The likeliness of 0.5 and 1.0 ms stimuli in BL ECT

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To the editor,

I much appreciated the study of de Arriba-Arnau and colleagues [1] comparing the efficacy and global cognitive effects of bilateral ECT induced by brief pulse 0.5 ms and 1.0 ms stimuli. Although retrospective, this study and the outcome add to the insight that the differences, if there are any, must be small.

However, there are some questions left that are of interest to explore and which could lead to a further strengthening of the conclusion.

All patients received bilateral ECT, but some patients were treated with the “half age” dosing strategy and for the others dose titration was used. In the case of dose titration, treatment was done with “a stimulus intensity administered 1.5–2.5 times above patient’s seizure threshold”, which I have interpreted as a treatment stimulus that is 1.5 to 2.5 times the seizure threshold stimulus, such as in studies like Sackeim et al. [3]. Depending on the available sample size, it would be very interesting to make a comparison between the dose-titrated and “half-age” subgroups of the 0.5 ms and 1.0 ms sample. This is why:

The initial seizure threshold (IST) for 0.5 ms is probably about half the IST for 1.0 ms (see for comparison the IST for 0.3 ms vs. 1.5 ms in patients with depression in [4] and IST for 0.5 ms vs. 1.5 ms in patients with schizophrenia in [2]. Therefore, if we use 0.5 ms with the ‘half age’ dosing strategy instead of 1.0 ms with the same total energy setting (e.g. 30% when the patient is 60 years old ≈ 151 mC), we automatically treat the 0.5 ms patients with a higher stimulus dose relative to seizure threshold. As we know this multiplier is especially important in unilateral ECT, but also the

speed of response seems higher for high-dose than for low-dose bilateral ECT [3].

If the effect of 0.5 ms resembles the 1.0 ms we would expect that in the titration group, “the number of ECT sessions 0.5” = “the number of ECT sessions 1.0” and possibly also “percentage remission 0.5” = “percentage remission 1.0”,

It would be also interesting to see if, “the number of ECT sessions in the half age group 0.5 ms” = “the number of ECT sessions in the half age group 1.0”.

Since some patients seem only to respond to bilateral ECT and since 0.5 ms seems to induce less cognitive effects than the use of 1.0 or 1.5 ms stimuli, these answers would be worthwhile to deepen our understanding of the similarities and distinctions between these pulse widths.

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