

## Short Communication

# Motor Abnormalities and Functional Disability in Tropical Spastic Paraparesis

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The myelopathy associated with HTLV-1 or tropical spastic paraparesis (HAM / TSP) is an inflammatory disease, chronic and demyelinating, of a generally insidious and slow progression start [1]. Although uncommon (5% of infected patients), represent severe and disabling disease that leads to high morbidity [2,3].

The gait disorder resulting from weakness and spasticity of the lower limbs are the common presenting symptoms of the disease [4]. Moreover, there is the presence of bilateral spastic hypertonia of the lower limbs, with severe shortening and paresis of the pelvic and adductor muscles. The anterior and posterior muscle groups of the lower limbs may also be involved causing restriction in deambulation [5]. As the disease progresses, changes are occurring in walking ability with the need of support for locomotion, getting patients confined to a wheelchair at the end of the disease [4,6].

Motor dysfunctions, especially muscle weakness and spasticity found in patients with HAM / TSP generate abnormal patterns of movement of the lower limbs, reducing walking ability with decreased speed, balance and increased energy expenditure during the performance of functional tasks of daily life which leads to functional impairment, which can compromise the quality of life of patients [7].

According Galilea (2012), muscle weakness is a major contributor to physical activity limitations in patients with central nervous system damage [8]. Thus, the force of restriction impairs walking ability and might interfere gradually in the need of help for locomotion, from unilateral support to the wheelchair. In addition, muscle tone changes often interfere in the motor skills, essential to the performance of activities of daily life, and their management, essential in improving the motor patterns of patients [9].

The study by Carod-Artal et al. (2007) conducted functional

assessment of 42 patients with HAM / TSP by the Barthel Index and the Kurtzke Expanded Disability Status Scale EDSS). We also analyzed spasticity by the Ashworth scale, besides the quality of life using the SF-36 questionnaire. The authors concluded that the disease causes severe disability with dependence during activities of daily life and negative impact on quality of life [10].

Another study describes the impact of motor disability in the walking ability of patients with HAM / TSP. To have this done, we used the Ashworth scale for assessment of spasticity, manual muscle testing (MMT) to assess muscle strength and the Functional Independence Measure scale (FIM) to analyze the functionality. This paper concludes that walking is related to greater muscle strength, especially the extensor groups of the knee and plantar flexors. However, spasticity showed no impact on the loss of gait capacity [7].

Some studies have shown the impact of disease on quality of life of patients with HAM / TSP, using the SF-36 questionnaire, with a predominance of lower scores regarding the following dimensions: physical aspects limitation and functional capacity [11,12,13]. Shublaq *et al.* (2011) demonstrated the relationship between functional disability and quality of life in patients with HAM / TSP. This analysis showed that the progressive gait deficit, caused by the loss of strength compromises functional independence while performing activities of daily life and consequently the quality of life [11].

Thus, due to the motor changes, it is evident the importance of physiotherapy. To date, there is no specific treatment for the virus, the prognosis of HAM / TSP is reserved and brings a disastrous impact on patients lives. The financial and social costs to the health system can be huge due to the fact that it is a chronic and progressive disease. The motor deficiency leads to decreased ability to perform activities of daily life and impact on quality of life of these patients. Thus, the development of public policies of education and prevention should be developed. Premature physical therapy approach is essential to manage the functional changes and increase the autonomy of patients. This approach aims to increase walking ability, promote independence in carrying out activities of daily life and improve the quality of life.

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