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LOTHAR B. KALINOWSKY, M.D.

New York City.
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Gladys Saltzman, M.D.,
Brookline, Mass.

ADDITIONAL REMARKS ON THE DANGER OF PREMEDICATION
IN ELECTRIC CONVULSIVE THERAPY

Correspondence

Additional remarks on the danger of premedication

In electric convulsive therapy, there is a definite risk of
cardiac arrest, especially in patients with cardiac disease.

The problem of premedication with succinylcholine
chloride is not a new one. Since the introduction of
ect was frequently used to reduce the risk of
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Since we have started using succinylcholine chloride we have now had approximately 17,000 treatments with no deaths and no medical complications. Dr. Kalinowsky reports that he had heard of deaths due to succinylcholine chloride in personal communications but he does not state the cause of death. I am wondering whether death was due to respiratory failure without the correct use of oxygen under positive pressure or whether they were cardiac deaths.

I agree with Dr. Kalinowsky that succinylcholine chloride should not be used by every psychiatrist routinely or we shall have many more deaths. However, when a person skilled in anesthetic procedure assists, when oxygen is given routinely, I believe it is a very safe procedure and it is certainly less traumatic to the cardiovascular system. The 5 deaths from unpremedicated treatments were attributed mainly to coronary episodes and cardiac conditions. I am sure that with succinylcholine chloride those deaths would not have occurred because the stress on the cardiovascular system would have been that much less.

With our 17,000 treatments with succinylcholine chloride we have had no complaint of back pain and no fractures reported as compared with the 15% to 20% fractures reported when unpremedicated treatments are given.

In connection with Dr. Kalinowsky's statement that the question of its routine use has not yet been settled, I would like to give him my experience in the courtroom in the past 2 weeks. On April 3, 1953, when succinylcholine chloride treatment was first being introduced at Bournemid Hospital and we had treated only about 3-4 patients previous to that time, a man was treated without succinylcholine chloride and sustained a fracture of the 7th dorsal vertebra. He was subsequently treated with succinylcholine chloride and made an uneventful recovery. He then
CORRESPONDENCE

The correspondent instituted suit against the hospital and the private psychiatrist who treated him. This suit was defended in court and the case rested till the fact that succinylcholine chloride was not used on the first treatment. The plain-tiff's attorney introduced articles on the use of succinylcholine chloride and, in spite of the fact that succinylcholine chloride was not in general use at that time and was just being introduced, a verdict of $3,000 against the psychiatrist was returned by the jury. There was a directed verdict of no negligence against the hospital since the facilities were there and could have been used by the psychiatrist if he so desired.

Now the question we can ask is: if on April 1, 1953, when succinylcholine chloride was first being introduced and very few were using it, one of us was found guilty of negligence in not using it, what will happen in 1956 if a man does not use succinylcholine chloride and a fracture is sustained?

Dr. Kalinowsky also warns against the use of electric shock in patients on large doses of chlorpromazine and reserpine, and I have no objection to this even though at Boutonwood we have treated these patients using atropine, pentothal-succinylcholine chloride routinely with no untoward effects. I want to repeat that if succinylcholine chloride is used one should have experience with the method and be skilled in the technique of maintaining a patent airway and oxygen under positive pressure. I agree with Dr. Kalinowsky that the routine use of succinylcholine chloride by unskilled persons will lead to fatalities, but the effort should be made to train men in the use of succinylcholine chloride and/or to use nurse-anesthetists skilled in the procedure so that the goal of routine use of succinylcholine chloride can be attained.

CHARLES SALTZMAN, M.D.,
Brookline, Mass.

ADDITIONAL REMARKS ON THE DANGER OF PREMEDICATION IN ELECTRIC CONVULSIVE THERAPY

To the American Journal of Psychiatry:

Sir: The comments on my previous letter give me a welcome opportunity to amplify the points therein. To begin with the letter by Dr. Resch and his staff, it is known to me that many hospitals apply ECT during medication with chlorpromazine and reserpine without accident. The deaths reported in my letter should have been sufficient as a warning against this combination. I am now able to report on 2 more fatalities which Biniero introduced electric shock therapy, although I will not mention here. Considering the fact that in almost 20 years of experimentation with and routine use of ECT, the group at the Neuropsychiatric University Hospital in Rome lost only 1 patient, the 2 deaths within a short period of medication with chlorpromazine were significant enough to discontinue a combination which has not been proven superior to the subsequent application of the 2 treatments.

