most serious meningitis and encephalitis. Cerebrospinal fluid (CSF) samples are very important to make a diagnosis; viral meningitis shows a characteristic pleocytosis with mononuclear cells.

predominance, slightly high protein levels, and average glucose levels. PCR assay in CSF is the best study in diagnosis of herpes meningitis. The Magnetic resonance imaging (MRI) of the brain shows diffuse enhancement of the meninges.¹ Herpes simplex viruses 1 and 2 (HSV-1 and HSV-2) are transmitted via contact with infected skin and subsequent inoculation of mucous membranes or defects in the skin's surface, causing a primary infection. The virus reaches sensory and autonomic nerve endings and remains latent in nerve cell bodies of ganglion neurons. This allows for reactivation, explaining their current signs and symptoms characteristic of the disease. HSV-1 is usually associated with oral disease; it causes vesicular lesions that, when in the oral cavity, commonly named cold sores. HSV-2, is most commonly associated with genital herpes, a well-known sexually transmitted disease. The recognition of herpes simplex infection and early start of treatment are the most important in the disease control.²⁻⁴ Most cases of recurrent genital herpes are caused by HSV-2; but, HSV-1 has been associated with an increasing prevalence of genital outbreaks. Presentation of primary infection with genital HSV can be variable. The most common symptoms involve painful genital ulcers, as well as dysuria, fever, tender lymphadenopathy, and headache. It is important to realize that in most of cases, the presentation may be much less severe or totally subclinical, and thus the infection may be misdiagnosed or go unrecognized. Lesions from primary infections typically resolve after an average of three weeks.^{1,3-7} If vaginal delivery occurs during an active infection, the risk of neonatal transmission increased and thus cesarean delivery is preferred in such cases.^{4,8-11} Neuronal damage evident in HSE is not well understood, but is thought to be due to the capability of HSV-1 to induce cell death, a property not characteristic of HSV-2. The diagnosis of HSV encephalitis can be confirmed only by PCR assay or brain biopsy. CSF findings may not initially be present. MRI abnormalities involving the temporal lobe are found in 90% of patients with HSE like our case. Treatment often involves intensive care unit-level care to manage increased intracranial pressure and seizures as well as intravenous (IV) acyclovir. HSE is a neurologic emergency, and even in treated cases, complications and sequelae, including cognitive deficits (as happen with our case) and recurrent seizures, are common.^{1,5,6} Treatment for herpes infection has many aspects. An important aspect to consider is primary prevention. Avoiding skin-to-skin contact during outbreaks is key in preventing spread from person to person. Those with genital herpes should be counseled that they may have asymptomatic shedding and should avoid unprotected sex. Barrier methods can reduce the risk of transmission (condom). Furthermore, the use of antivirals can prevent the transmission of genital herpes in discordant couples and should be discussed. Topical antiviral therapy has minimal therapeutic efficacy but penciclovir 1% cream can be applied every two hours with some improvement for oral or labial infection. Oral antiviral therapy including acyclovir, valacyclovir and famciclovir are all options for treatment of HSV

infections. Acyclovir treatment is beneficial if begun early (within 72 hours) in primary HSV infections, but does not reduce the risk of recurrent HSV-1 infections. In spite of there is not indication for universal screening of HSV before or at the beginning of pregnancy, we have to take in account that HSV infection is a potentially serious disease that could affect mother, fetus and newborn.

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Conflict of interest

The author declares no conflict of interest.

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