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Evaluation and Criticism of an Animal Model of Emotional Disorder

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INTRODUCTION

The development of models of depression depends on experimental procedures characterized by chronic stressors, thus enabling the optimal *simulation* of the symptomatology and pathophysiology of this disorder. Chronic Mild Stress (CMS), includes a variety of mild stressors alternating for a prolonged time period and is considered a reliable animal model of depression. A specific feature of this model is the weekly measurement of sucrose preference, a behavioral pattern that is suppressed in stressed rats, and is reversed by the administration of antidepressants. It is important to note, that the above-mentioned behavior is an index of reward perception.

RESULTS-CONCLUSIONS

In the present study the reproducibility of this animal model of depression was investigated, following minor modifications of the experimental protocol, which, according to the recent literature do not alter sucrose preference. It is important to note that the main differences between the two

compared experimental protocols, involve: increased duration of food and water deprivation, use of white noise and subjection to cold environment. During the more severe version of the CMS procedure a significant decrease of sucrose preference was observed after the third week of the stress procedure. On the other hand, the newer and less severe version of the model, did not result in a decrease of sucrose preference. Furthermore, the estimated neurochemical profile of the two groups of animals was different.

The above behavioral and neurochemical results, suggest that the alternative, less severe, version of the CMS procedure, does not lead to similar results. There are opposing points of view, regarding alterations of the duration and type of different stressors, which affect the reliability and the validity of the experimental procedure. The results of this investigation indicate that minor modifications of the stressors as well as the experimental procedure of the CMS model can affect the reproducibility and validity of this model.