The problem of premedication with succinylcholine was added in my letter as evidence that any premedication adds to the risk of ECT. This did not mean a strict rejection of succinylcholine with which I am thoroughly familiar. I am treating many selected cases with large doses of succinylcholine with the assistance of an anesthetist; and at the New York Psychiatric Institute we are trying to evaluate the usefulness of small doses given without an anesthetist. Dr. Saltzmann, like most staunch advocates of the method, tries to explain accidents with poor technique. The personal communications mentioned in my first letter came from 2 extremely competent therapists, Baunier and Baumgartl, who, as early as 1953, gave an excellent and then favorable report on succinylcholine (Nervenarzt, 24: 66, 1953) and von Baeyer foremost electrotherapist. Baunier described his cases as cardiac deaths and rightly points out in his letter to INC that respiratory arrest, even of long duration, can always be controlled.

I wish to clarify my position in this matter. I cannot see why cardiovascular disease should be a reason to use muscle relaxants. The entire experience with ECT in patients with cardiac disease has shown that electrically induced convulsions do not increase cardiac decompensation any more than convulsions in epileptics. Recently I saw a threatening reaction with pentothal-atropine.
Editor, The American Journal of Psychiatry:

Sir: Being in contact with many psychiatrists who give electric convulsive therapy (ECT), I am greatly alarmed by personal communications on fatalities which remain unpublished because of understandable fear of law suits. The purpose of this brief note is to inform the profession and to warn against unnecessary use of various types of medication in connection with this treatment.

Death in ECT without premedication has been extremely rare. This is in accordance with the neurological experience that a convulsion in itself is a mechanism which the human body is able to stand very well. An analysis of the first report on fatalities in ECT showed that those who had died during the actual treatment had all received premedication with curare. In my own large experience with ECT the only fatality occurred in one of the few cases treated with curare. Muscle relaxation is now widely recommended with the less dangerous succinylcholine. Yet, this too undoubtedly adds to the risk of the treatment. Reports on fatalities are rare, but unpublished near-fatalities and deaths are sufficient reason to object to occasionally heard statements that administration of ECT without a muscle relaxant constitutes negligence. Knowing that in European countries succinylcholine is even more widely used than here, I wrote to two European experts on electroconvulsive therapy. According to their answers, one of them discontinued succinylcholine after one fatality; the other had 2 fatalities with 15 mg. and 20 mg. succinylcholine respectively. Such occurrences cannot be minimized by the fact that many others have used this technique without untoward results.

The fact that intravenous barbiturates have to be given in combination with the muscle relaxant add further to the potential risk although we all have to use intravenous barbiturates even without muscle relaxation in selected cases to counteract postconvulsive excitement. It is undeniable, however, that respiratory difficulties are greater in such patients than in those treated without barbiturates.

Much more serious is the sharp rise of fatalities in patients who are under chlorpromazine and reserpine medication while given ECT. I received detailed reports on several such fatalities. One case each of death from ECT during chlorpromazine and reserpine medication will be quoted briefly. A man, age 55, suffering from a depression, had a blood pressure of 145/90 and a normal EKG. He took a first tablet of 50 mg. of Thorazine the evening before the first ECT and a second tablet of 50 mg. of Thorazine the morning of the treatment. After the convolution he resumed normal respiration but expired a minute later. No autopsy.

A physically healthy young man, age 20, who had received ECT before, was placed on reserpine, 1 mg., b.i.d. during a relapse of his schizophrenic symptoms. During this medication ECT was resumed, and he died in the 8th treatment with signs of cardiac arrest. Autopsy revealed only pulmonary and cerebral edema. The psychiatrist who treated him also reports 5 near-fatalities in patients who had taken reserpine 1 mg., b.i.d. for at least 2 or 3 weeks. They became ashen in color and showed signs rather of cardiac than respiratory arrest. He had had no similar experiences before he started, nor since he discontinued medication with reserpine in ECT patients.

