Amphetamine, catatonic depression, and heart transplant: a case report

Anfetamina, depressão catatônica e transplante cardíaco: relato de caso

Dear Editor,

Antidepressant treatments may take a few weeks to become effective and few quick-response alternatives are available. It has been proposed that methylphenidate can lead to a faster antidepressant response compared to the classic antidepressant drugs.[1] This is a relevant proposition, particularly in cases in which life is threatened by a depressive state, as is the case presented bellow.

FT, a 55-year old male who underwent a heart transplant surgery due to heart failure secondary to Chagas cardiomyopathy. After the surgery, the patient reported feelings of sadness and hopelessness,

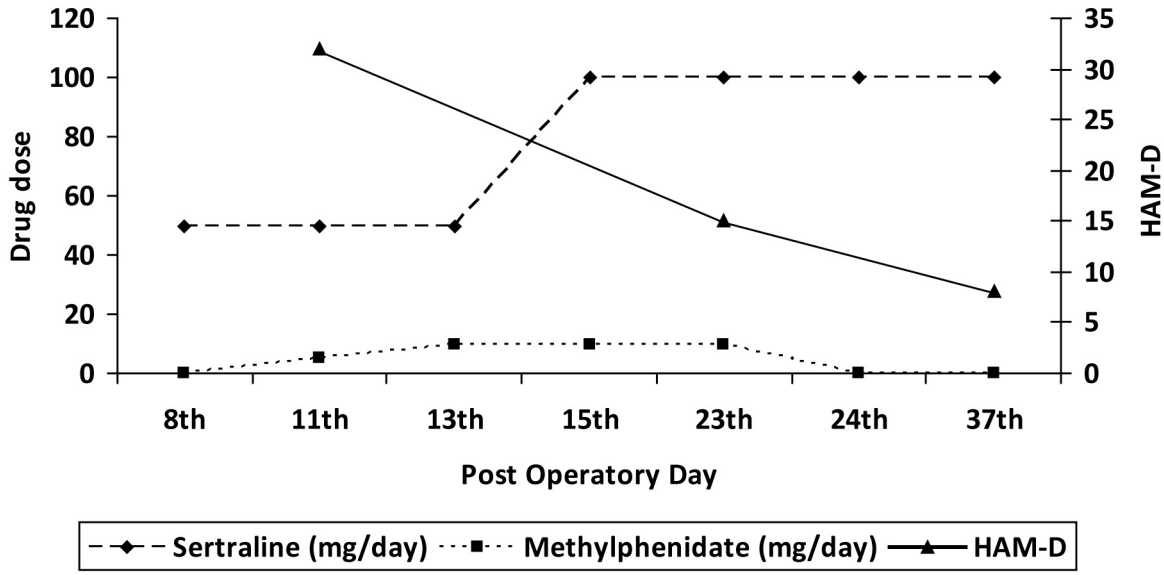

Figure 1 - Doses of sertraline (dashed line), methylphenidate (dotted line), and scores on the Hamilton Depression Rating Scale (HAM-D; continuous line) during the first 37 PO days.

thus leading cardiologists to introduce sertraline 50mg/day on the 8th post-operative (post-op) day (Figure 1). Nonetheless, the patient suddenly became completely unresponsive to commands, which made it necessary for him to be urgently seen by a psychiatrist. The psychiatric examination revealed a passive negativistic behavior, lack of eye contact, certain stereotyping, and refusal to respond to any sort of communication attempts (Hamilton Depression Hating Scale [HAM-D] 31 items = 32) - items that could not be assessed due to the catatonic state were scored as zero. The previous reference to sadness and hopelessness suggested a catatonic depressive episode. Since the cardiologists in charge were concerned that the patient could even die if respiratory physiotherapy was not included in the treatment plan, a more aggressive intervention was implemented using methylphenidate (up to 10mg/day; Figure 1). Four days later, the patient's improvement was obvious. He was still rather sluggish but completely responsive to commands and oriented in time and space. No significant changes in hemodynamics were observed after the administration of methylphenidate. From that point on, improvement picked up speed. Antidepressant therapeutic response was objectively measured for the first time on the 23rd post op (HAM-D = 15) and full remission was attained on the 37th post-op (HAM-D = 8) - items excluded in the first assessment were included in these last two assessments. Methylphenidate was discontinued on the 24th post op.

This case provides evidence that supports the adoption of brief low-dose interventions based on methylphenidate for heart-transplanted patients with catatonic depression. Psychostimulants have already been proposed as a possible treatment for catatonic depression[2] and depression associated with medical illnesses.[3] However, the safety of amphetamines, especially with respect to the cardiovascular system undermine the adoption of such approach.[4,5]

The patient's clinical conditions during the catatonic state remained stable. Even so, other causes for the catatonic state such as the medications used and surgery itself, as well as the causes for the improvement seen i.e., the administration of sertraline or the effect of time cannot be ruled out. While further controlled studies are not available, it is recommended that the approach herein described be limited in terms of length of time and that it be carefully monitored.

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Disclosures

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**** 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.*
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References

1. Lavretsky H, Kim MD, Kumar A, Reynolds CF 3rd. Combined treatment with methylphenidate and citalopram for accelerated response in the elderly: an open trial. *J Clin Psychiatry*. 2003;64(12):1410-4.
2. Prowler ML, Weiss D, Caroff SN. Treatment of catatonia with methylphenidate in an elderly patient with depression. *Psychosomatics*. 2010;51(1):74-6.
3. Masand P, Pickett P, Murray GB. Psychostimulants for secondary depression in medical illness. *Psychosomatics*. 1991;32(2):203-8.
4. Godfrey J. Safety of therapeutic methylphenidate in adults: a systematic review of the evidence. *J Psychopharmacol*. 2009;23(2):194-205.
5. Come CE, Shapiro PA. Supraventricular tachycardia associated with methylphenidate treatment in a heart transplant recipient. *Psychosomatics*. 2005;46(5):461-3.