Neuroimmunology

ANTI-NMDAR ENCEPHALITIS WITH BILATERAL BASAL GANGLIA MRI LESIONS AT A DISTANCE OF TIME

Hyun Goo Kang[1], Han Uk Ryu[1], Byoung-Soo Shin[1]

Neurology, Jeonbuk National University Medical School and Hospital, South Korea

Background: Approximately half (55%) of anti-N-methyl-D-aspartate receptor (NMDAR) encephalitis is known to show abnormal brain images, including high signal intensity in T2 or fluid attenuated inversion recovery (FLAIR) images. In a minority of anti-NMDAR encephalitis cases, high signal intensity on diffusion-weighted imaging (DWI) has been reported, a finding that is highly suggestive of a stroke.

Case presentation: We present the case of a 66-year-old man who experienced two separate focal seizure events, which involved first the right and then the left upper extremity in a short period of time. The patient showed focal seizures on his right arm and hand, which sometimes evolved to bilateral tonic-clonic seizures on his first admission. Brain magnetic resonance imaging (MRI) showed high signal intensity on DWI and low signal intensity on the apparent diffusion coefficient (ADC) map of the left caudate nucleus and putamen. The patient discharged symptom-free with anti-epileptic drugs for 2 weeks. The second admission occurred 4 days after the discharge. He exhibited a new symptom of focal seizure on his left arm and hand showing a DWI/ADC brain lesion (caudate nucleus and putamen) on the opposite side. The patient was eventually diagnosed with anti-NMDAR encephalitis according to the cerebrospinal fluid (CSF) antibody test.

Conclusions: This is the case of anti-NMDAR encephalitis involving the left and right basal ganglia sequentially with a short interval on DWI/ADC images. When stroke-like brain lesions on DWI are found in a patient with a focal seizure, a CSF study could help rule out autoimmune encephalitis.