CONTROVERSY

# ECT without anaesthesia is unethical

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We are shocked that Dr Chittaranjan Andrade should make a case for direct ECT (electroconvulsive therapy) in your recent *Issues in Medical Ethics* (1). We want to place before your readers the facts that are unreported or otherwise masked in his article.

### Direct and modified ECT

In direct ECT, an electric current of 70–170 volts is passed for 0.5–1.5 seconds. It throws the body into epilepsy-like seizures. While the patient is conscious in the beginning, he is rendered unconscious when the grand mal seizure starts. He is held down physically to prevent fractures and internal injuries, as the risk of injury is high. As the procedure is given in series, this hazard is experienced again and again. In an ideal situation, the procedure is repeated 6–10 times, but continuous dosing up to 20 times or more is not uncommon. This procedure has recently been placed as a controversial and contested issue before the Supreme Court, through a petition filed by Saarthak, a mental health NGO based in New Delhi. A verdict on this issue is awaited.

In its 'modern' or 'modified' form (modified ECT), the patient is not allowed to eat or drink for four hours or more before the procedure, to reduce the risk of vomiting and incontinence. Medication may be given to reduce secretions from the mouth. Muscle relaxants and anaesthesia are given to reduce the overt epileptic/muscular convulsions and patient anxiety. The muscle relaxant paralyses all the muscles of the body, including those of the respiratory system. The patient does not breathe on his own while the relaxant works and he is put on an artificial respirator during the procedure. A 'crash cart' is kept handy, with a variety of life-saving devices and medications, including a defibrillator for kick-starting the heart in case of a cardiac arrest. The brain is subjected to seizure activity induced by the electric current. The causal mechanism by which the treatment works is not known. It is believed that the electricity itself and the seizure activity it produces is the curing element.

### Evolution and phasing out of ECT

Ugo Cerletti, an Italian, invented ECT in 1938, drawing inspiration from the fact that pigs being prepared for slaughter in an abattoir were first rendered unconscious by passing electricity through bilateral placement of electrodes against the head. After much brutal experimentation and research, the developed world banned direct ECT in the early 1960s. Many European countries have phased out even modified ECT, while in the US its usage has come down drastically after the 1980s, following class action. The 1978 American Psychiatric Association (APA) Task Force reported that only 16% of psychiatrists gave (modified) ECT. ECT research does not receive funding from government bodies, or from large foundations. It is largely funded by private business. International journals do not publish articles on direct ECT.

To make a case for direct ECT in this day and age establishes a fresh, new *low* for psychiatric ethics in India. Instead of debating the issue of 'whether or not ECT' and what community alternatives we can create in mental health, we are placed in this ridiculous situation of debating direct ECT.

Dr Andrade claims that direct ECT is 'virtually' risk-free. However, neither in his article nor in any of the relevant research in India, some of which is mentioned herein, has anyone vouchsafed *even the relative safety* of ECT, whether direct or modified. The only argument made is that modified ECT is even worse than direct ECT.

### Side-effects and risks of ECT

In the West, two important factors led to the phasing out of direct ECT: one was the discovery that between 0.5% and 20% of patients suffered from vertebral fractures, and the second was their evident terror and trauma. Dr Andrade admits that direct ECT is associated with the risk of vertebral/thoracic fractures, dislocation of various joints, muscle or ligament tears, cardiac arrhythmias, fluid secretion into respiratory tract, internal tears, injuries and blood-letting, other than fear and anxiety.

Kiloh *et al*. (2) give this long list of common 'complaints' following ECT, which are more acutely experienced when given direct: headache, nausea, dizziness, vomiting, muscle stiffness, pain, visual impairment due to conjunctival haemorrhages, tachycardia/bradycardia, surges in

blood pressure, changes in cardiovascular activity, alteration in the blood–brain barrier, ECG changes, arrhythmias and dysrhythmias, cardiac arrest, sudden death, transient dysphasia, amenorrhoea, hemiparesis, tactile/visual inattention, homonymous hemianopia. Among the 'risks' mentioned are : myocardial infarction, pulmonary abscesses, pulmonary embolism, activation of pulmonary tuberculosis, rupture of the colon with peritonitis, gastric haemorrhage, perforation of a peptic ulcer, haemorrhage into the thyroid, epistaxis, adrenal haemorrhage, strangulated hernia, and cerebral and subarachnoid haemorrhage. Infrequent 'complications' are fractures (vertebrae, femur, scapula, humerus) and dislocations (jaw, shoulder), cardiac arrhythmias, apnoea and 'tardive' convulsions. Among the inevitable 'side-effects' are cardiovascular responses, postictal clouding of consciousness and memory impairment. With modified ECT, the effects are 'less likely' but not completely ruled out.

What is it about being mentally ill that permits society and medical professionals like Andrade to argue that being exposed to these risks repeatedly is all right? Even professionals never considered ECT to be a 'cure', it is only palliative. This means that in practice, professionals can use it as and when they like, as palliative care can be seen as an ongoing need, unlike curative care.

Andrade cites 'further evidence' of research by Tharyan *et al*. (3), highly (mis)quoted studies done in the early 1990s on direct ECT. He writes that in this study only 12 patients experienced fractures out of a total of 1835 patients receiving 13,597 treatments. This sounds as if a few of the patients walked out of the ECT room with a slight twisting of the middle finger. He fails to mention relevant data from this study that these were thoracic/vertebral fractures involving almost a third of the body vertebrae. Andrade also fails to mention that in this study, there was one reported death due to cardiac arrest (i.e. 1 patient out of 1,835 died), a good percentage experienced bodyaches, both local and generalized, and another 1% of patients had cardiac complications. These data, especially the spinal injury and the mortality rate, which from the consumer point of view seem horrific, are not considered 'clinically significant' by the authors of this contentious study nor by Andrade. In Andrade's own study (4), 2% of the patients experienced a 'musculoskeletal event'.

