Short communication

Fluoxetine-induced anxiety and nervousness

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Abstract:
The aim of this study was to model fluoxetine-induced increase in anxiety appearing in the initial phase of the treatment with this antidepressant drug. The effects of acute administration of fluoxetine given alone and co-administered with a subthreshold dose of pentetrazole (PTZ), a proconvulsant agent with well recognized anxiogenic properties, were examined in the open field test of neophobia in rats. It was found that a single injection of fluoxetine at the dose of 5 and 10 mg/kg did not change motor and exploratory behavior of rats. Furthermore, fluoxetine (10.0 mg/kg) co-administered with a subthreshold dose of PTZ (10.0 mg/kg) had a strong and selective inhibitory influence on rat exploratory behavior. Pharmacokinetic study did not show any changes in brain concentration of PTZ in fluoxetine-pretreated animals. The central mechanism of the reported effects might involve stimulation of 5-HT receptors by fluoxetine in animals with PTZ-induced decrease in the threshold for emotional arousal. The present data describe a new animal model to study the central action of antidepressants reflecting dysphoric-like effects observed in the initial phase of the treatment.

Key words:
fluoxetine, pentetrazole, anxiety, open field, pharmacokinetics, rat