LETTERS TO EDITOR

PREDICTION OF ANTIDEPRESSANT EFFICACY FROM RESPONSE TO THE FIRST ECT

Sir,

Gupta et al (this issue of the journal) have presented an interesting study which examines response to the first ECT as a predictor of subsequent response to the treatment. I suspect that their data do not necessarily support their conclusions, and that response to the first ECT may actually be an unreliable index of ECT-responsiveness. Consider:

1. Gupta et al have proposed a 9% depression attenuation separator to differentiate potential responders from potential non-responders. This separator is small and is intuitively not logical; for example, a 10% figure would have made more sense. The choice of a non-intuitive figure suggests that the separation between responders and non-responders was very narrow. In other words, response to the first ECT may not clearly distinguish potential responders from non-responders.

   Next, by changing the definition of response, one patient shifted from the good to the poor response category. This altered the statistical significance of the results and confirms that there was poor separation between good and poor responders based on 9% response with the first ECT.

   Finally, if the authors had extended the ECT course to beyond 6 treatments, some patients classified as poor responders might have responded. These patients would probably have shown less than 9% response to the first ECT. With the addition of these patients to the good response group, the first ECT response construct would have been further weakened.

2. The first ECT response construct as a predictor of ECT responsiveness confuses two issues: efficiency, or the rate at which response is obtained, and efficacy, or the proportion of patients who respond to ECT. Any variable which alters efficiency will directly alter the response to the first ECT, and hence the value of a putative response predictor; such variables include clinical measures (Andrade et al., 1988), the electrical dose administered at each ECT session (Sackeim et al., 1993), and the frequency of administration of ECT (Lerer et al., 1995). The role of variables that alter efficacy is less clear, but it is conceivable that such variables may also have differing impacts on the degree of response obtained with the first treatment; several clinical and treatment variables which influence efficacy have been described (Andrade, 1990). Finally, the very definition of response may alter research results (Andrade and Gangadhar, 1989).

These issues suggest that a cutoff depression attenuation score will not work across all patients in all situations; more appropriately, a logistic regression equation requires to be built to predict response vs non-response using a range of relevant clinical and treatment variables. Such an equation can only be constructed from a large sample that has been extensively studied across a wide range of variables. Only at the end of such an exercise will it be possible to determine whether a significant percentage in the variance of responsiveness to ECT is predicted by the response to the first treatment.

The relevance of these comments is borne out by previous findings. Patients have been shown to improve dramatically with a single treatment (Rich, 1984) while others show no response at all to the initial treatments, and dramatic response thereafter (Andrade et al., 1990). Differing from the figures obtained by Gupta et al., we (Andrade et al., 1989) found that there was 29% attenuation in depression scores with the first ECT amongst responders to the treatment, while Segman et al. (1995) obtained a corresponding figure of 24%. Cutoffs to predict responsiveness have varied from 9% with the first ECT (Gupta et al.) to 15% with the first ECT (Andrade et al., 1989) to 30% with the sixth ECT (Segman et al., 1995).

I am aware that my criticisms attack my own earlier research (Andrade et al., 1989), but view the issue philosophically because progress does not always respect history. Finally, my caveats notwithstanding, I believe that Gupta et al. have presented useful data; with appropriate reinterpretation, these data can...
indicate the degree of initial response that may be expected in potential responders and nonresponders, when the same diagnostic criteria, selection criteria, treatment criteria and response criteria are applied.

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CHITTARANJAN ANDRADE, M.D., Additional Professor, Department of Psychopharmacology, National Institute of Mental Health and Neurosciences, Bangalore - 560 029.