

## **Electroconvulsive therapy and monoamine oxidase inhibitors** **Eletoconvulsoterapia e inibidores da monoaminoxidase**

Dear Editor,

Up to 30% of the depression cases can be named as refractory.<sup>1</sup> These cases are resistant even to electroconvulsive therapy (ECT). One possibility to overcome refractoriness is to potentiate ECT with a monoamine oxidase inhibitor (MAOI). Monaco et al. reported one of the first case series of patients (n = 26) taking low doses of tranylcypromine and undergoing ECT, with no additional adverse reactions. From the anesthesiological point of view, there is

evidence that anesthesia is safe when performed in patients taking MAOI.<sup>2,3</sup> The most common adverse reactions are hyperpyrexia, hypertension, and muscle twitching. Another shortcoming would be that the long-term use of MAOI may downregulate post-synaptic central and peripheral receptors activity ( $\beta$ ,  $\alpha$ 1 and  $\alpha$ 2 adrenergic; 5HT1 and 5HT2), causing hypotension in the withdrawal process. The suggestion would be to keep the use of the drug (MAOI).<sup>3</sup> Dolenc et al. found 100 case reports of anesthesia and MAOI use in the literature, with few complications. When the basic recommendations for MAOI use were followed, the outcomes were positive. The authors themselves reported 4 cases, with no complications and good outcomes over depressive symptoms. The hemodynamic patterns did not differ from those registered in the first cycle of ECT.<sup>4</sup>

We would like to describe a case of refractory depression treatment using ECT in a patient taking high doses of tranylcypromine:

E.D.S.O., female, 37 years, was referred to our ECT service. Because of suicidal thoughts, we moved her to our infirmary. No mood disorders had been detected before she started to become ill, about eight years ago. In 1999, she started to treat depression with fluoxetine, with a good response. She worsened in 2001, when her sister committed suicide. Since then she never had any other period of euthymia, with 3 suicide attempts and intermittent psychotic features in the period. She had already used nortriptyline; paroxetine; mirtazapine; tranylcypromine; fluoxetine and nortriptyline; all in therapeutic doses. She came using fluoxetine 80 mg/d. The results of this first series (20 sessions, bilateral) were mild, but her suicidal ideation remitted. We interrupted ECT and fluoxetine and started tranylcypromine up to 80 mg/d, again with weak results. Then we decided to associate tranylcypromine and ECT. Her initial score on Beck Depression Inventory (BDI) was 23. She underwent right Unilateral ECT, twice a week, charge of 200 mC, adequate

duration. There were no complications and no major hemodynamic changes. This second trial had a better response. She rated her improvement in 40%. After 18 ECT sessions, her BDI score was 14, an improvement of 40% (from 23 to 14).

Our case shows that even high doses of tranylcypromine can be used safely and this association can be useful for many refractory patients who suffer of severe depression. High doses of MAOI, particularly tranylcypromine, do not contraindicate ECT *per se*. More studies are needed to find effective means to potentiate the effects of ECT.

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### Disclosures

Writing group member	Employment	Research grant <sup>1</sup>	Other research grant or medical continuous education <sup>2</sup>	Speakear's honoraria	Ownership interest	Consultant/ Advisory board	Other <sup>3</sup>
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\* Modest

\*\* Significant

\*\*\* Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.

Note: USP = Universidade de São Paulo.

For more information, see instructions to authors.

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