and because of the realization that it was not going to be feasible to provide ECT, Ms. A was transferred to a state facility. Several months later I received word that Ms. A had died. She had suffered a hypotensive episode and cardiac arrest, possibly from a malignant neuroleptic syndrome.

Between her manic episodes Ms. A had functioned well. In addition to being a good student while carrying a job, she was an accomplished flutist. She was well loved by family, friends, and staff alike.

It is a dilemma for the physician who wants to provide ECT as a valuable and life-saving treatment option that the legal safeguards directed to ensure patient rights may present serious frustrations for sound therapeutic planning.

I write in hope of assisting a necessary change in public attitudes toward our real priorities, which are to provide better treatment as well as to ensure individual rights. They should not have to be mutually exclusive.

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Neuropathologic Effects of ECT

SIR: "Cognitive Impairment and Movement Disorder Associated with ECT" by Robert L. Ruff, M.D., Ph.D. (December 1980 issue), is indeed a significant contribution to the literature.

In his discussion Dr. Ruff noted that "ECT has been associated with superficial cerebral cortical hemorrhages," but that the CT scan in his patient showed the same frontal lobe atrophy before and after the three treatments that produced such dramatic clinical changes.

Actually, the neuropathologic changes most often encountered after ECT are petechial or capillary hemorrhages which are invisible on present-day CT scans (1). Chronically, of course, they may be expected to result in mild to moderate atrophy and this has been suggested by at least one recent study (2).

Dr. Ruff's patient appeared to have both chronic atrophy secondary to six previous courses of ECT as well as acute pinpoint bleeding to account for the clinical and EEG deterioration.

Templer and associates (3) previously reported cognitive impairment following ECT, but the lack of reports of movement disorders *and* dementia does not surprise me. Iatrogenic diseases generally go underreported and yet another case of brain damage caused by ECT contradicts once again the anodyne reassurances of the proponents of this outmoded treatment.

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Dr. Ruff Replies

SIR: Dr. Friedberg is correct to indicate that the normal CT scan does not preclude the possibility of intraparenchymal capillary hemorrhage. As Dr. Friedberg indicated there is circumstantial evidence that repeated ECT treatments may produce atrophy. However, there is no direct evidence to support Dr. Friedberg's contention that this patient's cerebral atrophy was caused by her previous ECT treatments. It would be inappropriate to use this single case to condemn ECT.

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Prescription of Neuroleptic Drugs by Family Practice Residents

SIR: We conducted a retrospective review of the neuroleptics prescribed at the Medical University of South Carolina's Family Practice Center for approximately 3 years in order to document prescribing practices.

The charts of 73 patients were reviewed for compliance with the most recent NIMH guidelines (1).

The information we retrieved included age and sex, number of new prescriptions written, diagnoses, number of clinic visits, neuroleptics used, dosages, duration of therapy, concomitant psychotropics, antiparkinson agents, and extrapyramidal side effects.

The results indicated that optimal neuroleptic drug usage was not being achieved. Twenty-six percent of the patients' disorders were considered inappropriate for neuroleptic drug therapy and approximately 20% of the regimens used were outside the dosage range recommended by NIMH. Fixed combination products accounted for 14% of the medication usage; 77% of these regimens were lower than the recommended dosage. Polypsychopharmacy was common, with 35.6% of the patients receiving at least one additional psychotropic drug. We identified 19 cases (26%) of inappropriate psychotropic combinations.

Our findings paralleled those of Goldberg and associates (2) who recently studied the same group of residents and found that many of them admittedly felt uneasy dealing with behavioral problems in general. Goldberg and associates found a significant improvement in the residents' psychiatric assessments after individual instruction. We therefore recommend that residents receive advanced education concerning the proper use of neuroleptics. This would assure optimal treatment of the mental disorders once they have been accurately assessed.

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