

LEUCOCYTOSIS IN LITHIUM-TREATED OUTPATIENTS

DEAR SIR,

Lithium carbonate can cause a leucocytosis and neutrophilia when used for treating psychiatric patients. Lithium-treated patients have manifested total white blood cell counts (WBC) and absolute neutrophil counts outside the normal range and this could be confused with occult infection (Murphy *et al*, 1971). The possibility that these high values might be found in lithium-treated outpatients was investigated.

A comparison was made of the total WBC and absolute neutrophil counts of 50 outpatients on lithium, 50 inpatients on chlorpromazine (CPZ) and 50 normal controls. The CPZ group was included to control for the effects of the patients' condition. The groups were matched, with an average age of 36-40 years, and an age range of 18-70 years and each group consisted of 25 male and 25 female patients.

Total WBC counts were carried out on venous blood using an electron particle counter (Coulter Electronics Ltd.). Differential counts were done on Leishman stained films and the normal values used were those of Dacie and Lewis (1975).

The results are shown in the Table. The mean total WBC and absolute neutrophil counts were very similar for all groups. There was a significant difference ($P = 0.001$) between the lithium group and the normal controls but not between the two drug-treated groups. Twelve per cent of both lithium and CPZ patients had a leucocytosis beyond the normal range, that is one in eight, although no abnormal cell forms were seen in either group. But

the neutrophil and the total white cell counts were much higher in some drug-treated patients than in the controls—as shown in the higher range.

One in eight of both lithium and CPZ treated patients presented with a leucocytosis beyond the normal range that could be confused with an occult infection. None of these patients had clinical evidence of infection and CPZ has not been implicated in raised WBC values (Martindale, 1977). These high values are not readily attributable exclusively to lithium, CPZ or emotional state and would have to be investigated further because interpretation of such results must take into account environmental and physiological factors (Levi, 1972).

I am grateful to Dr J. L. Crammer, Dr M. E. Carruthers and Brian Everitt for their advice and encouragement.

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TABLE
White blood cell counts. All values given as cells/litre $\times 10^{-9}$

	WBC count	Mean	\pm SD	Range
<i>Lithium patients</i> (N = 50)	Total	8.93	2.22	5.4 - 14.2
	Neutrophils	5.99	1.84	2.24 - 10.79
	Lymphocytes	2.47	0.78	1.4 - 1.18
	[Lithium level in m.mol/litre	0.85	0.19	0.4 - 1.3]
<i>Normal controls</i> (N = 50)	Total	7.29	1.77	4.4 - 11.3
	Neutrophils	4.65	1.45	2.3 - 7.5
	Lymphocytes	2.3	0.77	0.9 - 3.5
<i>Chlorpromazine patients</i> (N = 50)	Total	7.84	2.91	4.4 - 21.0
	Neutrophils	5.34	2.66	2.07 - 17.0
	Lymphocytes	2.04	0.66	0.74 - 3.9