LETTERS TO THE EDITOR

Febrile Hashimoto's encephalopathy

Hashimoto's encephalopathy is a rare association of Hashimoto's thyroiditis. The clinical course is often characterised by relapses.¹⁻² Persistent fever has not been previously recorded in the literature.

A 48 year old white woman was referred in April 1996 from a psychiatric clinic, where she had presented with psychotic episodes with gradual deterioration and been diagnosed as possibly having Creutzfeldt-Jakob disease. She was confused and had brisk tendon reflexes, an extensor left plantar response, bilateral moderate cogwheeling, action myoclonus, and nuchal rigidity. The gait was unstable and uncoordinated.

Puerperal psychosis occurred at the age of 22 and from the age of 30 she had periodic mild confusional states of about a week long. Hashimoto's thyroiditis was diagnosed 10 years before the neurological admission and since then the patient had been euthyroid on thyroxine replacement, although confusional states appeared periodically, roughly every 3-4 months.

After admission the clinical features changed, with variable stupor, generalised seizures and myoclonus, incontinence, and anorexia. There was a persistent fever which varied between 37.7 and 39°C, with little or no response to antipyretic drugs. Antiepileptic drugs achieved some control of the seizures.

Normal or negative laboratory tests included blood count, CSF analysis, erythrocyte sedimentation rate, liver and kidney function tests, coagulation screen, serum and CSF electrophoresis, immunoelectrophoresis, ANCA, anti-DNA, ASMA, antimitochondrial, antiphospholipid, and antinuclear antibodies, C reactive protein, tumour markers, serum copper, ceruloplasmin, serum electrolytes, vitamin B12 and folic acid, serological tests for HIV, HSV, HBV, CMV, syphilis, Widal, Wright, and PPD. Blood, CSF, and urine cultures were negative. The EEG showed diffuse slow activity. Brain CT and MRI were normal. T3, T4, TSH, FT3, and FT4, were normal but the titre of autoantibodies to thyroid peroxidase (Anti-TPO) was increased at 7000 mIU/l (normal value <60 mIU/l).

Treatment with prednisolone (70 mg/day) led to gradual improvement and the fever ceased promptly. Within 2 months the patient had fully recovered with only a residual external (left) plantar response. Decrease of the Anti-TPO (1000 mIU/l) titre paralleled the clinical improvement. The patient was discharged after 4 months having made a good recovery on 40 mg/day prednisolone and had no relapses during 3 subsequent years (maintenance prednisolone dose 15 mg every other day, Anti-TPO titre within normal range).

The clinical features in this case are compatible with a diagnosis of Hashimoto's encephalopathy with an associated fever. Both fever and Anti-TPO concentrations were suppressed with prednisolone treatment. Increase of TNF- α concentration is seen in

the serum of patients with autoimmune thyroiditis³ and this is known to act as an endogenous pyrogen.⁴ This mechanism may explain the persistent fever as a prominent symptom in our case.

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- 1 Brain L, Jellinek EH, Ball K. Hashimoto's disease and encephalopathy. *Lancet* 1966; ii:512-14.
- 2 Shaw PJ, Wall TJ, Newman PK, et al. Hashimoto's encephalopathy: a steroid-responsive disorder associated with high anti-thyroid antibody titers-report of 5 cases. *Neurology* 1991; 41:228-33.
- 3 L Kayser, H Broholm, D Francis, et al. Immunocytochemical localisation of tumour necrosis factor alpha in thyroid tissues from patients with neoplastic or autoimmune thyroid disorders. *Autoimmunity* 1996;23:91-7.
- 4 JA Gelfand, CA Diranelo, SM Wolff. Fever, including fever of unknown origin. *Harrison's principles of internal medicine*. Chapter 16, 13th ed;82-6.

