Cyclosporin neurotoxicity in cardiac transplant recipient

Sir: We read with interest the report of Lane RJM et al1 explaining the toxicity of cyclosporin on the central nervous system through changes of the blood-brain barrier. However, we feel that their explanation concerning the abnormal MRI seems hazardous. Indeed patient 1 and patient 3 described in the report experienced status epilepticus a few days before the MRI. The occurrence of CT scan hypodensities slightly enhanced by contrast injection following severe epileptic seizures is well described.2 4 These hypodensities spontaneously regresse within months and are thought to be due to alterations of the blood-brain barrier produced by local hypoxia, lactic acidosis and loss of vascular autoregulation.

Furthemore, MRI T2-weighted abnormalities were described by Stone et al1 in one patient and Lesser et al2 in three patients with intractable focal seizure. These abnormalities were not correlated with the findings on subsequent pathologic examination.

Thus, it seems that the MRI features in Lane’s report are probably due to the seizures. The sensitivity of MRI will probably lead to the description of more transient abnormalities secondary to severe epileptic seizures.

In consequence, the discovery of abnormal signal on MRI following severe epileptic seizures cannot be considered as an unequivocal proof of toxic effects of cyclosporin on the blood-brain barrier.

References


Lane and Langes reply:

We thank Dr Mavroudakis and Dr Zegers de Beyl for their interesting suggestion regarding the cause of the reversible MRI signals in our cases, but suspect their hypothesis may be equally hazardous.

First, the transient CT scan abnormalities in the papers cited were single hemispheric lesions; Sethi et al provide further examples.1 Our patients had multiple MRI abnormalities, including one cerebellar hemisphere lesion, and CT was normal in all cases. Secondly, MRI abnormalities have been reported in patients with cyclosporin neurotoxicity in the absence of seizures.2 3 The distribution of the MRI (and CT) abnormalities in these cases of liver transplantation was somewhat different from our cardiac transplant patients, being strikingly occipital and largely confined to the white matter, but this may be a reflection of differing aggravating factors in the two situations; low blood cholesterol in liver transplant patients4 and possibly hypomagnesaemia in the cardiac patients. Thus, while we cannot entirely discount a contribution from the seizures to the MRI appearances we still feel that they are more likely to be related to the neurotoxic effects of the drug.

References

upper arm (two patients) or forearm (one patient).

These patients were convinced in their own minds that the pain was related to the onset of their Parkinson's disease even though in some cases there was an interval of up to a year before other, more usual Parkinsonian symptoms appeared. Classical symptoms of the disease always appeared first on the same side as the pain. One patient who experienced pain in the left shoulder and leg developed tremor in the left leg 6 months after pain onset. Riley et al found that patients who had experienced shoulder pain were more likely to develop bradykinesia as the first classical Parkinsonian symptom. However, we found that tremor (n = 7) was as likely to be the first classical symptom as bradykinesia (n = 8).

Eight patients had sought medical advice for their pain prior to the diagnosis of Parkinson's disease and were diagnosed as having frozen shoulder. At presentation, signs of Parkinson's disease were detected in three of these patients but the two disorders were considered by the examining physician to be unrelated.

Riley et al found that frozen shoulder occurred more often prior to, or simultaneously with, the onset of Parkinson's disease than after disease onset. Our data do not allow us to comment upon the incidence of limb pain after Parkinson's disease onset. However, our findings support the conclusions of Riley et al that pain in Parkinson's disease is not necessarily a result of reduced mobility in the advanced stages of the disease and that frozen shoulder should be recognised as a presenting symptom of Parkinson's disease.

Book reviews


The clear pathological findings in many neurological diseases have allowed techniques for the determinations of neurotransmitters and their receptors to be applied, and with the identification of specific deficits which may be responsible for the symptoms of the illness. In some, particularly Parkinson's disease, this has led to a clear concept of the primary deficits in the disease and the type of treatment required. In most neurological diseases, however, effective treatment is still not available and further effort is needed to identify the critical features of the pathological process.

The title of the book leads you to believe that it deals with receptors and ligands in neurological disorders but this is not the case. First, there is a problem over what constitutes a neurological disease rather than a psychiatric illness. Thus, there are chapters on Alzheimer's disease, Gilles de la Trousse syndrome and attention disorders. Other chapters cover Huntington's chorea, myasthenia gravis, epilepsy, sleep disorders and transplantation. These vary from highly effective reviews of whole areas to highly specific insights into specialised topics. There are also strange omissions; for example, there is little specifically related to Parkinson's disease and other basal ganglia disorders (with the exception of Huntington's chorea). The central role of dopamine in movement disorders receives virtually no cover whatsoever. Cerebellar disease and stroke do not appear to exist yet there is space for a chapter on the role of aluminium in Alzheimer's disease in a volume dedicated to receptors.

The volume is indeed a strange collection of topics which totally lacks cohesiveness and in which it is difficult to find the criteria for selection. The reader may find some good reviews but will be disappointed by the lack of a thorough overview of receptor research in neurology.

P JENNER


This volume is derived from the proceedings of a workshop held on the subject of the book's title, in Sorrento, Italy in May 1987. Considerable editorial skill must have been required to have fashioned the book, with its comprehensive coverage of the subject and so little repetition.

There are 24 articles by 62 authors on aspects of non-invasive electrical and magnetic stimulation. The book is divided into four sections. The first is on the anatomy and physiology of the motor cortex and its pathways, and contains much information which would otherwise have remained somewhat inaccessible to clinicians. The second

Matters arising

References
