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What is the link between herpes simplex encephalitis and Creutzfeldt - Jakob disease?

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Background: Sporadic Creutzfeldt-Jakob disease (sCJD) is a progressive and fatal disease of the central nervous system. The concurrency of herpes simplex virus (HSV) encephalitis who *unresponsive to acyclovir* and sCJD cases have been reported before (1, 2). In the light of this knowledge, we investigated the HSV antibodies in sCJD cases. Also, we aimed to illustrate the clinical prognosis of these cases.

Case Report: Four patients (ages between 61-77 years, male/female ratio:1/3) were admitted with acute changes in mental status and speech disturbances. They developed a rapidly progressive dementia characterised by personality change and myoclonus. Brain magnetic resonance imaging studies showed ribbon sign in the occipital lobe in two cases, increased signal in the basal ganglia in one case and no findings in the other case. Serial *electroencephalography* recordings showed typical *periodic sharp wave complexes*. Analysis of *cerebrospinal fluid (CSF)* immunoassay of the patients were positive for 14-3-3 protein. HSV IgG antibody specificity index (ASI) were found higher than 1,3 in 2 patients (range: 0.7-1.3). Also, protein levels were found 2 folds more (mean:130mg/dl) in HSV plus cases. There is no other differences in CSF findings. The patients who have higher HSV IgG ASI level, died within 3 months after initial symptoms were appeared. The other two patients survived approximately 18 months after the diagnosis.

Discussion: There is no clear consensus on the relationship between sCJD and HSV encephalitis since first description by Hsich et al. in 1996 (3). HSV encephalitis and sCJD may stimulate occurrence of each other or they might worsen their course by the neuroimmunological mechanisms. Detailed researches are needed including postmortem studies.

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