References

1. Lebas, J., Malkin, J.E., Coquin, Y. *et al.* Cerebral tuberculomas developing during treatment of tuberculous meningitis. *Lancet* 1980, **2**: 84.
2. Loizou, L.A. & Anderson, M. Intracranial tuberculomas: correlation of computerised tomography with clinicopathological findings. *Q J Med* 1982, **201**: 104–114.
3. Teoh, R., Humphries, M.J. & O'Mahony, G. Symptomatic intracranial tuberculoma developing during treatment of tuberculosis: a report of 10 patients and review of the literature. *Q J Med* 1987, **241**: 449–460.
4. Teoh, R., Poon, W., Humphries, M.J. *et al.* Suprasellar tuberculoma developing during treatment of tuberculous meningitis requiring urgent surgical decompression. *J Neurol* 1988, **235**: 321–322.
5. Delandsheer, J.M., Dupont, A. & Christiaens, J.L. Tuberculome du nerf optique. *Neurochirurgie* 1966, **12**: 595–599.
6. Iraci, G., Giordano, R., Derosa, M. *et al.* Tuberculoma of the anterior optic pathways, case report. *J Neurosurg* 1980, **52**: 129–133.
7. Eckland, D.J.A., O'Neill, J.H. & Lightman, S.L. A pituitary tuberculoma. *J Neurol Neurosurg Psychiatr* 1987, **50**: 360–361.
8. Lesoin, F., Dubois, F., Rousseaux, M. *et al.* Tuberculomes chiasmatiques. Deux observations. *Semin Hop Paris* 1984, **60**: 1185–1188.
9. Schlernitzauer, D.A., Hodges, F.J. & Bagan, M. Tuberculoma of the left optic nerve and chiasm. *Arch Ophthalmol* 1971, **85**: 75–78.
10. Editorial. Immune reactions in tuberculosis. *Lancet* 1984, **1**: 204.

Postgrad Med J (1993) **69**, 149–150

© The Fellowship of Postgraduate Medicine, 1993

Useless hand of Oppenheim – magnetic resonance imaging findings

R.J. Coleman, L. Russon, K. Blanshard and S. Currie

Departments of Neurology and Neuroradiology, St James's University Hospital, Leeds, UK

Summary: A patient with multiple sclerosis developed a useless, deafferented left hand, as described previously by Oppenheim. Magnetic resonance imaging demonstrates that this is caused by an ipsilateral plaque of demyelination in the posterior columns of the cervical cord.

Introduction

In 1911 Oppenheim summarized his experiences of 'the different types of multiple sclerosis'. Among these he described the occurrence of 'sudden numbness and awkwardness of one arm' in which 'the sense of posture is most seriously affected'; he suggested that 'this apparent acute posterior myelitis cervicalis is but a stage of disseminated sclerosis'.¹ This clinical sign has become referred to as the 'useless hand of Oppenheim' and we report a patient in whom the site of the lesion responsible has been demonstrated.

Case report

A 38 year old man complained that he had lost the use of his left hand. Six years earlier he had presented with optic neuritis at which time nystig-

mus was also noted. Subsequent sensory disturbances in the limbs and episodes of leg weakness led to a clinical diagnosis of multiple sclerosis, supported by bilaterally delayed visual evoked responses and raised cerebrospinal fluid immunoglobulin concentrations. The current symptoms had begun with numbness of the left hand spreading over a few days to affect the left arm, trunk and leg. He then lost all use of his left hand and involuntary movements developed.

On examination he had a functionally useless left hand. There were continuous, slow, rhythmic flexion movements of the fingers on the left with a similar movement at the left wrist. The movements were present equally at rest and with the arms outstretched. The movements were involuntary and the patient could not feel the hand moving; they increased when the patient was distracted or closed his eyes. Joint position sense was absent in the fingers, wrist and elbow on the left and was impaired at the left shoulder. In addition there was subjective impairment of light touch sensation over the whole of the left upper limb and vibration sense

Correspondence: R.J. Coleman, M.D., M.R.C.P., Department of Neurology, Aberdeen Royal Infirmary, Foresterhill, Aberdeen AB9 2ZB, UK.

Accepted: 24 August 1992

was lost. There was no sensory loss in the right arm or either leg. Neurological examination revealed the following additional signs: bilateral optic pallor, a right relative afferent pupillary defect, nystagmus on right lateral gaze and generalized hyper-reflexia.

Magnetic resonance imaging (MRI) of the cervical cord (Figure 1) revealed a plaque of demyelination within the posterior columns

Figure 1 Mid-line sagittal magnetic resonance scan (T_2 -weighted image) of the cervical cord, showing a high signal plaque in the posterior columns.

between spinal levels C2 and C4, centrally placed and extending to the left.

Discussion

The spinal cord is a site commonly involved in multiple sclerosis both at initial presentation and in chronic disease. Cervical cord plaques give rise to weakness, numbness or tingling in one or more limbs, usually associated with one or more of the following characteristics: the sensation of a tight band around the trunk or a limb; sphincter disturbance; absent abdominal reflexes; extensor plantar responses; and Lhermitte's phenomenon (tingling down the spine brought on by neck flexion).²

The 'useless hand of Oppenheim' is a classical but rare manifestation of multiple sclerosis. Loss of function in one hand, associated with relatively normal power, is the result of severe position sense loss (deafferentation) as occurred in our patient. Until the recent advent of MRI it has not been possible to confirm in life the site of the lesion responsible.

In patients with multiple sclerosis, MRI allows the demonstration of lesions within the brain and spinal cord which cannot be imaged using other methods. MRI is becoming increasingly valuable in multiple sclerosis both for clinical management and in research.³ In patients with a cervical cord lesion, MRI can be used first to exclude a surgically treatable cause (such as a compressive tumour) and second to detect asymptomatic brain lesions which might support the diagnosis of multiple sclerosis. In patients with isolated cord lesions, MRI is more sensitive than combined visual and auditory evoked potentials in demonstrating the presence of clinically unsuspected lesions elsewhere in the central nervous system.⁴

Miller *et al.* have reported the results of MRI in 121 patients with non-compressive myelopathy. Of these, there were five patients with a severe proprioceptive deficit in one hand, all of whom had ipsilateral cervical cord lesions.⁵ Our findings support this observation that the 'useless hand of Oppenheim' in multiple sclerosis results from deafferentation caused by a plaque of demyelination at this site.

References

1. Oppenheim, H. Discussion on the different types of multiple sclerosis. *Br Med J* 1911, **2**: 729–733.
2. Matthews, W.B. Signs and symptoms. In: Matthews, W.B. (ed.) *McAlpine's Multiple Sclerosis*. Churchill Livingstone, Edinburgh, 1991, pp. 43–77.
3. McDonald, W.I. Multiple sclerosis: diagnostic optimism. *Br Med J* 1992, **304**: 1259–1260.
4. Ormerod, I.E.C., Miller, D.H., McDonald, W.I. *et al.* The role of NMR imaging in the assessment of multiple sclerosis and isolated neurological lesions. *Brain* 1987, **110**: 1579–1616.
5. Miller, D.H., McDonald, W.I., Blumhardt, L.D. *et al.* Magnetic resonance imaging in isolated noncompressive spinal cord syndromes. *Ann Neurol* 1987, **22**: 714–723.