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Virologia

WEST-NILE VIRUS ENCEPHALITIS IN AN IMMUNOCOMPETENT PEDIATRIC PATIENT

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INTRODUZIONE

The majority (~80%) of West Nile virus (WNV) infections in humans are asymptomatic. Symptomatic infections are mostly (~20%) associated with a mild, self-limiting febrile illness (WNF), whereas WNV neuroinvasive disease (WNND) develops in <1% of WNV. WNND mainly occurs in young adults and elderly patients. However, WNND have been also reported in children. Natural history and clinical disease spectrum are not fully understood in pediatric patients due to a wide lack of reporting and underdiagnosis in children. In this report, we describe a case of West-Nile virus encephalitis in a 12-years old immunocompetent child in the Lombardy Region, Northern Italy, a WNV endemic area since 2013.

METODI

Cerebrospinal fluid was tested by real-time RT-PCR and PCR for the following neurotropic viruses: herpes simplex, enterovirus, polyomavirus JC, herpesvirus 6, WNV, phleboviruses and flaviviruses. Furthermore, serum and urine were analyzed with WNV real-time RT-PCR and flavivirus RT-PCR. Phleboviruses and WNV IgM and IgG antibodies detection was performed both in serum and cerebrospinal fluid samples.

RISULTATI

In middle September 2014, a 12-year-old boy presented at the Pediatric Emergency Department of the Fondazione IRCCS Policlinico San Matteo, Pavia, due to persistent fever, headache and diffuse pruriginous erythematous rash. A mildly altered mental status was noted, but classical signs of meningitis were negative. Meningoencephalitis was suspected and empiric antiviral and antibacterial therapies with acyclovir and ceftriaxone were promptly started. The molecular investigation of neurotropic virus genome was negative in all the biological samples analyzed. WNV IgM tested positive both in serum and CSF and WNV IgG negative, suggesting a confirmed acute WNV infection. Electroencephalogram (EEG), performed within 24-hours after admission, revealed encephalitic-like bilateral slow waves. The patient's conditions remained stable and after seven days of hospitalization he was discharged with complete recovery and EEG normalization.

CONCLUSIONI

In conclusion, WNV is responsible of an increasing number of neuro-invasive infections all over the world. Our case underlines that, even though WNND is rare, WNV-infection should be always suspected in pediatric patients, living or traveling in endemic areas, presenting with meningitis, encephalitis or acute flaccid paralysis during the WNV transmission season. Nevertheless, more detailed analysis and reports of WNND pediatric cases are needed to clarify clinical aspects and increase knowledge and awareness over this emergent disease among physicians.