

the variety of roles which adenylylase plays in the body; this enzyme indeed would appear to be a vital link between cyclic AMP and many of the somatic symptoms linked to depressive and other psychiatric states (15).

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#### INTRACELLULAR LITHIUM AND CLINICAL RESPONSE

DEAR SIR,

The letter from Dr Cazzulo *et al* reporting their findings regarding clinical response to lithium carbonate (Li) treatment and the RBC Li—plasma Li ratio (*Journal*, March 1975, **126**, p 298) was read by us with interest. There are two important differences between their studies and our original report that low RBC Li—plasma Li ratio are associated with a good response (Mendels and Frazer, 1973).

Firstly, they appear to have studied the prophylactic efficacy of lithium salts rather than their

antidepressant effects, as was the case in our study. Our own observations suggest that these may be two distinct actions of Li, since we have seen a number of patients who do not show an antidepressant response but who do seem to benefit from the prophylactic action when maintained on Li therapy. As we have reviewed in detail elsewhere (Mendels, 1973; 1975), it appears that a larger proportion of patients with a bipolar primary affective disorder show an antidepressant response to Li than of patients with a unipolar primary affective disorder. It has been suggested that bipolar and unipolar patients benefit equally from the prophylactic effects of lithium (Schou, 1973), but this may not be the case. In a recent report Hullin *et al* (1975) suggest that patients with unipolar primary affective disorder actually do better on Li maintenance than bipolar patients.

Secondly, we have noted that the ratio is more variable among out-patients than among in-patients. Our report on the association between high RBC ratio and antidepressant response to Li was based on a group of in-patients. Variability in the ratio was less in these patients than in the out-patient groups studied by Cazzulo *et al* and recently by ourselves.

Cazzulo *et al* also report that the RBC Li—plasma Li ratio does not distinguish between bipolar and unipolar patients. Certainly the ratio overlaps between bipolar and unipolar patients and by itself cannot be used as a diagnostic criterion. However, the data reported by Cazzulo *et al* show that their unipolar patients had a mean ratio of  $0.44 \pm 0.04$  ( $\bar{x} \pm \text{SEM}$ ) and the bipolar group a mean ratio of  $0.60 \pm 0.04$  ( $p < 0.025$ , Student's *t* test). We have found a similar difference between these patient groups in a recently completed study. A group of out-patients were treated with Li during a depressive episode (all diagnosed as primary affective disorders) (Feighner, J. P. *et al*, 1972). They were seen at one- to two-week intervals for a period of two months, when their clinical status was rated and blood samples were obtained on the morning of their clinic visit for plasma and RBC Li level determinations (Frazer *et al*, 1972). At the end of two months the mean RBC Li—plasma Li ratio was computed for each patient. The ratio value for the first week on Li for each patient was omitted from the calculations, as this period was frequently one of changing Li dosage in order to achieve adequate plasma maintenance levels and might not accurately reflect the true ratio. We also omitted from the calculations a few values which were taken on days when patients admitted having taken their morning Li dose before their blood sample was drawn for lithium determination. There were three to six values for each patient. The mean ratio for the bipolar group is  $0.61 \pm 0.04$

SEM and that for the unipolar group is  $0.38 \pm 0.04$  SEM ( $p < 0.0005$  level, Student's *t* test). These values are in excellent agreement with those reported by Cazzulo *et al.* The significance of this difference is not yet clear; however, it is compatible with our observations that the antidepressant response to Li is more frequent among bipolars and that the antidepressant response is often associated with high RBC Li—plasma Li ratios.

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## THE NEW CHRONICS

DEAR SIR,

There is concern about the continued accretion of 'new chronic patients' in mental illness hospitals (1). We have carried out a survey of patients admit-

ted and remaining continuously for twelve months or more in a mental illness hospital of 950 beds (2.1 per thousand population). At the end of 1973 there were 531 who had been admitted before November 1967, although this number had fallen from 719 in the previous two years. The number admitted after December 1967 had stabilized by 1971 at between 180 and 200. This number, which is remaining fairly constant, perhaps represents the number of new chronic patients in mental illness hospitals, and it is equivalent to about 0.4 per thousand population. These patients are mainly in the older age groups and over half of them are over the age of 65; 64 per cent of the whole group are women. However, there were 60 patients under the age of 55. The death/discharge rate is about 35 per annum, and as the total remains constant this number represents the admissions rate, which is equivalent to 0.07 per thousand population per year.

We also examined the potential dispersal of this group. If there were ideal community facilities and sufficient general hospital geriatric services about one quarter (0.1 per thousand) would still require prolonged in-patient care in a mental illness hospital.

The estimates in this study are in line with those discussed by the Tripartite Committee in 1972 (2). Achievement of reduction of numbers depends in particular on development of professionally supervised residential accommodation for the mentally ill in the community. But many of these hostels would resemble villas and supervised open wards in existing mental illness hospitals, and patients might be at a disadvantage because they would be isolated from the rehabilitation facilities which only a large institution can provide.

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