INTERFERON BETA-1A TREATMENT IN HTLV-1-ASSOCIATED MYELOPATHY/TROPICAL SPASTIC PARAPARESIS: A CASE REPORT

Graça Maria de Castro VIANA(1), Marcos Antonio Custódio Neto da SILVA(2), Victor Lima SOUZA(2), Natália Barbosa da Silva LOPES(2), Diego Luz Félipe da SILVA(2) & Maria do Desterro Soares Brandão NASCIMENTO(1)

SUMMARY

Here a young patient (< 21 years of age) with a history of infective dermatitis is described. The patient was diagnosed with myelopathy associated with HTLV-1/tropical spastic paraparesis and treated with interferon beta-1a. The disease was clinically established as HTLV-1-associated myelopathy/tropical spastic paraparesis (HAM/TSP), and laboratory tests confirmed the presence of antibodies to HTLV-1 in the cerebrospinal fluid (CSF). Mumps, cytomegalovirus, Epstein-Barr virus, schistosomiasis, herpes virus 1 and 2, rubella, measles, varicella-zoster virus, hepatitis, HIV, and syphilis were excluded by serology. The patient was diagnosed with neurogenic bladder and presented with nocturia, urinary urgency, paresthesia of the lower left limb, a marked reduction of muscle strength in the lower limbs, and a slight reduction in upper limb strength. During the fourth week of treatment with interferon beta-1a, urinary urgency and paresthesia disappeared and clinical motor skills improved.

KEYWORDS: HAM/TSP; HTLV-1; Interferon beta-1a; Treatment.

INTRODUCTION

The human T-lymphotropic virus (HTLV) is a retrovirus belonging to the Retroviridae family. HTLV can infect cells of the human immune system and has tropism for T-lymphocytes (T-cells). The virus is transmitted via body fluids and is responsible for a wide range of diseases, including a demyelinating disease called HTLV-1-associated myelopathy/tropical spastic paraparesis (HAM/TSP). HAM/TSP is characterized by the slow and progressive development of myelopathy, as well as leukoencephalopathy and lymphoma in adult T-cells. HTLV-1 is endemic in many regions of the world, more common in adult women, and usually insidious, but may be sudden. There is a high prevalence of HTLV-1 in southern Japan, the Caribbean, Africa, South America, Papua New Guinea, the Middle East, Australia, and Southeast Italy. In Brazil, HTLV-1 is found in several states, but is more prevalent in certain regions, such as in the Northeast, particularly Maranhão, where the prevalence is up to 10 per 1000 blood donors.

HTLV-1-associated myelopathy/tropical spastic paraparesis (HAM/TSP) is a demyelinating disease with inflammatory changes in the central nervous system. HTLV-1 is predominantly transmitted via blood; however, vertical and sexual transmission is also possible. HAM/TSP is characterized by neurological manifestations, such as chronic spastic paraparesis, impaired gait, and weakness in the lower limbs. Other symptoms include sphincter signs and symptoms such as bladder disorders (urinary urge incontinence and nocturia) and sensory symptoms including paresthesia, hyperreflexia of the lower limbs, and the presence of the Babinski sign.

Laboratory diagnosis is made by the identification of HTLV-1/2 antibodies in the blood and cerebrospinal fluid (CSF). Results are confirmed by Western blot or detection of proviral DNA in the blood or CSF.

In this study, a patient with HAM/TSP treated with interferon beta-1a was presented, with a good outcome.

CASE REPORT

A 21-year-old widowed female patient, with a history of infective dermatitis in childhood reported, decreased muscle strength in the upper and lower limbs, particularly on the right side. The patient was seen as a referral to the rehabilitation department. She was diagnosed with HTLV-1-associated myelopathy/tropical spastic paraparesis, confirmed by positive levels of HTLV in serum (ELISA: 3.15, Cut-Off: 0.18) and the CSF (ELISA: 2.57, Cut-Off: 0.18). Additionally, anti-HTLV confirmation was made using Western blot analyses.

The referral hospital also identified antibodies in the CSF and excluded mumps, cytomegalovirus, Epstein-Barr virus, schistosomiasis, herpes virus 1 and 2, rubella, measles, toxoplasmosis, and varicella-zoster virus.

(1) Departamento de Patologia, Universidade Federal do Maranhão, São Luis, MA, Brazil. E-mails: gracaviana@globo.com, cnsd_ma@uol.com.br
(2) Curso de Medicina, Universidade Federal do Maranhão, São Luis, MA, Brazil. E-mails: marcosantonio456@hotmail.com, victorlima_s@yahoo.com.br, natalia@hotmail.com, diego@hotmail.com

Correspondence to: Graça Maria de Castro Viana, Praça Madre Deus 1, Madre Deus, São Luis, MA, Brasil. E-mail: gracaviana@globo.com
Interferon beta-1a has been used to treat relapsing-remitting multiple sclerosis and has been shown to be beneficial in several trials. In HAM/TSP, only two studies evaluated interferon beta-1a treatment. One study used a dose of 60 mcg twice per week, which reduced tax-CD8+ cells, but did not reduce the proviral DNA load. The other study used a lower dose of 30 mcg every 15 days and noted good outcomes.

In this study, it was chosen to treat with interferon beta-1a instead of interferon alpha, because the latter has a daily dosage schedule rather than the simple weekly interferon beta-1a dosage.

Treatment with interferon beta-1a (3,000,000 IU) three times a week for 10 weeks improved the urinary and motor symptoms of the patient. Although interferon beta-1a may not be the standard treatment for HTLV-1-associated myelopathy/tropical spastic paraparesis, in this case it proved to be very promising. This underscores the need for more clinical studies using interferon beta-1a.

REFERENCES


Received: 8 August 2013
Accepted: 18 February 2014