

Electroshock therapy and brain damage: The acute organic brain syndrome as treatment

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The psychiatric literature is wondrous to behold and even more wondrous to review; from that vast body of research and opinion one can cull a mass of unqualified support for the efficacy and harmlessness of every imaginable assault upon the brain: classical prefrontal lobotomy, carbon dioxide asphyxiation, insulin coma, total body freezing, and poisoning with a variety of neurotoxins, such as arsenic and cyanide (for reviews, see Breggin 1979; 1981a; 1981b; 1983). Even when the treatments begin to fall into disrepute, as with classical prefrontal lobotomy and insulin coma, the reviews that appear in the literature will be almost uniformly positive to the bitter end.

In this light, it is certainly no surprise that a proponent of electroshock, Dr. Richard Weiner, should be able to use the literature in defense of ECT. More surprising, perhaps, this same strongly promotional ECT literature can be reviewed by a critic of the treatment who finds ample evidence for the dangerousness and destructiveness of the treatment (Breggin 1979; 1981a). The evidence consists of human and animal autopsy studies, animal behavioral and biochemical studies, human brain-wave research, psychological testing, and multiple clinical reports. In many instances, such as the animal autopsy literature, the studies reviewed may be the same, but the analyses and deductions are diametrically opposed. Short of reading the entire literature for themselves how, then, are intelligent, scientifically minded individuals to make up their own minds? They can start with common sense, an elementary knowledge of psychology and neurology, and most important, a genuine interest and concern for the actual experience of the patient undergoing the treatment.

From the viewpoint of the patient undergoing the treatment, there is one overriding fact about every form of convulsive therapy: *the production of an acute organic brain syndrome*. A series of artificially induced convulsions produces to one degree or another a generalized dysfunction of the brain and mind, characterized by disorientation, disruption of memory functions, impairment of intellectual functions and judgment, and emotional lability, varying from apathy to euphoria. Curiously enough, even attempts to alleviate depression by self-medication, such as sniffing glue (toluene intoxication) or drinking alcohol can produce symptoms of generalized central nervous system dysfunction.

It is therefore wrong and misleading to ask whether ECT can produce serious brain damage. It *always* produces serious brain damage as manifested in the acute organic brain syndrome. The question should be, Is it safe to assume that many or most patients experience a complete recovery from this trauma? Similarly, it is misleading to seek a subtle biochemical mechanism to explain the action of ECT (or any other trauma to the brain). We should ask ourselves more directly, How does an acute organic brain syndrome give the appearance of an improvement?

In regard to recovery from damage, my review of the literature suggests that the electrical current is the main culprit in producing the damage. It follows the path of least resistance throughout the brain, the vascular tree, producing vasospasm,

blanching, breakdown of the blood-brain barrier with the extravasation of toxic substances, petechial hemorrhages around the small blood vessels, glial reactions, and cell death (see Breggin 1979 for a detailed review).

That patients frequently complain about memory dysfunction long after ECT is well known. Weiner confirms that testing also demonstrates a loss of personal memories. That psychological tests for memory and other intellectual functions are frequently negative is irrelevant, since the tests are not used anywhere else in medicine or neurology to prove an absence of pathology. Rudimentary neurology tells us that a negative psychological test cannot rule out even a gross lesion in the brain, let alone subtle but widespread damage, such as that found in chronic drug intoxication or ECT.

What is the improvement seen following ECT? It is the direct effect of the acute organic brain syndrome, which not only blunts patients' memory and awareness of their problems, but produces a corresponding artificial apathy or euphoria. In so-called retarded patients, the euphoria will be taken as an improvement, and in agitated patients, the apathy will be seen as an improvement. The nurses' or occupational therapists' notes on the ward, however, will show that the patient is no longer able to focus attention, remember everyday details, or carry out complex tasks. Why doesn't the "cure" last? Because the gross effects gradually subside, and as the patients' brain function approximates normal again, their problems again become apparent.

Is there hope for newer variations in the technology of the treatment? No, because the treatment "works" by means of the trauma. If unilateral ECT causes less trauma, as some proponents advocate, then it will often be given in longer courses to produce the equivalent trauma. In reality, the most important modern modification, the use of anesthesia, raises the seizure threshold, requiring more intense or more prolonged doses of the offending electrical current. A review of the literature confirms that modern clinical ECT uses a larger dose of electrical energy than the premodified era (Breggin 1979). Furthermore, the appearance of reduced damage in unilateral or nondominant ECT is misleading. Damage to the nondominant side produces less verbal memory disability, but more visual memory disability. More ironically, nondominant damage, as any textbook of neurology will confirm, tends to produce a greater degree of denial of symptoms on the part of the patient (this particular form of confabulation is called anosognosia). Nondominant ECT may even be more damaging, since it focuses the energy in a more localized area, producing more severe local trauma as manifested in transient neurological signs on the opposite side and focal brain-wave abnormalities on the same side (Breggin 1979).

ECT is an irrational and often brutal treatment. The psychiatric and medical professions ought to place a self-imposed ban on the therapy. Lacking such self-restraint, the public will continue to protest and even to take action to halt the treatment.