

## **Teriflunomide in HTLV-1 Associated Myelopathy/Tropical Spastic Paraparesis: A Phase I/II Clinical Trial**

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HTLV-1 associated myelopathy/tropical spastic paraparesis (HAM/TSP) is a progressive myelopathy occurring in up to 3% of HTLV-1 infected subjects. Clinically, the most common initial symptom in HAM/TSP is weakness of the lower extremities, insidious in onset followed by relentless progression to spastic paraparesis and disability within 2 years of onset. HAM/TSP is characterized by high HTLV-I viral loads in blood and CSF, activated immune cells, and the observation of ex vivo spontaneous lymphoproliferation. In preclinical studies, teriflunomide, an FDA approved drug for relapsing remitting multiple sclerosis that inhibits de novo pyrimidine synthesis, demonstrated a significant dose dependent suppression on spontaneous lymphoproliferation from HAM/TSP PBMC.

In this single center, single arm, open label, baseline versus treatment pilot clinical trial, up to 24 adult patients with HAM/TSP will receive teriflunomide daily for 9 months. The objective is to determine teriflunomide's effect on immune activation markers in persons with HAM/TSP and the correlation of these with virological, radiological and clinical measures of disease burden. The primary outcome measure is the percent change in spontaneous proliferation from day 0 to month 9. Secondary outcome measures will include immune activation patterns and HTLV-I proviral load in blood and CSF. Exploratory measures include MRI (magnetic resonance image) of brain and spinal cord and self-administered health assessment measures.

Currently, there is no effective treatment to control HTLV-1 infection or to treat patients with HAM/TSP. This trial offers the possibility of effective pharmacotherapy for persons with HAM/TSP.

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