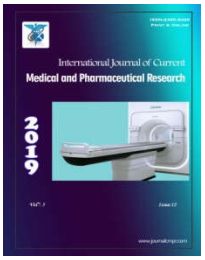
INTERNATIONAL JOURNAL OF CURRENT MEDICAL AND PHARMACEUTICAL RESEARCH
ISSN: 2395-6429, Impact Factor: 4.656
Available Online at www.journalcmpr.com
Volume 5; Issue 12(A); December 2019; Page No. 4786-4787
DOI: http://dx.doi.org/10.24327/23956429.ijcmpr201912802



Case Report

GUILLAIN BARRE SYNDROME AS A COMPLICATION AFTER DENGUE IN CHILD: CASE REPORT

Laís Viana Lopes Sato[1], Juliana Vieira de Oliveira[1], Renata da Silva Almeida[2], Marcella Lopes Abtibol[1], Rafaela Monique Mendonça Barros[1], Mario Jorge dos Santos Noel Filho[1] and Vanine de Lourdes Aguiar Lima Fragoso[3]

[1]Pediatric Resident Doctoratthe Fundação de Medicina Tropical Doutor Heitor Vieira Dourado, Brazil
[2]Pediatric Resident Doctor at Amazonas State University, Brazil
[3]Doctoratthe Fundação de Medicina Tropical Doutor Heitor Vieira Dourado, Brazil

ARTICLE INFO

Article History:
Received 06th September, 2019
Received in revised form 14th September, 2019
Accepted 23rd November, 2019
Published online 28th December, 2019

Key words:
Dengue, Guillain Barre Syndrome, acute flaccid paralysis.

ABSTRACT

Dengue is the arboviral infection most common and important on global public health, classically presents with fever, headaches, and skin morbilliform rashes. Neurological symptoms and complications are uncommon but can be diverse, like myelitis, encephalitis, seizures and Guillain-Barre syndrome (GBS). GBS is a post infectious polyradiculoneuropathy that frequently develops after an infection, including viral disease. This case report a boy, twelve years old, that started with paresthesia in lower limbs and loss of muscle strength, evolving to headaches, vomiting and worsening of strength limb muscle. He was admitted on a reference hospital and transferred to Intensive Care Unit were we made investigation considering acute meningoencephalitis or acute flaccid paralysis. The presence of dengue specific IgM antibody test in cerebrospinal fluid and blood is an evidence that GBS occurred after dengue. This patient was treated with human intravenous immunoglobulin and evolved with progressive improvement in muscle strength and general clinical condition.

INTRODUCTION

Dengue is an acute viral infectious disease, transmitted by the bite of the female Aedesaegypti and can have a broad clinical spectrum, presenting asymptomatic or symptomatic. It is considered the most important arboviruses that affects humans and therefore has an important impact on global public health. Although manifesting in most cases as a benign and self-limiting disease, it can also affect many organs and develop severity and complications. Neurological complications can be diverse, such as seizures, encephalitis, aseptic meningitis, depression, myelitis, polyneuropathies and Guillain Barre Syndrome. [2,5]

Guillain Barresyndrome (GBS) is aacute inflammatory demyelinating polyradiculopathy, accompanied by areflexia, motor paralysis, and elevated cerebro spinal fluid (CSF) total protein without pleocytosis. Frequently follows gastrointestinal or respiratory infections. The mechanisms that link the infections with Guillain-Barré syndrome are not well known. There is evidence, however, that this neurologic disease is immunologically mediated. The molecular mimicry causing immune attack on myelin and axons, and pro-inflammatory cytokines such as tumor necrosis factor (TNF), interleukins, and complements participating in immune response are postulated as possible mechanisms.[1,3,4,6]

Although rare, few cases of GBS have been causally linked to serologically confirmed dengue illness in the medical literature, so in regions where dengue is hyperendemic, screening for dengue illness may be importante in patients presenting with acute flaccid paralysis.

CASE REPORT

AGMA, 12 years old, male, born in Manaus (Amazonas), started with paresthesia in lower limbs and loss of muscle strength on beginning august/2019, the next day developed headache, neck pain, vomiting and worsening of strength limb muscle. He was taken to an emergency room that admitted the patient, suspecting acute meningoencephalitis or acute flaccid paralysis, and transferred him to a tertiary unit. At the referral hospital for the treatment of infectious diseases, an investigation was started for meningoencephalitis, with cerebrospinal fluid collection and treatment with broad spectrum antibiotic therapy associated with antiviral. In addition, it was necessary to use a delayed bladder tube due to anuria and full bladder. The patient was referred to the Intensive Care Unit for case follow-up and strict surveillance, as muscle weakness also evolved to the upper limbs.

