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Abnormal immature granule cells are specific to hippocampal sclerosis type 1

ILAE task force proposed a simple histological classification of hippocampal sclerosis. Surgical results based on this classification are presented, and PSA-NCAM abnormal immature granule cells are detected in type 1 HS

Type 1 HS is found in 25 patients (61%) and (1) types of HS doesn't correlate with age at operation and duration of illness, suggesting that these types represent distinct pathology of MTLE, (2) the mean age of onset in patients with type 1 sclerosis tends to be younger than those at least with no HS but this is not statistically significant (Kruskal-Wallis test), (3) the history of initial precipitating injury is not correlated with histological subtypes or post-operative seizure outcome, and (4) type 1 sclerosis seems to correlate with better post- surgical seizure outcome than other types. The choice of the operative procedure is important factor affecting the seizure outcome and that lateral temporal structure is also involved in the epileptogenesis in a subset of patients with MTLE. In fact, SAH alone is effective in over 80% of patients with type 1 sclerosis (Fisher's exact test, $p < 0.05$) but not for patients with type 3 sclerosis.

The remarkable feature of our study is the presence of bizarre immature PSA-NCAM positive neurons in HS type 1 hippocampus. This neuron has a peculiar irregular soma with abundant neurites and synapses. The absence of bona fide astrocytes, presence of abnormal PSA-NCAM immature neurons might be neuron-glia abnormality causing long-lasting intractable TLE.

Biography

Tomokatsu Hori is under the department of Tokyo University Faculty of Medicine 1968, residency at Tokyo Police Hospital 1973. He is a research fellow at Sainte Anne Hospital, Professor at the department of Neurosurgery, Tottori University 1995. He is the Director of Institute of Neurological Sciences, Tottori University.

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