THARYAN ET AL REPLY

Sir,

We appreciate the interest shown by Gangadhar & Janakiramaiah in our paper on unmodified ECT, the main aim of which was to stimulate a debate on the routine use of modified ECT in this country, given the paucity of anaesthetic and resuscitative facilities in many centers where ECT is administered. However, their comments on the validity of our inference appear based primarily on the assumption that the patients in our study treated with modified ECT were older and less physically fit than those treated with unmodified ECT.

The first assumption is erroneous as the data in Table 1 of our paper clearly states that the upper age range of 70 years and 59 years pertain to patients treated with *unmodified* ECT, who experienced myalgia or fractures respectively, and not to patients given *modified* ECT. The difference in the mean ages of patients in the two treatment groups was not significant. The second assumption is partly true in the observation that patients in our series treated with modified ECT had a higher prevalence of pre-existing musculo-skeletal complications; however, as highlighted in our paper, unmodified ECT was

given uneventfully to patients with a variety of coexisting cardiac, respiratory, metabolic and neurological disorders. Thus, though not randomly allocated, a selection bias would not explain the higher cardiac morbidity in patients treated with modified ECT.

The modification procedure we follow consists of hyperventilation with 100% oxygen prior to and after the stimulus, the use of hypnotic doses of thiopentone in the range of 100-300 mgs, muscle relaxation with 25-30 mgs of succinylcholine chloride (0.5 mgs/kg body weight), monitoring of seizure duration by the cuff method, and maintenance of a patent airway. Atropine is given as premedication for both modified as well as unmodified ECT in a standard dose of 0.6 mgs intramuscularly, 30 minutes prior to treatment; though this dose may be considered inadequate to prevent vagally stimulated arrhythmias (Allen et al, 1982), there is still a lack of evidence regarding the efficacy and need for routine anticholinergic premedication (American Psychiatric Association, 1990).

The focus of our study was on whether modified ECT is routinely indicated and our findings of less than 1% physical morbidity when unmodified ECT is administered by a trained team suggests that from a clinical stand point, modification of ECT is indicated primarily in the event of coexisting musculoskeletal disorders (2% of our cases). The change from unmodified to modified ECT in the west occurred largely due to socio-political and medico-legal reasons, but despite changes in technique, public attitudes to ECT have changed but little (Fox, 1993). The mortality of ECT actually increased sharply when modified ECT came into general use in the early 1950's and was largely attributable to ill-equipped psychiatrists assuming the role of anesthetists (Maclay, 1953). Modern ECT in the west is undoubtedly safe but is performed in well equipped settings under the supervision of anesthetists and involves a small number of patients at each session. This is far removed from the conditions under which ECT is administered in many centers in this country. Until data on the frequency of complications on modified ECT are made available from centers where it is routinely administered, and especially where psychiatrists are solely responsible for anaesthesia, it remains unclear what would be considered "the best current standards of care" with reference to ECT in the Indian context.

Our study remains the only attempt to provide data relevant to this issue and we reiterate our conclusion that the recommendation to routinely modify ECT is premature and requires further review.

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REFERENCES

Allen, J.M., Adrian, T.E., Cramer, P., Steinet, J. & Bloom, S.R. (1982) Acute rise of pancreatic polypeptide after electroconvulsive therapy. *British Journal of Psychiatry,* 141, 24-26.

American Psychiatric Association (1990) The practice of ECT: Recommendations for treatment, training and privileging. *Convulsive Therapy,* 6, 85-120.

Fox, H.A. (1993) Patients fear of and objection to electroconvulsive therapy. *Hospital and Community Psychiatry,* 44, 357-360.

Maclay, W.S. (1953). Death due to treatment. *Proceedings of the Royal Society of Medicine,* 46, 13-20.