Devic's neuromyelitis optica and HIV-1 infection

Neuromyelitis optica (Devic's syndrome) can be defined as a severe transverse myelitis, an acute unilateral or bilateral optic neuropathy, no clinical involvement beyond the spinal cord or optic nerves, and a monophasic or, rarely, a multiphasic illness.¹ Optic neuritis precedes transverse myelitis in 80% of cases, by less than 3 months in most cases. Neuromyelitis optica may occur as a result of demyelination from multiple sclerosis, but many differences have to be noted between neuromyelitis optica and multiple sclerosis. Neuromyelitis optica is not predominantly seen in the white ethnic group. Severe deficits after the acute episode are more frequent in neuromyelitis optica. Multiple sclerosis presenting as transverse myelitis is rare.² Oligoclonal bands in the CSF and white matter lesions on brain MRI are rare in neuromyelitis optica compared with over 90% of patients with definite multiple sclerosis. These two abnormalities can resolve in neuromyelitis optica but very rarely in multiple sclerosis. The high CSF protein concentration and pleiocytosis seen in 60% of cases are often more important in neuromyelitis optica. Swelling and signal change on MRI extending beyond a single segment are more frequent in neuromyelitis optica and cavitation can be seen. Most authors consider that neuromyelitis optica is often a variant of postviral acute disseminated encephalomyelitis mostly due to varicella zoster virus, but other causes have been identified—for example, systemic lupus erythematosus, antiphospholipid syndrome, and pulmonary tuberculosis. To the best of our knowledge, only one case of neuromyelitis optica (followed by a bilateral acute retinal necrosis) due to varicella zoster virus has been described in a patient with AIDS.³ We report the case of an HIV infected African woman developing neuromyelitis optica.

A 41 year old woman from the Congo Democratic Republic was admitted to hospital in March 1999 because of a 10 day progressive blindness of the left eye with optic disc oedema. There were left leg dysaesthe-

sias of 1 month duration and a T6 left sensory level was noted within the next few days. Progressive ascending paralysis of both legs without bowel or bladder dysfunction developed. HIV infection had been diagnosed 11 years earlier. Her CD4 lymphocyte count was 499/mm³ and her plasma viral load was 3.06 log (1150 RNA/ml). She received no treatment. Examination of CSF showed 57 white blood cells/mm³ (94% lymphocytes). Total protein concentration was 48 mg/dl. No oligoclonal bands were detected. Serology for syphilis and *Borrelia burgdorferi* and *Cryptococcus neoformans* antigen were negative in blood and CSF. Search for herpes simplex virus type 1 and 2, varicella zoster virus, cytomegalovirus, and Epstein-Barr virus by polymerase chain reaction remained negative in CSF. Serology for HTLV1 was negative. Interferon and angiotensin converting enzyme concentrations were normal in blood and CSF. Cultures of CSF were negative. Antinuclear and anticardiolipin antibodies were not detected. Brain MRI with and without gadolinium DPTA was normal. Spinal cord MRI disclosed four high signal intensity lesions on the T2 weighted sequence on T6, T7, T10, and T12 levels. Enhancement over the four segments was seen after intravenous gadolinium DPTA. The patient received 0.5 g/day intravenous methylprednisolone for 3 days. Subsequently, she was maintained on oral prednisone (80 mg/day) for 12 days and treatment with lamivudine (300 mg/day), zidovudine (600 mg/day), and nelfinavir (2250 mg/day) was started. Symptoms dramatically improved. The patient was able to walk alone without help after 10 days. Visual acuity returned to normal. Dysaesthesias were absent 1 month later. Three months later, plasmatic viral load was under 50 RNA/ml. Examination of CSF and MRI of the spinal cord gave normal results. There was no recurrence after a 5 month follow up.

