

Zika virus-associated urological and nephrological disorders

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Abstract

Introduction : ZIKA virus (ZIKV) is an RNA virus (Flaviviridae family) that became the most significant emerging arboviruses in the Americas and was responsible for a global epidemic between 2013 and 2017 [1-2]. It is transmitted among humans usually by *Aedes* mosquito species, but sexual transmission, perinatal and blood transfusion have also been reported. Symptoms appear in 20% of infected individuals and include fever, cutaneous rash, headache, conjunctivitis, myalgia and arthralgia. In 2015, ZIKV spread to Brazil, causing severe congenital Zika syndrome disease in up to 46% of the infants born to ZIKV-infected mothers. ZIKV-infected patients can develop severe proteinuria and end-stage renal disease[3]. A previous study showed that ZIKV could infect renal glomerular cells[6]. Urinary ZIKV typically exhibits a higher viral load and longer duration. A recent study reported on the development of neurogenic bladder in pediatric patients with CZS[4], causing post-void residual urine volume, urinary tract infection, urinary incontinence, and deterioration of renal function. Semen from ZIKV-infected individuals contains high viral loads, resulting in classification of this virus as a sexually transmitted pathogen[5]. ZIKV is also a threat to fertility in men due to testicular damage [8]. It has been described the antiproliferative effect of Zika virus against prostate cancer cells[9]. The purpose of this study is to describe the Zika virus-associated urological and nephrological disorders.

Methods: Bibliography revision from MEDLINE, LILACS and PUBMED data. The review provides scientific evidence that ZIKV was associated with renal disease, neurogenic bladder and its complications, besides showed ZIKV as a sexually transmitted disease and as a teratogenic agent. ZIKV may cause testicular damage and infertility. ZIKV may have oncolytic potential against cancer cells. The findings of this study can contribute to the knowledge of the ZIKV behavior and help the physician to be able to recognize the symptoms and signs of the infection.

Biography:

Adelmo Aires Negre, Professor of Urology at the Coordination of the Medicine Course of the Federal University of Tocantins (Uft), Brazil, * Member of the BRAZILIAN UROLOGY SOCIETY (Ti-SBU) * International Member of AMERICAN UROLOGICAL ASSOCIATION (AUA) * International Member of the EUROPEAN ASSOCIATION OF UROLOGY (UAE)

Publication of speakers:

1. Adelmo Aires Negre ,Souza et al. BMC Public Health (2018) 18:130DOI 10.1186/s12889-018-5039-z
2. Adelmo Aires Negre , Zika virus infection and implications for kidney disease. Donald J. Alcendor I. Journal of Molecular Medicine 24 August 2018
3. Adelmo Aires Negre, L Peralta-Aros C, García-Nieto V (2017) Does Zika virus infection induce prolonged remissions in children with idiopathic nephrotic syndrome? *Pediatr Nephrol* 32(5):897–900.

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