CHRONIC RENAL FAILURE AND ELECTROCONVULSIVE THERAPY

Sir,
The use of MECT (Modified Electroconvulsive therapy) in depressed patients with renal failure is a challenge because of the effects of uremia on drug metabolism, osteopenia and electrolyte abnormalities.\textsuperscript{1,2} We report a patient with chronic renal failure and bipolar affective illness who received MECT without significant side effects.

A 58-year-old man presented to us with a history of major depressive episode without psychotic features and significant suicidal ideations and attempts. The patient has been having depressive episodes from 1969 each episode lasting 6-9 months followed by two to three weeks of hypomania. Since then he has been having multiple episodes of the depression and hypomania. He was diagnosed with membranoproliferative glomerulonephritis in 1981 and has been on treatment since then. He was on Human Insulin 8 units thrice a day and clonidine and aramine for control of his blood pressure. His renal function deteriorated and his creatinine level became 2 mg/dl in 2001. The blood creatinine level was 5.0 mg/dl and blood urea was 150 mg/dl at time of admission. He had anemia (Hemoglobin 8 mg/dl), hypocalcemia (7.1 mg/dl), hyperphosphatemia (7.5 mg/dl) and a creatinine clearance of 17 ml/min. He was treated conservatively, as there was no urgent indication for dialysis. The patient had received fluoxetine (60 mg/day) on outpatient basis without any improvement. Because of the multiple co-morbidities, drug interactions, his renal status and severe suicidal ideation it was decided to start the patient on MECT.

MECT was given with bilateral leads and the seizure threshold was determined by dose titration, with brief pulse square electrical waveform. Thiopentone was used to induce general anesthesia and succinylcholine 100 mg was used for muscle relaxation. The patient successfully received 5 MECT sessions and his suicidal ideations and depressive mood remitted. His MADRAS (Montgomery Asperg Depression Rating Scale) score decreased from 41 at admission to 15 at the time of discharge. It was decided to start the patient on Lamotrigine as a mood stabiliser and for the current episode of bipolar depression.

Chronic renal failure is often associated with hyperparathyroidism and osteodystrophy which may predispose to fractures during the procedure due to the powerful muscular contractions.\textsuperscript{3} Renal insufficiency causes alterations in potassium and sodium levels. The raised serum potassium level further aggravated by the use of succinylcholine may predispose the patient to cardiac arrest in asystole and arrhythmias during MECT. Succinylcholine has been demonstrated to rapidly increase serumpotassium by 0.5-1.1 mmol/L in normal patients and as much as 5.7 mmol/L in selected high-risk patients.\textsuperscript{3}
Acidosis and hypocalcemia may alter the seizure threshold and so correct selection of energy level should be chosen. As most of the patients with chronic renal failure are hypertensive with compromised cardiac status prophylactic use of esmolol or labetalol may help in controlling the elevation of blood pressure and hyperdynamic cardiac status during the procedure.\(^4\)

MECT can be safely given in patients with renal failure provided adequate attention is paid to the choice of patients, electrolyte status and control of blood pressure during the procedure.

REFERENCES


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