Corresponding author:* **Laís Viana Lopes Sato
Pediatric Resident Doctoratthe Fundação de Medicina Tropical Doutor Heitor Vieira Dourado, Brazil

Considering the clinical evolution of the case, the neurology team suggested the diagnosis of Guillain Barre Syndrome and the use of immunoglobulin. During hospitalization, the mother of the child reported previous hospitalization in the previous month due to high fever and symptoms corresponding to acute gastroenteritis, and also reported that the patient's sister was hospitalized at the same time, diagnosed with dengue. Cerebrospinal fluid research included Dengue-specific IgM screening, which showed a positive result, associated with proteinorrhea, with no other significant changes. The culture of CSF was sterile. Furthermore, the research of Dengue-specific IgM in blood was positive. The child progressed well, with progressive improvement in muscle strength, and was discharged from the intensive care unit to the pediatric ward on September/2019, and later to home, with indication to remain with the physiotherapy team, aiming for gradual recovery of the patient.

DISCUSSION

Dengue isthe arboviral infectionmost common worldwide and is endemic in many tropical regions. The neurologic symptoms associated with dengue are many and have been increasingly recognized. Classic signs with acute infection are headache, delirium, sleeplessness, restlessness, mental irritability and depression. However, it can also include encephalopathy, Guillain Barre Syndrome, acute motor weakness, seizures, neuritis and pyramidal tract signs. [1,6]

Guillain Barresyndrome is an acute, frequently severe, mainly a demyelinating polyradiculopathy that is autoimmunein nature. The neurological symptoms usually appear when the patient is recovering from the acute phase of the infection, about 1-3 weeks following an acute infection, commonly respiratory or gastrointestinal, particularly in viral diseases.[1,4] The nerve injury in Guillain-Barre syndrome is mediated by immunological mechanisms, but the role of the patient's cellmediated and humoral responses in causing the demyelination has not been fully defined. It is believed that antibodies and products of the cellular responses trigged by the infections microorganism reacts to the ganglioside surface of component of the peripheral nerves.[3,5]

In this case, the presence of dengue specific IgM antibody test in cerebrospinal fluid and blood is an evidence of activeinfection or recently acquired disease, furthermore neurologic manifestations and the CSF findings (proteinorrhea) were consistent with the diagnosis of Guillain Barre syndrome post dengue.[4, 5]

According to the literature, this case report has been treated with human intravenous immunoglobulin, and progressed well, with progressive improvement in muscle strength and general clinical condition. [1,3,5]

CONCLUSION

Dengue is an endemic infection in Brazil causing huge impact on the health public. Acute flaccid paralysis or GBS is an uncommon neurological sequel of dengue in children. This case report calls attention to the possibility of GBS may occur in association with dengue and the importance to consider the dengue in a hyperendemic area in patients presenting with acute flaccid paralysis.

References

1. Dalugama *et al*. Dengue fever complicated with Guillain-Barre syndrome: a case report and review of the literature. *Journal of Medical Case Reports* (2018) 12:137.
2. Ministry of Health. Dengue: diagnosis and clinical management: adult and child– 5. ed. - Brasilia: *Ministry of Health,* 2016.
3. Oliveira *et al*. Guillain-Barre syndrome associated with arboviruses in the state of Pernambuco in 2016. *Fisioter Mov*. 2019;32:e003225.
4. Ralapanawa*et al.* Guillain–Barre syndrome following dengue fever and literature review. *BMC Res Notes (2015) 8:729*
5. Santos *et al*. Epidemiological profile of the state of Alagoas related to arbovirose dengue. *Braz. J. Hea. Rev.*, Curitiba, v. 2, n. 3, p. 1604-1608, mar./apr. 2019
6. Singh *et al*. Dengue: Uncommon Neurological Presentations of a Common Tropical Illness. *Indian Journal of Critical Care Medicine* (2019): 10.5005/jp-journals-10071-23179.

How to cite this article:

Laís Viana Lopes Sato *et al* (2019) ' Guillain Barre Syndrome as A Complication after Dengue in Child: Case Report', *International Journal of Current Medical and Pharmaceutical Research,* 05(12), pp 4786-4787.

****