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CONCUSSING THE BRAIN WITH ELECTROCONVULSIVE SHOCK THERAPY (ECT): AN APPROPRIATE TREATMENT FOR DEPRESSION AND SUICIDAL IDEATION?

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ABSTRACT

While the use of ECT has declined in recent years, nevertheless, it is still used in psychiatry for the treatment of depression and/or suicidal ideation. Proponents of ECT argue that it is "quick, clean and efficient," bringing an otherwise chronically depressed/suicidal individual back to normal or even outgoing psychosocial functioning in a relatively brief period of time. Unfortunately, the extant evidence suggests that ECT "works" by inducing an acute organic brain syndrome with accompanying memory and cognitive deficits. As patients are often given repeated treatments, it is apparent that ECT is a symptomatic procedure which probably adds to the individual's pre-existing psychological difficulties. The present paper summarises some of the literature pertaining to the adverse effects of ECT.

In recent years, the use of Electroconvulsive Shock Therapy (ECT) has declined somewhat in the treatment of depressed and suicidal patients (Kramer, 1985). This decline has been partly a response to public outcries against the procedure, particularly by former mental hospital patients, informed citizens, and even neurologists and psychiatrists (cf. Breggin, 1979; Friedberg, 1976, 1977). Psychiatric nurses (who run the risk of being denied registration if they refuse to participate in the administration of ECT) have also criticised ECT as inhumane and potentially intellectually damaging (e.g. Ross, 1981; Whyte, 1982; Packham, 1984). As these various authors (who are intimately acquainted with the "grass roots" application of ECT) have pointed out, the continued use of ECT remains highly controversial. If the procedures used were entirely safe and effective such controversy would not persist.

According to Ross (1981, p.20), some psychiatric patients receive literally hundreds of treatments with concomitant brain damage. Confusion, memory loss, headache and nausea generally follow each treatment (p.21). In psychiatric hospitals, patients are often treated involuntarily (p.22). ECT is clearly not able to prevent relapses of depression and suicidal ideation, as it is not uncommon for patients to receive repeated treatments at regular intervals (Whyte, 1982, p.42). According to him (p.43), "Psychiatry has relatively little to offer in terms of treatment once ECT has been used." Packham (1984, p.19) reported that ECT is often administered by junior psychiatrists and that most consultants who prescribe ECT do not administer it themselves. Over two-thirds of psychiatrists who use ECT typically employ bilateral rather than unilateral procedures (p.19). From a Royal College of Psychistrists' report in The Lancet, Packham (p.20) reiterated that, "ECT was often given in large open dormitory wards with rows of patients lying on unscreened or only partially screened beds, with the treatment and anaesthetic machines being trundled from bed to bed...Many patients waiting for treatment could either see or hear the treatment being given to others." The resulting fear of ECT among psychiatric patients (cf. Jenike, 1983) is quite understandable. Packham (p.20) also

indicated that many of the ECT machines were obsolete and that forty percent of clinics did not have access to proper maintenance of their ECT equipment.

Breggin (1979, 1981) has thoroughly reviewed the scientific literature up the end of the 1970's in relation to ECT and its effects on the brain. He has concluded that ECT is a brain-disabling procedure which induces a severe acute organic brain syndrome, with concomitant loss of memory and cerebral damage to the brain. He has argued on the basis of the empirical evidence that ECT should be abolished and that it is not effective in treating depression and suicidal ideation. An editorial by Wortis (1981, p.515) commented on ECT that, "...it is good to have it superseded by better treatments." In a controlled double-blind study of the effectiveness of real ECT versus simulated ECT in treating depression, Johnstone et al. (1980, p.1317) concluded that, "No differences were found between the two groups at one-month and six-month follow-up." Under these circumstances, reports supporting the efficacy of ECT cannot be accepted at face value.

One of the most frequently cited side-effects of ECT is both anterograde and retrograde amnesia (sometimes extending back two or three years prior to treatment with ECT, resulting in a significant loss of personal self-identity). Among the recently published studies indicating adverse effects on memory are those by Freeman et al. (1980), Shellenberger et al. (1981), Squire (1981), Squire et al. (1981), Price (1982a), Lerer et al. (1983), Pettinati and Rosenberg (1983), Rosenberg and Pettinati (1984). It has been suggested that unilateral placement of the electrodes over the non-dominant hemisphere (usually the right hemisphere) results in less memory loss and confusion than does bilateral ECT (e.g., Jenike, 1983). However, as Breggin (1979) has shown, unilateral placement of the electrodes on the right hemisphere generally produces significant memory and intellectual impairment in non-verbal, visuo-spatial functioning. It has also been suggested that acute memory impairment following ECT is minimised by using a brief pulse electrical stimulus rather than a sinusoidal galvanic current (which is so frequently employed) to induce the convulsive grand mal seizure (Daniel et al. 1983; Daniel & Crovitz, 1983). Moreover, the claim that modified ECT (with anaesthetic, muscle paralysis and forced oxygenation) is safer than unmodified ECT (given "straight") is not supported from reviews of the literature (e.g., Breggin, 1979, 1981) which suggest that seizure thresholds are increased with concomitant need to apply stronger electrical stimuli to induce the convulsion (cf. Weiner et al. 1980). As it is known that the electrical current causes the brain dysfunction and cerebral damage (e.g., Jenike, 1983, p.36), it is apparent that modified ECT may indeed produce greater brain damage than does unmodified ECT generally.