Optic neuritis occurring in patients infected with HIV⁴ is usually due to syphilis or to opportunistic organisms such as varicella zoster virus¹, cytomegalovirus, *Cryptococcus*, *Histoplasma*, *Bartonella*, *Toxoplasma*, or *Mycobacterium tuberculosis*. The role of HIV itself is now well established. Intramedullary involvement in the course of HIV infection may result from HIV itself (vacuolar myelopathy), coinfection with HTLV1 in endemic areas, or transverse myelitis mostly due to varicella zoster virus, cytomegalovirus, or syphilis. Such infections were excluded in our patients. There are only few reports of multiple sclerosis-like illness occurring with HIV infection.⁵ Cases of sarcoidosis associated with HIV infection remain exceptional even when highly active antiretroviral therapy (HAART) is used⁶ (optic neuritis is rare in sarcoidosis and no case of neurosarcoidosis has been described with AIDS). Primary CNS lymphoma associated with HIV is associated with Epstein-Barr virus and may cause optic neuritis or spinal cord involvement. We think that multiple sclerosis, sarcoidosis, and lymphoma were excluded in our patient. Neuromyelitis optica without an identified cause can be seen in the course of HIV infection, even at an early stage of the disease, before immunodepression occurs.

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- 1 Mandler RN, Davis LE, Jeffery DR, *et al.* Devic's neuromyelitis optica: a clinicopathological study of eight patients. *Ann Neurol* 1993;34:162-8.
- 2 Blanche P, Passeron A, Gombert B, *et al.* Sarcoidosis and HIV infection. Influence of highly active antiretroviral therapy. *Br J Dermatol* 1999;140:1185.
- 3 Merle H, Smadja D, Cordoba A. Neuromyélite optique et nécrose rétinienne aiguë bilatérale d'origine zosterienne chez une patiente atteinte du SIDA. *J Fr Ophtalmol* 1998;21:381-6.
- 4 Winward KE, Hamed LM, Glaser JS. The spectrum of optic nerve disease in human immunodeficiency virus infection. *Am J Ophthalmol* 1989;107:373-80.
- 5 Berger JR, Tornatore C, Major EO, *et al.* Relapsing and remitting human immunodeficiency virus-associated leukoencephalomyelopathy. *Ann Neurol* 1992;31:34-8.

Hemiageusia from an ipsilateral multiple sclerosis plaque at the midpontine tegmentum

The exact location of the pontine gustatory pathway has not yet been clarified, probably because there are so few studies of taste in patients with well localised brainstem lesions.¹⁻³ Here we report on a patient with isolated hemiageusia and trigeminal sensory neuropathy from a single small pontine lesion.

A 46 year old woman experienced a burning sensation on the left side of the tongue. The next day she discovered a loss of taste on the entire left half of her tongue and numbness on the left side of her face. Neurological examination was normal except for hypaesthesia to pain, touch, and temperature sensation in all three divisions of the left trigeminal nerve, with decreased left corneal reflex and no weakness of masseters. Taste sensation was tested using separate solutions of 1.2 M NaCl, 0.47 M glucose, 0.17 M citric acid, and 2.52 mM quinine HCl. Marked disturbance on the left side involving the anterior two thirds and posterior one third of the tongue was noted with all four substances. Routine laboratory tests were normal. Analysis of CSF showed 8 lymphocytes/mm³, 46 mg/dl protein, increased quantitative intrathecal IgG, and oligoclonal bands. Visual evoked potentials, brainstem auditory evoked potentials, and somatosensory evoked potentials after both median and posterior tibial nerve stimulation were normal. The blink reflex was normal on stimulation on the right,

and when stimulated on the left, there was no R1 component and R2 responses were elicited normally. Masseter reflex was absent on the left side. Brain MRI demonstrated multiple bilateral hyperintense white matter signals in periventricular distribution on T2 weighted images, and a hyperintense small lesion in the lateral part of the left midpontine tegmentum that showed enhancement after gadolinium injection (figure A and B). After intravenous high dose methylprednisolone therapy there was no immediate improvement of the patient's neurological symptoms. In the follow up MRI after 3 months, the gadolinium enhanced pontine image had disappeared, the blink and masseter reflexes were normal, and trigeminal neuropathy and the taste disturbance had gradually reduced.

