Electroconvulsive therapy in a 73-year-old woman with an implanted sacral neurostimulation device

Sir,

We would like to describe a patient with an implanted sacral neurostimulation device (ISND) who underwent electroconvulsive therapy (ECT) treatment for her depression uneventfully. Sacral nerve stimulation has become an established treatment option for patients with symptoms of urinary frequency, urgency, and urge incontinence.\[1\] The safety of ECT in patients with an ISND has not been established as there are no published case reports or studies.\[2\]

A 73-year-old divorced woman was admitted as a voluntary patient to a tertiary hospital for treatment of major depression and suicidal ideation. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition diagnosis was major depression, recurrent type, severe without psychotic symptoms. Her medical conditions included migraine, dyslipidemia, gastroesophageal reflux disorder, diverticulosis, and urinary incontinence for which she had an ISND. Her organic workup including computed tomography of the head was unremarkable. Magnetic resonance imaging was contraindicated because of ISND.

She was initially treated with sertraline 200 mg for 6 weeks and psychotherapy but had minimal response. She was then switched to venlafaxine. At this time, ECT was discussed with
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Her. She chose bitemporal ECT as this was the most effective treatment option. Her urologist advised the treating team to seek information from the ISND manufacturer. According to the product information, the safety of ECT in patients with ISND had not been established. However, it stated that induced electrical current during some procedures could generate heat, especially at the lead electrode site, which can result in tissue damage. Company’s technical expert believed that ECT procedure could have minimal impact on ISND since ECT paddle/electrodes are placed at a considerable distance from the ISND. They recommended switching off the device after reducing the frequency of stimulations before each ECT procedure.

Her family supported her decision to proceed with ECT as everyone felt that the potential adverse effects were low. She received seven biweekly ECT, with an intention to minimize the cognitive side effects. She would switch off the device after reducing the frequency before each ECT session. The Thymatron® System IV was used to administer ECT. The stimulus charge was 178 milli-Coulombs during her last treatment (energy setting was 35%). No adverse effects were noted, except for minimal anterograde amnesia. Her depression improved and was maintained on venlafaxine 150 mg. Her memory deficits resolved over 3–4 months.

This case suggests that patients with ISND can safely receive bitemporal ECT up to stimulus charge 178 mC. The precautions discussed above have to be considered. There is a possibility that ECT may be safe even at higher stimulus charges and with other electrode placements, considering the distance between electrode placement and ISND site.

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Conflicts of interest

There are no conflicts of interest.

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