

### *Treating Catatonia, Optimizing ECT Technique*

In most instances, the treatment protocol for catatonia begins with medication trials, usually with benzodiazepines lorazepam, diazepam or zolpidem. Benzodiazepines are prescribed as soon as the syndrome is recognized. For patients with the sedated stuporous form of catatonia marked by mutism, withdrawal, and inhibition of movement, the dosage of lorazepam begins at 1mg to 3mg orally, progressing rapidly until symptom relief is seen. For severely ill patients, dosages of 15mg to 40mg/day have been necessary. (Diazepam dosages are calculated at ratios of 5mg to 1mg of lorazepam. Zolpidem dosages are reported up to 40mg/day.) In systematic studies of catatonia about 80% of the recognized cases respond to benzodiazepine treatment, leaving fewer than 20% requiring referral for ECT.

Catatonia appears in many forms, some retarded and relatively benign, but many malignant and life-threatening. Treating catatonia with ECT requires special attention. The bread and butter of ECT practitioners is the treatment of middle aged and elderly depressed patients. In these patients fears of cognitive deficits lead practitioners to severely weaken the electrical stimulus with decreasing treatment efficacy. Dosing with unilateral electrode placement, ultra-brief currents, low total stimulus charge and twice weekly treatments offer extremely weak treatments. When these types of ECT are applied in catatonia, especially in the more malignant forms of catatonia, the more seriously ill, they fail to relieve the catatonia syndrome.

In many instances referral for ECT follows high dosage trials of benzodiazepines. These agents interfere with the induction of the seizure, the therapeutic element for the relief of catatonia. The benzodiazepine antagonist flumazenil is effective in blocking the anticonvulsant actions of benzodiazepines, allowing full seizures to develop. To the common ECT treatment protocol of oxygenation, sedation with an anesthetic (methohexital, etomidate, propofol), administering an agent to block vagal activity (atropine, glycopyrrolate), it is necessary to administer flumazenil.<sup>1</sup>

For the manic patient requiring restraints, intramuscular ketamine is a useful alternative anesthetic.

In febrile, dehydrated, and overly excited delirious patients treatments are best administered daily. Bitemporal electrode placement with age-based suprathreshold dosing offer the best outcomes.<sup>2</sup> The fear of memory loss that plagues treatment in the depressed elderly is not relevant since the issue for catatonia is saving life and reversing negativism or delirium to assure a living patient.

A hurdle in applying ECT in catatonia is the requirement for individual signed consent, especially in the states with legislated restrictions on ECT practice. Practitioners need to be well acquainted with each state's laws and be agile in convincing their courts to approve treatment.<sup>3</sup>

The common practice of prescribing a set number of treatments is particularly dangerous in catatonia. No physician can anticipate how many treatments are necessary, and the guesstimate of a fixed number is associated with treatment failure and early relapse. Continuation ECT is necessary for all patients until the patient returns to the pre-illness state.

For decades ECT has been commonly prescribed for patients with major depression, less often for those with bipolar disorder, and infrequently for other

conditions. These are accepted indications for ECT. Since catatonia has been divorced from schizophrenia in the new APA DSM-5 classification, many treatable varieties have been identified, its recognition verified, and guidelines for effective treatment defined. Catatonia is a malignant disorder that requires the specialized treatments of benzodiazepines and ECT for effective outcomes. The prescription of neuroleptics is best interdicted. Practitioners need to consider the special needs of catatonia patients that are central to the services of their clinical practice.

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<sup>1</sup> Bailine SH, Safferman A, Vital-Herne J, Bernstein S. Flumazenil reversal of benzodiazepine-induced sedation for a patient with severe pre-ECT anxiety. *Convulsiv Ther* 1994; 10(1); 65-68.

<sup>2</sup> Petrides G, Fink M. The “half-age” stimulation strategy for ECT dosing. *Convulsive Ther* 1996; 12: 138-146.

<sup>3</sup> Ottosson, J-O, and Fink, M. *Ethics of Electroconvulsive Therapy*. New York: Brunner-Routledge, 2004.