### Findings and recommendations

The recent APA Task Force on ECT(5) notes that, contrary to earlier evidence, they have to now acknowledge that mortality rates with ECT (modified) may be as high as 1 in 10,000 patients. Consumers (6) say that mortality rates may be as high as 1% with modified ECT. The mortality rates are probably higher among the elderly, making it a highly contested procedure among them. The Task Force report also notes that 1 in 200 may experience irretrievable memory loss. The Bombay High Court ordered against the use of direct ECT way back in 1989, following the Mahajan Committee Recommendations. In Goa too, legal advocacy and the proactive role of psychiatrists has resulted in the ban of direct ECT.

Death in the case of ECT is usually due to cardiovascular or cerebrovascular complications, followed by respiratory failure. Shukla (7), in discussing a case report of death following modified ECT, reviews the mortality data associated with the procedure. Rates between 0.003% and 0.8% have been reported in the western literature. Shukla, finding it a curious fact that deaths have not been reported at all in the Indian professional literature, observes that fatalities are not always publicly reported, particularly in India, but every psychiatrist would have experienced such cases in his practice.

The European CPT (Convention for the Prevention of Torture) 2002 (8) prohibits the use of direct ECT as a form of torture. One of the reasons cited is the terror experienced by patients during the use of the procedure. The suggestion in this Convention and other relevant literature is that ECT affects the limbic system of the brain, the same system that is affected by deep trauma. Medical narratives regarding direct ECT highlight the very understandable horror of experiencing ECT effects as well as accidents and disabilities following a procedure which is supposed to 'cure' (9). The motor, physiological and cognitive effects on ECT recipients following treatment are the same as trauma victims. The terror is a sign of trauma, and not a sign of insanity. Victims of direct ECT should be considered as victims of medical torture and brought within human rights and medicolegal jurisprudence.

In the study by Tharyan *et al.* (3) a high percentage of patients (7.5%) reported fear and apprehension of the procedure, and 50 patients refused the treatment. How did the researchers proceed with the study? They did so by actually sedating the patients! Quoting them in full: 'A fifty of them [patients] refused further ECT due to this fear while in the remainder (100 patients) the fear was reduced by sedative premedication enabling them to complete the course of ECT. In the earlier half of the decade under review, barbiturates, oral diazepam, parenteral haloperidol and even thiopentone were used to allay anxiety; in recent years, this has been effectively managed by pretreatment with 1 to 4 mg of lorazepam given orally.' The authors of this study find it an interesting observation that those who refused were not among those who were sedated. Their study also suggests that it is common practice to sedate patients who refuse ECT. Amazingly, they recommend the use of sedatives to minimize the fear of ECT.

Such is the prejudicial approach to mentally ill patients that fearful refusal of a hazardous and life-threatening procedure is considered as a mere symptom of insanity, to be further 'treated' with sedatives. How do professionals reconcile ethical issues of consent in such instances?

In many countries, giving even modified ECT to children, the elderly and pregnant women is prohibited. The State of Utah is recently working on a bill which will ban ECT within institutions (where its highest abuse is possible) and on children. In Tharyan *et al.*'s study (3), direct ECT has been administered to the age group 14–70 years, including women in all trimesters of pregnancy. How did the institutional ethics committee (IEC) of Christian Medical College (CMC), the site of this study, allow this study to continue uninterrupted for 11 years?

Tharyan *et al.* further reassure that 'trained' professionals were used to give direct ECT. What does training mean in the context of direct ECT? One merely needs some physically strong people to tie down the patient at strategic points to keep the jaw and joint areas from major injury. The composition of the full 'team' used to prevent injury were: four orderlies, three nurses, two postgraduate trainees and a consultant psychiatrist, a total of 10 'trained' people! The argument concerning the cost-effectiveness of the procedure is not validated by this study. Even with a full load of 10 people tying down a patient from the convulsions, the reported injury rate was not insignificant. Have the costs of disability-days following ECT been taken into account? Kiloh *et al.* (2) reported studies where the ECT took only a few hours, but the patients had to be hospitalized for a week after that, waiting for the confusion and suicidal ideation to clear up!

### Why is ECT given?

Why would presumably rational scientists produce such irrational arguments to safeguard a scientifically dubious and highly hazardous procedure? The fact is that in nearly every city, a majority of private practitioners give ECT in their private clinics. A recent survey in western India showed that nearly 80% of private psychiatrists give ECT, costing anywhere between Rs 500 and 1000 for one. ECT is the only piece of technology that psychiatry can boast of. There are psychiatrists who ask the patient to first take an ECT even before consultation (10)! ECT has been given to cure 'Naxalism' (11). In private practice, it is difficult to have the medical back-up necessary for anaesthesia or resuscitation. ECT guidelines do not exist in India, making it conducive for doctors to engage in rampant abuse of the procedure. The situation here is similar to sex selection tests, as the private market rules the roost.

### Conclusion

In our view, direct ECT is a matter for human rights law, prevention of torture instruments, regulation and consumer litigation, and not for academic discussion. Andrade suggests that there must be further research on direct ECT. We have serious objections to the future conduct of such research. Statutory authorities, the human rights commision and medical regulatory bodies must proscribe such research.

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