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LEADING ARTICLES

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MEDICAL PRACTICE

NEWS AND NOTES

SUPPLEMENT

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CORRESPONDENCE

We may return unduly long letters to the author for shortening so that we can offer readers as wide a selection as possible. We receive so many letters each week that we have to omit some of them. Letters should be typed with double spacing between lines and must be signed personally by all their authors, who should include their degrees. Letters critical of a paper may be sent to the authors of the paper so that their reply may appear in the same issue.

Antidepressant effects of electroconvulsive therapy

SIR,—Dr J F W Deakin's review of recent research into the antidepressant effects of electroconvulsive therapy (2 April, p 1083) and the comments by Dr C L Katona and Dr C R Aldridge (30 April, p 1443) focus attention on the roles of high energy stimulation and seizure duration in treatment effectiveness. These factors may help to explain the experience of psychiatrists who have found bilateral electrode placement more effective than unilateral electrode placement.[1 2]

Bilateral treatment has been strongly criticised on clinical grounds.[3] Psychiatrists who use it have been accused of poor clinical practice and ignorance[4] and a lack of awareness of current research findings.[5] These are unlikely explanations for the use of bilateral electrodes in three of the four recent studies of depression, in which real and simulated electroconvulsive therapy were compared and in the work of Robin and de Tissera reviewed by Dr Deakin. This condemnation was precipitated by a report to the Royal College of Psychiatrists, which concluded: "In neither depression nor schizophrenia is there a significant difference between the results of unilateral and bilateral electroconvulsive therapy."[2]

The college report classified the outcomes of unilateral and bilateral electroconvulsive therapy agreed by both doctor and patient as good (defined as "great improvement"), fair ("moderate improvement"), poor ("little or no improvement") and worse. The table shows the results for depression given in table 18 of the report (percentages in parentheses). The proportion of good results with bilateral electroconvulsive therapy was significantly higher than with unilateral ($\chi^2=6{\cdot}37$, df=1, $p<0{\cdot}02$). The difference between all classes of outcome was also significant, though it was dominated by fair results which were proportionally higher with unilateral ($\chi^2=8{\cdot}64$, df=3, $p<0{\cdot}05$). Under the conditions studied bilateral electroconvulsive therapy was a significantly more effective treatment for depression than unilateral electroconvulsive therapy. The results for schizophrenia given in the report were similar in distribution but the numbers were much lower and differences of statistical significance were not given.

The authors of the report avoided these two variations of the chi square test (which were used to show other statistical differences) and failed to provide an alternative test of significance to support their conclusion. Apparently the good and fair results were classed together on the basis that they indicated some degree of recovery after electroconvulsive therapy. This approach is not acceptable for three reasons. Firstly, "great improvements" in psychiatric illness (which were classed as good in the report) tend to be outstanding and readily recognisable whereas "moderate improvements" (fair) are less clearly identified; indeed all of the 1066 results classed as good for depression were agreed by doctor and patient, but a third of the 672 classed as fair were not. Secondly, the necessarily crude assessment of "moderate improvement" in the report fails to meet adequate standards of scientific reliability. Thirdly, the proportion of fair results (33% for unilateral and 25% for bilateral) is comparable with the proportion of depressed patients that has responded to placebo effects elsewhere,[6] responses that did not escape Dr Deakin's review.

Results of electroconvulsive therapy in patients with depression

	Good No (%)	Fair No (%)	Poor No (%)	Worse No (%)	Total No
Unilateral	207 (58)	117 (33)	31 (9)	1 (1)	356
Bilateral	827 (65)	320 (25)	110 (9)	7 (1)	1264

Papers in the *BMJ* continue to emphasise the care that should be taken in assessing the use and meaning of statistical tests in medical research (7 May, p 1485).[7] The same care should be taken in considering the conclusion in the college report about the effectiveness of electrode placements in electroconvulsive therapy. That conclusion is statistically unsound and clinically misleading.

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1 American Psychiatric Association Task Force. Electroconvulsive therapy. Report 14. Washington: American Psychiatric Association 1978:200.
2 Pippard J, Ellam L. Electroconvulsive treatment in Great Britain 1980. London: Gaskell (Royal College of Psychiatrists) 1981:162.
3 Kiloh LG. Electroconvulsive therapy. In: Paykel ES, ed. *Handbook of affective disorders*. Edinburgh: Churchill Livingstone 1982:262-75.
4 Anonymous. ECT in Britain: a shameful state of affairs. *Lancet* 1981;ii:1207-8.
5 Carson JA, Findlay ES, Grigor JMG. Electroconvulsive therapy. A Victorian surgey. *Aust Clin Rev* 1983 March: 16-9.
6 Greenblatt M, Grosser GH, Wechsler H. Differential response of hospitalised depressed patients to somatic therapy. *Am J Psychiatry* 1964;**120**:935-43.
7 Gore MS, Altman DG. *Statistics in practice*. London: British Medical Association 1982;100.