Apart from memory dysfunction following ECT, another major difficulty is the interference with normal brain functioning (as evidenced by abnormal EEG recordings) and the associated cognitive impairment which may persist, more or less, indefinitely in some cases (e.g., Weiner, 1980; Calloway et al., 1981: Friedberg, 1981; Calloway & Dolan, 1982; Price, 1982b; Pettinati & Bonner, 1984; Tewfik, 1984; Wise, 1984; Daniel, 1985). Reports of the use of multiple ECT (known as MECT; --cf. REST--regressive electroshock therapy), which induces a state of virtually complete neurological collapse (cf. Abrams, 1974), have been criticised even by some of the most ardent advocates of ECT (e.g., Kalinowsky, 1981). In cases where MECT is used, prolonged seizures of up to one hour's duration have been recorded (Abrams, p. 81; Weiner et al., 1980).

Twefik (1984, p.97) stated that, "As both repeated concussion and repeated naturally occurring major and minor epilepsy are known to result in brain damage there is every reason to minimise the use of such treatment." Tewfik (p.97) further contended that, "...post-concussional states may result in long-lasting disability with symptoms of insomnia, anxiety and depression which may well be more obvious than the loss of concentration and intellectual deficit." Hence ECT may actually increase depression in the long run, rather than alleviating it! The apparent diminution of depressive and/or suicidal ideation pursuant to ECT is almost certainly symptomatic of an induced acute organic brain syndrome (cf. Breggin, 1979; Summers et al., 1979). Post-ECT behaviour such as apathy or euphoria is not essentially or necessarily indicative of therapeutic success, but probably of a profound disabling of normal brain function, typically recognised as such in non-ECT cases of concussion and brain trauma. The inadequacy of ECT in eliminating suicidal ideation (in the absence of major depression) has been commented on by Frankel (1984, p.384), who stated that, "The suicidal threats and concerns of patients with personality disorders are not likely to respond to ECT." Given that Frankel is an advocate of ECT, this conclusion cannot be taken lightly. As Breggin (1979) pointed out, the notion that ECT actually reduces the incidence of suicide has not been proven. The fact that many psychiatric institutions and most psychiatrists find it totally unnecessary to employ ECT at all is clear enough indication of its effectiveness in this regard. There are even documented cases where it appears likely that the administration of ECT with its psychologically debilitating after-effects has itself been responsible for contributing to actual suicides (cf. Friedberg, 1976).

Apart from disabling the brain, numerous studies have suggested that ECT is also associated with other serious and potentially fatal side-effects, including cardiovascular complications (Jones & Knight, 1981; Gerring & Shields, 1982; Jones, 1983; Major, 1984; Raskin, 1984; Peterson, 1985), status epilepticus (Weiner, 1981, Peters, et al., 1984), simultaneous bilateral hip damage (Ebong, 1982), tardive dyskinesia (Flaherty et al., 1984), adrenal haemorrhagic necrosis (Donald & Freeman, 1982), acute pulmonary oedema (Buisseret, 1982), ruptured spleen (Ernest, 1980), ruptured bladder (Irving & Drayson, 1984), and dental fractures/tooth loss (Pollard & O'Leary, 1981; Faber, 1983). While there is a literature of experimentally induced brain damage in animals caused by ECT (see Breggin, 1979 for a review), recent animal studies (e.g., Lerer, 1984, Lerer et al., 1984) have corroborated the adverse effects of ECT on the brain.

In conclusion, there is considerable empirical evidence that ECT induces significant and to some extent lasting brain impairment. The studies cited above are but a few which suggest that ECT is potentially a harmful procedure, as indeed are most naturally occurring episodes of brain trauma resulting in concussion, unconsciousness and grand mal epileptic seizures. Accordingly, the continued use of ECT in psychiatry must be questioned very seriously. While memory and cognitive deficits are frequent consequences of ECT, even more pervasive increases in anxiety, fear and depression may result from its use despire claims to the contrary (e.g., Jenike, 1983) that ECT actually alleviates such symptoms. The reality apparently is that ECT is used only by a small minority of psychiatrists who either are unable or unwilling to recognise that the acute organic brain syndrome induced therein is indeed the mechanism of action in ECT.

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