The Antidepressive Effect of Barakol in the Forced-Swimming Test

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ABSTRACT

The forced-swimming test is a behavioral test developed to predict the efficacy of antidepressant treatments. The immobility time indicates behavioral despair. Many antidepressants have been found to reduce immobility time in FST. The aim of this study was to investigate if barakol had an antidepressive effect in FST in rat. The rats were divided into 6 groups. Each group received either water, imipramine 25 mg/kg or barakol 5, 10, 15 and 30 mg/kg orally for 7 days. Rats were forced to swim 5 minutes in the last three days after one hour of drug administration. The duration of immobility, struggling and swimming were recorded during the last 5-minute test. This experiment showed that all groups of barakol- and imipramine-treated significantly reduced immobility time in comparison to the water controlled group, ($p<0.05$). Only the barakol 5-mg/kg-treated group increased struggling behavior where as the barakol 30-mg/kg-exposed animals increased swimming time ($p<0.05$). The result indicated that barakol had potential antidepressant effect. Further study should be conducted in other models to confirm whether barakol produces the same antidepressive effect as demonstrated in this study.

Key words: Barakol, Cassia siamea Lamk, Antidepressive effect, Forced-swimming test, Immobility

INTRODUCTION

Considerable effort has been exerted to establish animal models for the screening of depressant drugs. Of these models, the forced-swimming test developed by Porsolt et al., (1977a, 1978) has gained considerable acceptance. It is a behavioral test which predicts the efficacy of antidepressant treatments (Porsolt et al., 1977b; Porsolt et al., 1978). The test consists of placing a rodent in a cylinder tank of water for a 15-min "pretest" and then returning the animal to the water 24 hours later for a 5-min "test". Rats respond vigorously during the early part of the test but then display little motor activity during later parts of the test period, which Porsolt termed "immobility". The characteristic behavior of the test, "immobility", develops when a rodent has been placed in a tank of water for an extended period of time and makes only those movements necessary to keep its head above water (Porsolt et al., 1977b). If antidepressant drugs are administered between the pretest and test periods, the rats