

## The Challenge of Diagnosing and Successfully Treating Anti-NMDA Receptor Encephalitis in a Toddler

Amal A Alqassmi\*, Faisal Alaklabi, Omar A Alzomor and Mustafa A Salih

\*Ministry of Health, King Saud Medical City, Saudi Arabia.

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### ABSTRACT

Anti-N-methyl-D-aspartate (anti-NMDA) receptor encephalitis is an immune-mediated syndrome that is still under-recognized, with grave consequences if not treated early. A multidisciplinary team approach is required in the process of diagnosis and management of this potentially treatable and reversible disorder. We report on a 26-month-old Sudanese girl who presented with focal seizures associated with fever (temperature = 38.9°C) and history of trivial head trauma a day before. Viral encephalitis was suspected, and she was started on acyclovir and ceftriaxone. Cranial computed tomography revealed small high density in the right frontal lobe, and magnetic resonance imaging showed the features of cortical hemorrhagic lesion at the right frontoparietal lobe. Polymerase chain reaction for herpes simplex virus 1 and 2 revealed negative results. Her condition worsened over the course of 1 week, with recurrent seizures, insomnia, violent chorea and orofacial dyskinesia. Electroencephalography showed diffuse slow activity and the presence of 'extreme delta brush' pattern, a specific abnormality seen in anti-NMDA receptor (NMDAR) encephalitis. Cerebrospinal fluid was positive for anti-NMDAR antibodies (titre = 1:100). She was treated with intravenous (IV) corticosteroids, IV immune globulin, plasma exchange and rituximab. Her condition improved gradually, with full recovery when last seen 19 months after the onset of the disease.

**Conclusion:** Anti-NMDA encephalitis is a challenging case, early and aggressive management will affect the outcome of the disease.

**Keywords:** Anti-NMDA receptor encephalitis, Sudanese toddler, Child, Hyperkinetic movement disorder, Herpes simplex virus, Electroencephalography features, Treatment

**Corresponding author:** Amal A Alqassmi, Ministry of Health, King Saud Medical City, Saudi Arabia, E-mail: aqasmi@ksmc.med.sa

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