INTRODUCTION

Zika virus (ZIKV) is transmitted by Aedes aegypti mosquito species (vector shared with yellow fever, chikungunya fever and dengue fever, among others). Isolated in the year of 1947 in Uganda, it was, initially, limited to sporadic infections in a small number of countries. For this reason, little clinical importance was associated with Zika's disease at that time, especially for mild symptoms and for being asymptomatic in 80% of the cases. In 2007, 60 years after its onset, ZIKV stopped being considered as a public health concern. However, since 2010, virus reached countries of the Pacific islands for the first time, appearing in New Caledonia in May 2013. With the advent of ZIKV, it is now known that the virus has the potential to cause severe complications. In 2015, ZIKV was reported in Brazil.
neurological defects. On the other hand, in fetuses of pregnant women at the end of the third trimester, brain abnormalities associated with maternal skin rashes were found; a specific clinical characteristic of ZIKV, but with cephalic perimeters within the parameters of normality. Information on congenital Zika virus syndrome changes rapidly, but studies indicate a consensus that the offspring can be infected in any trimester of pregnancy.

The transfer of ZIKV through sexual relation is possible, but the biggest concern is with the occurrence during the gestational period. Literature points to several cases that prove this type of transmission and, recently, 14 new events of possible contamination by this route have been found. Therefore, pregnant women with partners who live or travel to areas with ZIKV transmission should avoid sexual activity or always use condoms in all relationships, regarding whether they are vaginal, anal and oral.

In addition, it is important to mention that there are two major strains for ZIKV. An African strain, divided into two groups (eastern and western) and another grouping Asian and American strains. These strains differ significantly from the African ones, since they have adapted to the human defense system, which facilitated their infectivity. Studies indicate that the infection by this strain is difficult to diagnose, since 80% of the infected population can remain asymptomatic and never seek medical attention. From the American strain, in Bahia, a new strain of ZIKV (129 C class) has emerged, of which, there are no studies confirming the percentage of asymptomatic individuals yet. In addition, there is the possibility of multiple co-circulating strains in state.

**Diagnosis of ZIKV:**

World Health Organization (WHO) warns that, most of the diagnosis tests available on the market have not been regulated. However, efforts are being made to establish a regulatory support and accelerate the evaluation and approval of future clinical trials for ZIKV vaccines and treatments. The diagnosis of ZIKV infection by ELISA serological method, has been hampered by the cross-reactivity between anti-flavivirus antibodies, and aggravated by the widespread distribution of immunity against these infections in tropical regions, especially by Dengue Fever. In addition, it has limited availability in developing countries, particularly in Brazil. On the other hand, the use of the molecular PCR method with modified sensitivity for the detection of ZIKV, is considered gold standard, although it detects the agent only in the period in which the signs and symptoms are evident.

ZIKV virus can be detected by PCR from different organic samples: fetal tissues, saliva, blood (plasma, serum) and urine. In urine samples, besides being considered a non-invasive procedure, it has a wider collection range, and can reach up to 15 days after the end of the viremia. Regarding ZIKV detection by saliva, it should be considered that, the viral quantity and ideal volume for the sample is wide collection range, and can reach up to 15 days after the end of the viremia. Considering ZIKV detection by saliva, it should be considered that, the viral quantity and ideal volume for the sample is still unknown. Furthermore, the time for the appearance of viral particles in this type of sample is unknown. Thus, the PCR technique seems to be more suitable for the urine examination. However, it is possible to confirm the ZIKV infection with combined tests of blood, urine and saliva, and it is up to the health professional to evaluate the cost-benefit of this indication. However, a serological method of consensus, which meets the diagnostic demand for ZIKV infection, is awaited.

**Clinical Manifestations of ZIKV:**

Epidemiological studies characterize Zika disease as an acute, non-specific, and self-limiting infection. In most cases, it does not require hospitalization or specialized medical treatment and the individual commonly improves in a week.

The classic clinical picture of this infection, in some aspects, is similar to that of Dengue Fever and Chikungunya Fever, which makes differential diagnosis difficult. The infected person may present low to that of Dengue Fever and Chikungunya Fever, which makes differential diagnosis difficult. The infected person may present low-grade fever, myalgia, polyarthralgia, rashies, head and eye pain, bilateral non-purulent conjunctivitis, maculopapular rash, edema and Guillain-Barré syndrome.

There is strong evidence that, ZIKV infection is associated with congenital malformations such as microcephaly, intrauterine growth restriction and neurological syndromes. Regarding microcephaly, it was found that the size of the newborn's head might vary according to the intensity of exposure to the virus. Thus, it is advisable not to target the clinical criteria only for microcephaly in order not to underestimate the true size of this epidemic.

With recent advances in knowledge on the subject, it has been possible to relate ZIKV infection with a number of additional effects for infected individuals such as severe thrombocytopenia. For the arthriograpes concept, spontaneous abortions and bilateral neuroretinal atrophy. Surely, no other microorganism has affected the human reproduction process to such a large extent.

**Treatment and prevention of ZIKV**

Despite the efforts of the global scientific community, there is still no vaccine against ZIKV. However, although knowledge about the biology of the Zika virus is scarce, there has recently been confirmation of the possibility of manufacturing a vaccine.

In the absence of vaccination, control of the disease is limited to the spraying of any insecticide and to the destruction of larval breeding sites. However, there is difficulty in eliminating and identifying foci, since the mosquito is resistant to insecticides in general. Therefore, it is possible to assume that the control of Aedes aegypti has become a challenge for the affected countries.

Regarding pharmacological treatment, as the studies progressed, there was evidence that, there is an association between ZIKA infection and severe thrombocytopenia. Thus, it would be prudent to advise against the prescription of ASA and its derivatives to patients suspected of this pathology, to prevent possible hemorrhagic complications.

In the treatment of support, analgesics, and antipyretics and, for cutaneous symptoms, antihistamines should be used. It is also indicated rest and ingestion of liquids.

On the other hand, there are prophylactic strategies that must be followed to avoid mosquito bites such as wearing appropriate clothing (pants and long-sleeved clothing, shoes, socks), treatment of clothes and equipment with permethrin and use of insect repellents. It is worth mentioning that repellents containing picaridin, DEET, eucalyptus citridorida oil (OLE), or IR3535, are recommended for pregnant women with more than two months of gestation or transplant. Still regarding the repellent, it is recommended to place it after the sunscreen. Finally, the creation of a mechanical barrier of screens on windows and doors, as well as the use of mosquito nets, are strategies that may contribute to non-disease. Before, however, it is necessary that the population understands the need to modify their own behavior that will facilitate the adherence to this prophylactic system.

**CONCLUSION**

There are advances in diagnosis, treatment, clinical status and prevention. Despite this, we are far from understanding the pathophysiology of this infection, so further studies are needed.

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**REFERENCES**

8. Centro de Operações de Emergências em Saúde Pública sobre Microcefalia (COES). [Internet]. Monitoramento dos casos de microcefalia no Brasil informante
Simmons CP, Bandeira AC, Sardi SI. Zika virus outbreak, Bahia, Brazil. Emerging infectious diseases. 2015; 21(10): 1885.


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