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Poster Presentation

Can Human T-Lymphotropic Virus Proviral Load Predict the Severity of Clinical Features in HAM/TSP Patients?

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Abstract

HTLV-1 is the causative agent for a neurologic disease named HTLV-I- associated myelopathy/tropical spastic paraparesis (HAM/TSP). Paraparesis of the lower limbs which appears gradually is the most common clinical feature of this disease. The indirect involvement of the nervous system by lymphocytes is more probable than the direct attack of the virus to the neurons. The proviral load (PVL) is defined as the percentage of HTLV-1-infected peripheral blood mononuclear cells (PBMCs). We reviewed the literature to understand if the PVL could predict the severity of clinical symptoms in HAM/TSP patients. Studies show that the virus proviral load in PBMCs can differentiate asymptomatic carriers from HAM/TSP patients. A significant association has been demonstrated between higher HTLV-1 proviral load and poor long-term prognosis. One study has presented a diagnostic model for the early detection of HAM/TSP using plasma SPARC, VCAM1, and HTLV-1 viral load. Another study has suggested that a high ratio of proviral DNA load in CSF to peripheral blood mononuclear cells (PBMCs) may distinguish HAM/TSP from HTLV-1-infected patients with MS. Also, HTLV-1 proviral loads measured in the CSF of HAM/TSP patients are typically greater than twice the proviral load in PBMCs, whereas the ratio of CSF to peripheral blood HTLV-1 proviral loads are typically lower in asymptomatic carriers. In general, the association between PVL in PBMCs and the severity of neurologic symptoms of HAM/TSP patients has not been reported in any available literature and it is necessary to further investigate this issue.

Keywords: HTLV-1, HAM/TSP, Clinical Symptoms

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