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Long-term Outcome in Neurozika: When Biological Diagnosis Matters

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Objective: To characterize the full spectrum, relative frequency and prognosis of the neurological manifestations in Zika virus (ZIKV) postnatal infection.

Background:

Zika virus (ZIKV) postnatal infection has been associated with both central and peripheral neurological manifestations. The full spectrum, relative frequency and prognosis of these neurological manifestations have yet to be described.

Design/Methods: We conducted an observational study in consecutive ZIKV-infected patients presenting with neurological manifestations during the French West Indies 2016 outbreak.

Results: Eighty-eight patients, including six children, were enrolled. Ninety-five percent of all cases required hospitalization. Guillain-Barré syndrome was the most frequent manifestation (46.6%) followed by encephalitis or encephalomyelitis (20.5%), isolated single or multiple cranial nerve palsies (9.1%), other peripheral manifestations (6.8%), and stroke (1.1%). Fourteen patients (15.9%) including one child, developed a mixed disorder involving both the central and peripheral nervous system. Mechanical ventilation was required in 21 cases all of whom had ZIKV RNA in at least one biological fluid. Two adult patients died due to neuroZika. Clinical follow-up (median 14 months; interquartile range, 12-17) was available for 77 patients. Residual disability (modified Rankin scale ≥ 2) was identified in 19 (24.7%) patients, in 6 cases (7.8%), disability was severe (modified Rankin scale ≥ 4). Amongst patients with ZIKV RNA detected in one biological fluid, the risk of residual disability or death was higher (odd ratio, 9.97; CI, 1.22 to 81.21; $P=0.032$).

Conclusions: NeuroZika spectrum represents a heterogenous group of clinical neurological manifestations. During an outbreak, clinicians should consider neuroZika in patients presenting with cranial nerve palsies and a mixed neurological disorder. Long-term sequelae are frequent in NeuroZika. ZIKV reverse-transcription PCR status at admission can inform prognosis and should therefore be taken into consideration in the management of hospitalised patients.