The present case supports the finding that unilateral pontine lesions result in ipsilateral gustatory deficits, suggesting that gustatory fibres ascend from the solitary nucleus in the medulla up to the homolateral pontine tegmentum without decussating.¹⁻³ Lower midbrain level decussation is supported by a recent report.³ Topography of gustatory pontine fibres has been discussed in cases with taste disturbance,^{1,3} and, as found here, the absence of limb sensory involvement with normal somatosensory evoked responses contradicts the widely accepted notion that the pontine medial lemniscus conveys taste. On the other hand, Uesaka *et al*² described a patient who presented with ageusia and ipsilateral truncal ataxia presumably due to brachium conjunctivum involvement, and, therefore, it was suggested that the adjacent parabrachial nucleus might constitute a pontine taste area. Our patient developed left sided hemiageusia and trigeminal sensory disturbance, and electrical stimulation on the left elicited no R1 response and absence of masseter reflex. These electrophysiological abnormalities imply ipsilateral brainstem lesions at the trigeminal principal sensory and motor nuclei, respectively.⁴ Moreover, MRI confirmed the existence of a new gadolinium-enhanced demyelinating lesion in the left midpontine tegmentum. The precise correlation between our patient's symptoms and the electrophysiological and MRI abnormalities indicates that the involvement of the central tegmental tract, which is the anatomical structure adjacent to the sensory and motor trigeminal nuclei at the midpontine level (figure C), is probably important in causing taste disturbance. According to this hypothesis, Norgren⁵ showed in primates that axons of neurons located in the solitary nucleus ascend in the central tegmental tract to the ventroposteromedial nucleus of the thalamus

without terminating first in the pontine parabrachial nucleus.

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- 1 Nakajima Y, Utsumi H, Takahashi H. Ipsilateral disturbance of taste due to pontine haemorrhage. *J Neurol* 1983;229:133-6.
- 2 Uesaka Y, Nose H, Ida M, *et al.* The pathway of gustatory fibers of the human ascends ipsilaterally in the pons. *Neurology* 1998;50:827-8.
- 3 Lee BC, Hwang SH, Rison R, *et al.* Central pathway of taste: clinical and MRI study. *Eur Neurol* 1998;39:200-3.
- 4 Hopf HC. Topodiagnostic value of brain stem reflexes. *Muscle Nerve* 1994;17:475-84.
- 5 Norgren R. Gustatory system. In: Paxinos G, *ed.* *The human nervous system*. San Diego: Academic Press, 1990:845-61.

Use of lamotrigine to treat paroxysmal kinesigenic choreoathetosis

We report the use of lamotrigine to treat paroxysmal kinesigenic choreoathetosis. Paroxysmal cases of kinesigenic choreoathetosis were first described in 1962 by Lishman *et al*¹ and the term "paroxysmal kinesigenic choreoathetosis" was first coined by Kertesz² in 1967. Recently, a more universal and potentially useful classification of these disorders has been proposed amending the terminology to "paroxysmal kinesigenic dyskinesia".³ However, we have used the more familiar terminology for our patient as it is more precise. The clinical features of paroxysmal kinesigenic choreoathetosis have been reviewed by Marsden and Luders.⁴

There is a male preponderance of the condition with about 50% of cases inherited as an autosomal dominant trait, the rest being sporadic. Attacks are precipitated by sudden movements or startle and may be unilateral, bilateral, or affect alternate sides. Often the cause is idiopathic but a few cases have been attributed to multiple sclerosis. There has been no clear evidence for seizure activity in this disorder even though the condition is very responsive to antiepileptic drugs such as phenytoin and carbamazepine.⁴

A 13 year old boy of unrelated parents and with no family history of neurological disorder presented with a 6 month history of muscle spasms affecting the left side of his body. Close questioning indicated that his symptoms were brought on during the initiation of sudden movements (such as starting

Gadolinium enhanced T1 weighted MRI of coronal (A) and axial (B) sections showing a high intensity lesion in the lateral portion of the left midpontine tegmentum. Diagram (C) showing the area clinically affected (shaded area). ML=medial lemniscus; CTT=central tegmental tract; Vs=trigeminal principal sensory nucleus; Vm=trigeminal motor nucleus.