

Criteria to evaluate neurogenic bladder in patients with Congenital Zika Syndrome

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Abstract

Congenital Zika Syndrome (CZS) is associated with microcephaly and other malformations of the central nervous system. We identified that some of areas damaged by CZS are also known to influence the neural circuitry controlling the lower urinary tract (1). And decided to investigate neurogenic bladder, in an attempt to identify risk factors and therapeutic modalities that could mitigate the impact of the CZS in infected children.

A research protocol was developed based on our experience treating neurogenic bladder in children. And, after ethical approval, tested during urological assessment in patients with confirmed microcephaly due to CZS who were referred to our pediatric urodynamics clinic between June 2016 and May 2017. The protocol consisted of obtaining clinical history, laboratory tests, renal and bladder ultrasound and a urodynamic evaluation. ZIKA virus was previously confirmed by maternal history and positive RT-PCR in babies/mothers. Microcephaly and other central nervous system abnormalities were established based on neurological and image evaluation (CT and/or MRI).

The results were submitted for publication and we are waiting the editor's decision. Neurogenic bladder was confirmed so far in 100% of patients tested, with high-risk urodynamic patterns that may cause renal damage if left untreated. This is a preventable health condition in the setting of Congenital Zika Syndrome. While further investigation is necessary to understand long-term disease behavior, bladder proactive management is paramount to help mitigate disease burden for patients and their families.

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Guidelines

Protocol Recommendation: all children with confirmed Congenital Zika Syndrome need to be referred for urological assessment

Protocol

Step 1.