

ECT Benefit Outweighs Risk in Most Cases

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succinylcholine for muscle relaxation was introduced, fractures were no longer a problem, and now there is no reason to obtain X-rays of the spine, he noted.

Dr. Weiner pointed out that partial X-rays of the spine are still obtained at his institution in screening those patients who need to be completely relaxed during ECT because of their orthopedic status and who thus require a much larger succinylcholine dose. "I think that spine X-rays are probably most justifiable in patients who have a history of back problems to start with," the X-rays also serve as documentation for medicolegal purposes, he said.

Skull X-rays have also been recommended for screening for intracerebral pathology prior to ECT, Dr. Abrams said, but skull films are insensitive for detecting pathology such as a brain tumor. If a space-occupying lesion is suspected, a tomographic scan of the brain may be indicated.

90% False-Positive Rate

Electroencephalography is a poor screening procedure because of its high sensitivity and low specificity in a psychiatric population; a considerable number of depressed and manic ECT candidates have abnormal electroencephalograms, usually featuring diffuse or focal slowing, but these abnormalities in no way predict a poor response to ECT, he said.

Determination of the pseudochoolinesterase level also is not indicated, because probably fewer than 1 in 3,000 people have pseudochoolinesterase deficiency, which would lead to prolonged apnea following ECT with succinylcholine muscle relaxation. More than 90% of the positive test results obtained in such testing are false positives, Dr. Abrams pointed out.

If a serious or unstable medical condition is discovered during pretreatment evaluation and a medical consultant is called in, "it's my view that the decision to give ECT is really the psychiatrist's, who can then balance what he knows and has been told of the nature, severity, and extent of the medical pathology with [that] of the psychiatric pathology, which may have a profound interaction," he said.

The purpose of the medical consultation is to obtain an expert opinion on

CHD Risk in Type A's

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latency, and explosiveness of speech—could be studied.

Results partially confirmed those of a study at Duke University Medical Center, Durham, N.C.: There was no correlation between type A behavior and extent of coronary artery disease; however, inward-directed anger and hostility level correlated with disease.

This suggests that the concept of coronary-prone behavior needs "significant reconceptualization," he said.

Dr. Dimsdale's associates in this study were Theodore M. Dembroski, Ph.D., and J. M. MacDougall, Ph.D., of the Stress Research Center, Eckerd College, St. Petersburg, Fla.

the patient's medical condition, not to obtain "clearance" for ECT, Dr. Abrams added.

In his presentation, Dr. Weiner said that "relative contraindications" to ECT include recent myocardial infarction, recent cerebrovascular accident, severe hypertension, and presence of a space-occupying intracerebral lesion.

Electroconvulsive therapy is associated with a variety of autonomic and metabolic effects on the cardiovascular, pulmonary, central nervous, and other physiologic systems.

During ECT, the systemic blood pressure and heart rate fluctuate rapidly, but in nearly all cases the only adverse sequelae are mild, transient cardiac arrhythmias.

Estimates of the mortality of ECT, predominantly attributable to cardiovascular complications, range from 1:1,000 to 1:10,000, Dr. Weiner noted.

Possible cardiovascular complications include ischemia, ectopic arrhythmia, and vascular accident, which is extremely rare.

Bradycardia and tachycardia normally occur during ECT in 10-20% of patients who do not have underlying cardiac disease, and more frequently in those who do.

Metabolically, ECT is associated with transient hyperglycemia, hyperkalemia, increased catecholamine discharge, and corticosteroid depletion. Patients with diabetes undergoing ECT should have their fasting blood sugar level carefully monitored.

Pulmonary risks include prolonged apnea following ECT, Dr. Weiner commented.

Rare central nervous system risks in-

clude epilepsy, a prolonged seizure of more than 5 minutes, or status epilepticus.

More commonly, confusion, organic delirium, amnesia, and EEG slowing may occur.

The incidence of amnesia following ECT depends on the type of ECT administered: The incidence is much greater with bilateral than with unilateral electrode placement and is higher with high-energy than with low-energy stimuli, such as brief-pulse stimuli.

