

Case #7

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A 49 year old research biochemist presented with a two week history of low grade fever, mild headaches and increasing depression. On examination, he was agitated and incoherent and his temperature was 99.5°. Apart from bilateral Babinski's sign, the neurologic exam was noncontributory. Lumbar puncture revealed an opening pressure of 250 mmH₂O, 32 white cells, all lymphocytes, protein 155 mgs% and glucose 53 mgs%. C.S.F. smears and cultures were negative. The following enzyme elevations were noted: SGOT, 201; SGPT, 356; LDH, 472; alkaline phosphatase, 10.3 and CPK, 1608 IU.

Serial chest films, virologic and toxicologic studies, EKG, EEG and brain scan were negative. Urinalysis was within normal limits and cultures from blood, C.S.F. and sputum were consistently negative. Serial lumbar punctures demonstrated persistently high protein levels with mononuclear cells in the C.S.F. During a six week course, there was mild anemia, persistent leukocytosis and elevation of the ESR reaching 100. Towards the end of his course, seizures were numerous and he died during a seizure.

Notable findings at autopsy were renal tubular necrosis and acute passive congestion of liver, spleen and adrenals. Except for edema, the brain showed no gross abnormalities. Microscopic changes as seen in the slide were present throughout the entire brain as well as in a biopsy specimen taken during the first week of his illness. Viral cultures from biopsy and autopsy brain tissue were negative.

Slide submitted stained with H & E. One electron micrograph is submitted.

Points for Discussion:

Has anyone seen viral (?) doughnuts in human neurons as depicted in accompanying E.M. from biopsy? These particles were seen in great abundance in the perikarya and dendrites of many nerve cells and their size and structure resemble the type-A-particles of viral murine leukemia (de Harven, In: Experimental Leukemia, Editor M.A. Rich, Chp. 2, pp. 15-50, Appleton 1968) and also the viral particles induced by intracerebral carcinogen administration (Ikuta and Zimmerman, J. Neuropath. Exp. Neurology, 24, 225, 1965).