That intravenous barbiturates add to the danger in such cases is suggested by a fatality in a man who took Thorazine only irregularly but who was given intravenous pentothal as premedication to his first electroshock treatment. The potentiating effect of chlorpromazine on barbiturates might have contributed to this accident.

Several days before ECT is instituted, since no convincing evidence has been brought forward that the combination of these drugs with ECT is therapeutically more effective than when they are given separately, their simultaneous use should be avoided.

Lothar B. Kalinowsky, M.D.
New York City.
PREMEDICATION IN ELECTRIC CONVULSIVE THERAPY

Editor, The American Journal of Psychiatry:

Sir: Following a discussion of Dr. Lothar Kalinowsky’s letter, in the March issue, page 745, of the American Journal of Psychiatry, cautioning the usage of chlorpromazine and reserpine combined with electroconvulsive therapy, the staff of Glenwood Hills Hospital, Minneapolis, would like to report their experience in using these medications with ECT.

Our neuropsychiatry staff consists of 34 members, all Board men or Board eligible. Our research committee has made a survey of the techniques employed by each doctor during a 3-month period from January 1, 1956, through March 31, 1956. A total of 2,823 electroshock treatments were administered. In practically every case chlorpromazine was combined with ECT in doses varying from 25 mg. to 100 mg., q.i.d. In addition to chlorpromazine, the larger percentage of the staff added atropine grs. 1/150, sodium pentothal, and succinylcholine chloride to their preshock routines. Five of the doctors have frequently used reserpine in doses of 0.25 mg. to 0.5 mg. q.i.d., combined with ECT and the above-mentioned drugs without ill effects. In only one case where reserpine was being administered in doses of 1.0 mg. q.i.d. was respiratory distress following ECT of concern. The reserpine was discontinued and the patient completed his course of ECT without complication.

The consensus of our staff that there has been no increase of complications resulting from the combination of tranquilizing drugs in usual doses with ECT. In this 3-month period there has been neither deaths nor fractures.

From this experience it has been concluded that there is no contraindication to continuing the use of these tranquilizing drugs in preparing patients for electroconvulsive therapy.

The Research Committee of Glenwood Hills Hospital Staff:

Joseph A. Resch, M.D., Chairman,
John W. Schut, M.D.,
Irving C. Bernstein, M.D.

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tion for muscle relaxants, aside from threatening hemorhages in subdural hematoma, bleeding ulcers and post-operative conditions, in the prevention of fractures of the long bones. Those of the spine have no clinical significance, and court decisions like the one mentioned by Dr. Saltzmann, as well as a similar one where a fusion operation had made the backache permanent, should not influence our medical judgment. In view of the greater risk for life, we must search our conscience and be sure that no legal considerations influence our medical judgment.

SIR: It seems to us that Drs. Dean's and Cahagan's interesting article (p. 661, Feb. 1946; p. 850, Apr. 1956) about ataractic drugs call for a little more clarification on the subject.

We would like to point out that the psychiatrist in private practice usually treats more neurotics than psychotics. The latter are found in mental hospitals and that is exactly where the greatest successes with ataractic or neuroplegic drugs, as they are also called, are reported. By now, it is well established that chlorpromazine and reserpine should not be given in depressive states unless accompanied by anxiety and agitation and, in this case, the ataractic drugs should be combined with antihypertensive drugs, like Amphetalline. Meritintrin, etc. It should also be remembered that ataractic drugs should be discontinued 1-2 days before electrocoma therapy is given in order to avoid serious complications.

We would like to cite 2 of our recent experiences of the subject. In the first case, a patient was suffering from severe depression with suicidal ideation. He was given chlorpromazine and recovered without any complications. However, in the second case, a patient was admitted with a history of depression and anxiety. He was given reserpine and again recovered without any complications. In both cases, the patients were monitored closely and the ataractic drugs were discontinued 1-2 days before electrocoma therapy was given.