The incidence of organic delirium is very low with pulsed unilateral ECT, whereas sinusoidal bilateral ECT has a relatively high incidence, "probably



Dr. Abrams

depending on how you test for it, anywhere from 25 to 30% up to 50 to 75%," Dr. Weiner said.

Dr. Abrams cautioned that medications that might interact with ECT should be avoided, if possible. Lithium interacts with succinylcholine to prolong neuromuscular block and may increase the duration of apnea.

There have also been case reports of increased organic confusional symptoms after combined therapy with lithium and ECT.

Antibiotics such as streptomycin and related compounds as well as mono-

Nondominant Placement Cuts Post-ECT Amnesia

International Medical News Service

MADISON, Wis. — Unilateral electroconvulsive therapy, in which the electrodes are placed over the nondominant hemisphere, is associated with "dramatically reduced" post-ECT amnesia, confusion, and disorientation as well as with a more rapid emergence from the postictal state, compared with bilateral ECT, Dr. Richard Abrams said at an ECT update sponsored by the University of Wisconsin.

When treatment is not absolutely urgent, as in cases in which there is not an immediate danger to life or the patient is not rapidly deteriorating, "the cognitive advantages of unilateral ECT argue for an initial use of that method," said Dr. Abrams, professor and vice chairman of the department of psychiatry and behavioral sciences at the University of Health Sciences/Chicago Medical School, North Chicago.

These patients should be switched to bilateral ECT only if they fail to improve significantly after four to six treatments with unilateral ECT, he said.

Bilateral ECT, rather than unilateral treatment, should be used initially in more severely ill patients to provide the greatest possible opportunity for rapid improvement. These patients include depressed, middle-aged, suicidal men; patients in catatonic stupor; those with acute mania; and patients who are se-

amine oxidase inhibitors also should not be used with ECT, because they prolong the neuromuscular blockade of succinylcholine, he noted.

Several deaths secondary to cardiovascular collapse in patients receiving concomitant reserpine and ECT have been reported. If ECT must be administered to a patient receiving reserpine or its congeners, it is prudent to wait at least a week after discontinuing the medication before giving ECT, Dr. Abrams said.

Dr. Weiner noted that phenelzine, quinidine, and cholinesterase inhibitors may also cause prolonged apnea following the use of succinylcholine in ECT. Benzodiazepines and other sedative hypnotic agents and anticonvulsant medications greatly increase the electrical threshold for seizure, and lidocaine markedly decreases seizure duration.

The relapse rate after successful treatment for affective disorders is very high, from 20% to 50% within 6 months after a successful course of ECT, according to Dr. Abrams.

"I think it is reasonable and appropriate to always initiate maintenance treatment in the form of a tricyclic or lithium," he said.

For patients who relapse despite adequate drug therapy, maintenance ECT has been used successfully. Such patients are returned for additional ECT, even in the absence of any recurrent symptoms, a week after completion of the main course of ECT, again 2 weeks after that, then at 3 weeks, 4 weeks, and continued monthly intervals until 6 months have passed.

The treatments are then stopped because there is no clinical justification for prolonged maintenance ECT, Dr. Abrams said.

sinusoidal-current machine; pulsed current can induce a seizure with less electrical energy. There is also some evidence that pulsed current is associated with less cognitive and EEG disturbance than is sinusoidal current, regardless of whether the electrodes are placed in the bilateral or unilateral positions.

The results of several studies have demonstrated that memory disturbance is least with unilateral pulsed-current ECT and greatest with bilateral sinusoidal-current ECT, Dr. Abrams said.

The actual technique of electrode placement is critical in maximizing the efficiency of the electrical stimulus in ECT, particularly in the unilateral method.

Placement of one electrode over the frontal pole and the other over the parietal-occipital pole is very inefficient in inducing seizure and results in a great deal of shunting of the electrical stimuli through the scalp and extracerebral tissues.

The proper technique is to place the lower electrode about an inch above the imaginary midpoint joining the outer canthus of the eye and the external auditory meatus; this technique is used with bilateral ECT. The upper electrode in unilateral ECT is placed 3 inches above this, at or close to the vertex, he explained.