

Correspondence

Letters for publication in the Correspondence columns should be addressed to:

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COGNITIVE FUNCTION IN PATIENTS ON LITHIUM THERAPY

DEAR SIR,

We have recently completed a double-blind controlled clinical trial of lithium carbonate in the treatment of patients with Huntington's chorea, and the results have been published elsewhere (Aminoff and Marshall, 1974). During the course of this trial, we found that lithium therapy caused a deterioration in the performance of patients in tests of cognitive function. Since lithium has an important role in the treatment of certain categories of psychiatric patients, we felt that it would be important to bring further details of these changes to the attention of your readers.

Nine patients with Huntington's chorea participated in the trial. Their clinical features, and the manner in which the study was performed, have been described in our original paper. Cognitive function was evaluated by two of us, without knowledge of the patients' medication, using eight sub-tests of the Wechsler Adult Intelligence scale. Each patient was assessed before commencement of the trial, after treatment with lithium, and after placebo medication.

Assessment of cognitive function at the commencement of the trial showed that the mean score for our series of patients on the Wechsler Full Scale IQ was 74.2 (range 66-92). All patients were considered to have some degree of intellectual deterioration from their pre-morbid level, as judged by their past educational and occupational histories. Fig. 1 shows the mean increments and decrements subsequently found during lithium and placebo medication in the scores for the eight sub-tests used in the assessment. The mean scores obtained in all sub-tests during lithium treatment were significantly lower than those obtained at the commencement of the trial and those found after placebo medication ($p < 0.01$ in both cases for all sub-tests except for digit symbol, where the difference between scores after placebo and lithium treatment was significant at $p < 0.05$ level). Statistical comparisons were made using the Wilcoxon matched-pairs signed-ranks

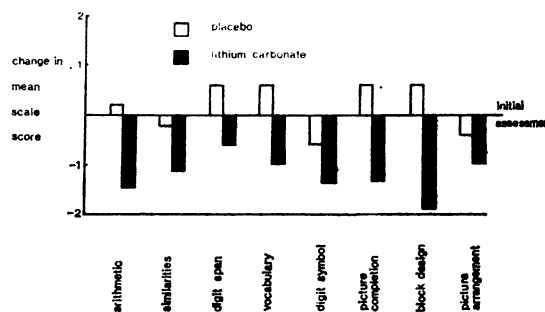


FIG. 1.

test. When the full scale IQ during lithium treatment was compared to that obtained during placebo medication for each patient there was a decrement in score which ranged from 0-16 points (mean 8.2).

In view of the possibility that the decrement in IQ score during lithium treatment was related to the degree of pre-existing dementia a Spearman rank correlation was calculated between the full scale IQ scores at the commencement of the trial and the subsequent drop in IQ points during lithium treatment, but no evidence of such a relationship was found ($r = 0.16$). Similarly, there was no evidence of an association between the decrement in IQ during lithium treatment and the other medication that some patients were receiving.

Thus there is a reversible impairment of cognitive function during treatment with lithium carbonate in patients with Huntington's chorea. It may be that this occurs only in patients with pre-existing dementia, but the degree of intellectual impairment which we found with lithium was not related to the degree of dementia in our patients. It is, of course, well recognized that mental symptoms may occur as toxic manifestations of lithium therapy (Shopsin and Gershon, 1973) but there was no evidence of toxicity in our patients at the time of assessment. It may be, therefore, that the benefits of mood changes in psychiatric patients on lithium therapy have masked an underlying change in cognitive function which

occurs in the absence of clinical or laboratory signs of toxicity. Further studies are necessary to resolve this point.

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- SHOPSIN, B. & GERSHON, S. (1973) Pharmacology— toxicology of the lithium ion. In *Lithium, its Role in Psychiatric Research and Treatment* (ed. Gershon, S. & Shopsin, B.), pp. 107-46. New York-London: Plenum Press.

EFFECT OF LITHIUM ON DISTURBED
SEVERELY MENTALLY RETARDED
PATIENTS

DEAR SIR,

We wish to report on the therapeutic effects of lithium salts on the disturbed behaviour in severely mentally retarded patients.

Ten patients (six male and four female) were selected for a trial period of twelve weeks to observe the therapeutic effect of 'Lithium Phasal'. All were severely mentally retarded and displayed aggressive and self-mutilating behaviour. Previous treatment with various tranquillizers and behaviour modification therapy had had little or no effect. Two of the patients were well controlled epileptics: The age of the patients ranged between 16 and 58 years and most of them had been in hospital for more than eight years. A simple rating scale was used to assess the patients' behaviour with regard to aggressiveness, self-mutilating tendencies, affectivity, social behaviour and personal habits. During the trial period the patients were assessed every two weeks.

Following a full general physical examination, 'Lithium Phasal' was administered in doses of 900 mg. daily, in addition to the existing medication which was not changed for at least three months preceding the trial. Subsequently the dose was adjusted according to the lithium plasma level. Lithium tests were done weekly for the first four weeks and fortnightly thereafter. Serum lithium was maintained between 0.6-1.4 mEq./L. No side effects were observed.

We found that five out of the nine patients who

had aggressive tendencies showed significant improvement. Three patients improved slightly and in one there was no change. The outbursts of aggressive behaviour became less frequent and easier to control. The therapeutic effect of lithium treatment was found more evident in patients whose main problem was self-mutilating behaviour. Six of the eight patients with such tendencies improved to a point where self-mutilation ceased. One patient improved mildly and one patient showed no improvement. It was also noted that all the patients became less irritable, and more co-operative, and developed an increase in their social tolerances.

The result of this pilot study suggests that lithium salts have a significant effect on the disturbed behaviour in severely mentally retarded patients. Our findings agree with the findings of T. Dostal and P. Zvoloski concerning anti-aggressive propensity of lithium, but we were surprised that self-mutilating behaviour responded even better.

We hope that these findings will stimulate further studies on the use of lithium in this field.

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- DOSTAL, T. & ZVOLOSKI, P. (1970) Antiaggressive effect of lithium salts in severe mentally retarded adolescents. *Pharmacopsychiat.*, *5*, 203-207.

ABRUPT WITHDRAWAL OF
ANTIPARKINSONIAN DRUGS

DEAR SIR,

Referring to the paper by McClelland *et al.* (*Journal*, February 1974, *124*, 151-9), I feel that the practice of prescribing antiparkinsonian drugs with neuroleptics, particularly with depot drugs, remains an important safeguard for patients, unless further and longer term studies confirm the authors' findings.

Their reported relapse rate of 8 per cent extrapyramidal symptoms is much lower than that found in previous studies, but only 9 per cent of the patients studied were taking chlorpromazine (or equivalent) in doses of more than 100 mg. three times daily. Patients aged over 70 years were excluded, but these form a large proportion of long stay in-patients, and their exclusion, combined with that of out- and day-patients, may prejudice the relevance of the study. While the deterioration of some patients taking antiparkinsonian drugs may be 'statistically non-significant' this statement could be less meaningful