ANXIOLYTIC-LIKE PROFILE OF PROPOFOL, A GENERAL ANESTHETIC, IN THE PLUS-MAZE TEST IN MICE

Mehmet Kurt, S. Sirri Bilge*, Osman Kukula, Suleyman Celik, Yuksel Kesim

Department of Pharmacology, University of Ondokuz Mayis, Kurupelit, Samsun 55139, Turkey


The present study was performed to investigate the effect of propofol on anxiety using the elevated plus-maze test.

Groups of mice received propofol (20, 40, 60 mg/kg) or diazepam (2 mg/kg), caffeine (30 mg/kg), L-arginine (100 mg/kg), m-chlorophenylpiperazine (m-CPP, 2.5 mg/kg) and then were placed in an elevated plus-maze that was composed of two opposite closed arms and two opposite open arms.

Propofol (20, 40, 60 mg/kg) and diazepam (2 mg/kg) significantly increased the percentage of time spent in the open arms compared to control. Caffeine (30 mg/kg) and m-CPP (2.5 mg/kg) decreased the percentage of time spent in the open arms and these effects were antagonized when propofol (40 mg/kg) was administered before the test. L-arginine (100 mg/kg) has also produced anxiogenic effect and this effect was not prevented by propofol. All drugs used in this study did not significantly change locomotor activity. These results suggest that propofol has anxiolytic effect in plus-maze test.

Key words: propofol, anxiety, elevated plus-maze test, mice

* correspondence; e-mail: ssbilge@omu.edu.tr