Matters arising

A Creutzfeldt-Jakob like syndrome due to lithium toxicity.

Sir: Smith and Kocen¹ recently reported two patients with a Creutzfeldt-Jakob like syndrome due to lithium toxicity. We report two additional subjects with a lithium induced organic brain syndrome with myoclonus and pseudoperiodic EEG discharges. In one case a confusional state appeared during maintenance therapy (lithium carbonate, 450 mg daily with serum level always in the normal range before hospitalisation), while in the other case organic brain syndrome with choreo-athetoid movements and action myoclonus was associated with elevated serum levels (2.6 mEq/l). In both cases a complete clinical and EEG recovery occurred. Clinical and EEG features are summarized in the table.

Although there are several reports regarding lithium toxicity on the central and peripheral nervous system,²⁻⁷ to our knowledge action myoclonus⁸ and periodic-like complexes have rarely been described.¹

Our cases confirm that a Creutzfeldt-Jakob like syndrome may be due to lithium toxicity. In psychiatric patients toxic conditions such as barbiturate intoxication, withdrawal states and psychotropic drugs overdose^{9,10} must be always considered in the pathogenesis of periodic EEG discharges even when clinical features and EEG suggest a diagnosis of Creutzfeldt-Jakob disease.

Our data clearly confirm the diagnostic value of serial EEG records in the differential diagnosis between toxic encephalopathy and Creutzfeldt-Jakob disease.^{11,12}

A PRIMAVERA
G BRUSA
MG POETA

Department of Neurology,
University of Genoa,
Via De Toni 5,
16132 Genoa,
Italy

Transient feelings of compulsion caused by hemispheric lesions in three cases

Sir: The description by Ward¹ of transient feelings of compulsion caused by hemispheric (frontal) lesion is reminiscent, as emphasised by the author, of the old and important problem of the organic basis of a trouble generally considered as purely psychologic in nature.

Encephalitic lethargica yielded number of observations with obsessive-compulsive trouble (OCT), suggesting an implication of the basal ganglia which are predominantly altered in this disease. OCT in Gilles de la Tourette disease is similarly suggestive.

Recently, in patients who had suffered from an anoxic encephalopathy, and who developed OCT, we discovered bilateral basal ganglia lesions. No other brain damage was shown by CT and MRI.^{2,4} Two other cases have been also reported.⁵

Another point of interest is that this trouble was included in a general neuropsychological pattern suggesting the functional implication of frontal lobes.⁶

This leads back to the conclusion of Ward, suggesting a role of the frontal lobe disturbances in the occurrence of OCT.

D LAPLANE
Groupe Hospitalier Pitié-salpêtrière,
47, boulevard de l'Hôpital,
75651 Paris,
Cedex 13

References

- 1 Smith SJM, Kocen RS. A Creutzfeldt-Jakob like syndrome due to lithium toxicity. *J Neurol Neurosurg Psychiatry* 1988;51:120-3.
- 2 Agulnik PL, Dimascio A, Moore P. Acute brain syndrome associated with lithium therapy. *Am J Psychiatry* 1972;129:133-5.
- 3 Donaldson IM, Cunningham J. Persisting neurologic sequelae of Lithium Carbonate therapy. *Arch Neurol* 1983;40:747-51.
- 4 Ghadirian AM, Lehmann HE. Neurological side effects of lithium: organic brain syndrome, seizures, extrapyramidal side effects, and EEG changes. *Compr Psychiat* 1980;21:327-35.
- 5 Sansone ME, Ziegler DK. Lithium toxicity: a review of neurologic complications. *Clin Neuropharmacol* 1985;8:242-8.
- 6 Schou M. Lithium in psychiatric therapy and prophylaxis. *J Psychiatr Res* 1968;6:67-95.
- 7 Smith RE, Helms P. Adverse effects of lithium therapy in the acutely ill elderly patients. *J Clin Psychiatry* 1982;43:94-9.
- 8 Rosen PB, Stevens R. Action myoclonus in lithium toxicity. *Ann Neurol* 1983;13:221-2.
- 9 Mellerio F. Activités épileptiques au cours des intoxications aiguës. *Rev Electroencephalogr Neurophysiol Clin* 1971;1:93-4.
- 10 Sweden B, Hoste S. Periodic EEG discharges in Psychiatry. *Eur Neurol* 1983;22:359-66.
- 11 Obrecht R, Okhamina FO, Scott DF. Value of EEG in acute confusional state. *J Neurol Neurosurg Psychiatry* 1979;42:75-7.
- 12 Primavera A, Folis E, Abbruzzese M. Organic brain syndrome: diagnostic value of the EEG. *JAMA* 1983;250:34-5.

References

- 1 Ward CD. Transient feelings of compulsion caused by hemispheric lesions: three cases. *J Neurol Neurosurg Psychiatry* 1988;51:266-8.
- 2 Laplane D, Widlocher D, Pillon B, Baulac M, Binoux F. Comportement compulsif d'allure obsessionnelle par nécrose circonscrite bilatérale pallido-striatale. Encéphalopathie par piqure de guêpe. *Rev Neurol (Paris)* 1981;137:269-76.
- 3 Laplane D, Baulac M, Pillon B, Panayotopoulos Achimastos I. Perte de l'auto-activation psychique. Activité compulsive d'allure obsessionnelle. Lésion lenticulaire bilatérale. *Rev Neurol (Paris)* 1982;138:137-41.
- 4 Laplane D, Boulliat J, Baron JC, Pillon B, Baulac M. Comportement compulsif d'allure obsessionnelle par lésion bilatérale des noyaux lenticulaires. Un nouveau cas. *L'encéphale* 1988;14:27-32.
- 5 Ali-Cherif A, Royere ML, Gosset A, Poncet M, Salamon G, Khalil R. Trouble du comportement et de l'activité mentale après intoxication, oxycarbonée. Lésion pallidale bilatérale. *Rev Neurol (Paris)* 1984;140:401-5.
- 6 Laplane D, Baulac M, Widlocher D, Dubois B. Pure psychic akinesia with bilateral lesions of basal ganglia. *J Neurol Neurosurg Psychiatry* 1984;47:377-85.

Table Features of the two cases

	Case 1	Case 2
Age (yr)	59	56
Sex	F	M
Diagnosis	Manic-depressive psychosis	Depressive psychosis
Lithium therapy:		
dosage	900 mg/daily	450 mg/daily
duration	3 years	10 years
blood level	2.6 mmol/l	na*
Neurological examination	Confusional state, myoclonus of face, arms and legs, athetoid movements	Psychorganic syndrome
EEG	Periodic-like complexes at 0.5-1.5 Hz	Periodic-like complexes at 1-2 Hz
Follow-up	Clinical and EEG normalisation in 4 weeks	Clinical and EEG normalisation in 12 weeks

*na: lithium was discontinued a few days before hospitalization.