



ZIKV beyond microcephaly

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Objective

The present study aims to identify the other alterations resulting from maternal infection by Zika Virus (ZIKV) in addition to microcephaly, causing severe neurological damage and impairment of fetal and postnatal development.

Methods

The Scielo, Medline, Lilacs and Pub Med databases published between 2015 and 2018 were consulted.

Results

ZIKV was mentioned as a pathogen from the beginning of the second trimester of 2015. It is a single-stranded RNA virus, it has as vector the mosquito *Aedes aegypti*, which transmits it to humans through its bite. It can also be transmitted through sexual contact, blood transfusion and perinatal contact (transplacental, birth canal and breastfeeding). The ZIKV disease presents as a self-limiting exanthematous febrile syndrome. Their damage is inversely proportional to gestational age and progressive. The association of ZIKV with microcephaly is the most common finding, however, important alterations have been observed in fetuses with normal cephalic perimeter. Fetuses affected by ZIKV present reduced brain volume with decreased transcellerebellar diameter, asymmetric ventriculomegaly, septal defects, diffuse calcifications in the brain, cerebellum and brainstem, corpus callosum digensia and cerebellar vermix, which may be associated with a reduced numbers of neuronal cells and / or virus interference in the neuronal migration process, posterior fossa abnormalities, lysencephaly or pachyria, and ocular calcifications and unilateral macular lesions. Craniofacial disproportion, biparietal depression, prominent occipital and excess skin at the nape of the neck are also observed, due to the paralysis of brain growth and maintenance of scalp growth that corroborates the predilection of the virus for neuronal tissue. Other findings, but to a lesser extent, were fetal akinesia, arthrogryposis, and intrauterine growth restriction. As for changes in amniotic fluid volume there is no standard.

Conclusion

Considering the tropism of the ZIKV by the nervous system, the morphological evaluation should not be restricted to the parameters of the cephalic circumference, the central and the peripheral nervous system need to be analyzed as a whole. Asymmetric ventriculomegaly, diffuse calcifications, arthrogryposis, degeneration of the posterior fossa deserve to be investigated for the complete establishment of severe damage and abnormalities in fetal development.