

Cerebrospinal fluid of HTLV-1 associated myelopathy patients induces axonal sprouting and Schwann cell proliferation in the rat sciatic nerve

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HTLV-1 (human T-cell leukemia virus type I) associated myelopathy (HAM) is a demyelinating disease. We showed that the CSF of patients and heated CSF of normal subjects induced a segmentary demyelination in rat nerves, and potentiate trypsin in vitro. Here we further characterize the neuropathy induced by the CSF of patients. Peroneal nerves injected 5-8 days before with native or heated CSF of patients, besides extensive demyelination, presented proliferation of myelinating and nonmyelinating Schwann cells, axonal sprouting, fine fibres with a few turns of myelin, disarray of nonmedullated bundles, desmosome-like junctions, and coated pits and vesicles in Schwann cells and axons. The normal CSF was innocuous to the nerve in its native form, but after heating, it induced a neuropathy in all, similar to that elicited by the CSF of patients. Our findings indicate that the CSF of HAM patients contains a thermostable pathogen for nerves of the rat; a thermostable pathogen also occurs in th