学位論文の要旨

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主論文の題名

Maximum isotope accumulation in the retrosplenial cortex during amnesia attack and its temporal change suggest cortical spreading depression as a pathophysiology of patients with transient global amnesia

主論文の要旨

Transient global amnesia (TGA) may occur due to cortical spreading depolarization (CSD). CSD does not propagate to the retrosplenial cortex, posterior cingulate cortex, or precuneus (Rsc/Pcc/B7) in the rat brain. We retrospectively investigated SPECT findings in the Rsc/Pcc/B7 of patients during TGA. SPECT was performed using 99mtechnetium hexamethylpropyleneamine oxime on 11 patients with TGA. Patients were divided into groups based on the timing of SPECT: during TGA (n = 2, Group 1), at the start of attenuation of memory impairments (n = 2, Group 2), and after TGA (n = 7, Group 3). Regional isotope accumulation was analyzed using 3-dimensional stereotactic surface projections. After calculating the mathematical product of the mean severity and extent ratio for each region, bar graphs showing relative decreases and increases in Brodmann areas were created. The greatest increases were observed in Rsc/Pcc/B7 in Groups 1 and 2, while decreases were noted in the same regions in Group 3. Changes in isotope accumulation were the greatest in Rsc/Pcc/B7, reflecting the resolution of TGA. If CSD does not propagate to these regions in the human brain, similar to the rat brain, the present results support the theory that CSD is the cause of TGA.