

HTLV-1 ASSOCIATED TROPICAL SPASTIC PARAPARESIS IN AN AFRICAN PATIENT RESIDING IN BELGIUM

par

H. Taelman¹, F. Van Gompel¹, H. Wynants³, B. Van Vleymen³, P. Goubaux⁴,
J. Desmyter⁴ & P. Piot²

*Departments of Clinical Tropical Medicine¹ and Microbiology²,
Institute of Tropical Medicine and University Hospital, Nationalestraat 155, B-2000 Antwerpen,
Belgium, Department of Neurology³, University Hospital, Antwerp,
Belgium, Department of Microbiology⁴, Rega Institute and University Hospitals, Leuven,
Belgium*

In Africa, most reported cases of spastic paraparesis are of the acute onset epidemic form (1, 5, 6) which has been associated with the consumption of insufficiently processed cassava roots containing high amounts of cyanogenetic glycosides (2, 8). To our knowledge only 4 cases of the recently described endemic form of spastic paraparesis associated with HTLV-1 also called tropical spastic paraparesis (TSP), have been reported (3, 9).

We report a new case of HTLV-1 associated TSP in a Zairian patient residing in Belgium for more than 10 years. The patient is a 32-year old black man born in Mbandaka, Zaire, and raised since the age of 3 in Kinshasa. In 1977, he came to Belgium for study. His medical history, as well as that of his parents and relatives, were unremarkable. He belonged to the higher socio-economic level. In 1978 he started experiencing stiffness in his left lower limb and had increasing difficulties to play soccer. The condition progressed slowly and gradually without remission or attack until producing spastic paraparesis and bladder dysfunction without sensory impairment in 1980. Since then, the patient has a scissoring gait and needs a cane to walk.

Extensive investigations have been carried out repeatedly for the last 7 years but were unsuccessful in establishing the aetiology of the disease. In May 1988 he came to the clinical department of the Institute of Tropical Medicine for advice. Physical examination disclosed a typical pyramidal syndrome involving both lower limbs without sensory loss. Contrast myelography had been found normal previously and was not repeated. Findings on CT scan and magnetic resonance imaging of the brain and spinal cord and ophthalmological examination were normal, as were visual and brainstem auditory evoked potentials. Somatosensory evoked potentials of the lower limbs showed delayed cortical responses but lumbar responses were normal. Urodynamic studies confirmed dyssynergic troubles of the bladder. Peripheral blood and serum biochemical values including vitamine B12 and folate levels were all normal. CSF analysis showed 6 mononuclear cells/ μ l, total protein concentration of 59 mg/dl, glucose 59 mg/dl and absence of oligoclonal bands on electrophoresis. Screening for antibodies to *Treponema*, *Borrelia burgdorferi*, *Leptospira*, *Rickettsia*, *Filaria*, *Schistosoma*, *Taenia*, *Toxocara*, *Plasmodium*, *Trypanosoma*, *Toxoplasma*, HIV1, HIV2, in blood and CSF was negative.

Anti-HTLV-1 IgG, determined with the enzyme immuno-assay (DuPont) and the agglutination technique (Fujirebio) was strongly positive in serum and moderately in CSF. Immunofluorescence titers (MT-2 cells) were 800 in serum and 5 in CSF. Immunoblotting (DuPont) showed antibodies directed against p15, p19, p24, p26, p28, p32, p36, gp46, p53 in serum and antibodies to p19 and p24 in CSF. Findings in our patient are very similar to those of other patients with HTLV-1 associated TSP originating from tropical countries and diagnosed several years after residence in a western country (7, 9).

Further studies are needed to show whether this case is indicative of a new geographic focus of HTLV-1 associated TSP in Central Africa and to determine the prevalence of HTLV-1 infection in this area. Further to our findings we screened the sera of 12 patients with spastic paraparesis diagnosed at the Centre de Rééducation pour Handicapés Physiques of Kinshasa (Dr. L. Nkongolo) for HTLV-1 antibody. Four (33 %) of the sera were positive for HTLV-1 antibody.

This case may or may not be part of the cluster of HTLV-1 associated TSP recently identified in Lisala on an aerial distance of 400 km from Mbandaka, the provincial capital of Equateur and the birth place of our patient (4).

Received for publication on February 3, 1989.

REFERENCES

1. Anonymous. Surveillance of peripheral neuropathies. *Wkly Epid Rec* 1982; **28**: 213-14.
2. Cliff J, Lundqvist P, Martensson J, Rosling H, Sörbo B. Association of high cyanide and low sulphur intake in cassava-induced spastic paraparesis. *Lancet* 1985; **ii**: 1211-13.
3. Gessain A, Caudie C, Gout O *et al.* Intrathecal synthesis of antibodies to human T lymphotropic virus type 1 and the presence of IgG oligoclonal bands in the cerebrospinal fluid of patients with endemic tropical spastic paraparesis. *J Inf Dis* 1988; **157**: 1226-34.
4. Kazadi Kayembe, Goubau P, Desmyter J, Vlietinck R, Carton H. A cluster of HTLV-1 associated tropical spastic paraparesis in Equateur, Zaire: ethnic and familial distribution. Submitted for publication.
5. Ministry of Health, Mozambique. Montakassa: an epidemic of spastic paraparesis associated with chronic cyanide intoxication in a cassava staple area of Mozambique. 1. Epidemiology and clinical and laboratory findings in patients. *Bull Wld Hlth Org* 1984; **62**: 474-84.
6. Ministry of Health, Mozambique. Montakassa: an epidemic of spastic paraparesis associated with chronic cyanide intoxication in a cassava staple area of Mozambique. 2. Nutritional factors and hydrocyanic and content of cassava products. *Bull Wld Hlth Org* 1984; **62**: 485-92.
7. Newton M, Cruickshank K, Miller D, *et al.* Antibody to human T-lymphotropic virus type 1 in West-Indian-born UK residents with spastic paraparesis. *Lancet* 1987; **i**: 415-416.
8. Rosling H, Gessain A, de-Thé G, *et al.* Tropical and epidemic spastic paraparesis are different. *Lancet* 1988; **i**: 1222-23.
9. Ryberg B, Blomberg J, Klasse PJ. Tropical spastic paraparesis associated with human T lymphotropic virus type I in an east African neutralised in Sweden. *Br Med J* 1987; **295**: 1380-81.