Abstract

Gamma-hydroxybutyric acid (GHB) is a drug with abuse potential, popularly known as "liquid ecstasy". It is an endogenous compound of the mammalian brain which satisfies many of the criteria for consideration as a neurotransmitter or neuromodulator. In this study, the effects of acute administration of GHB (40, 80 and 120 mg/kg, ip) on anxiety, tested in the light/dark box, were examined in male mice of the OF.1 strain. Likewise, we compared the behavioural profile of GHB with that induced by mCPP (1 mg/kg, ip), a compound with known anxiogenic actions. GHB-treated mice spent notably less time in the lit area (40 and 80 mg/kg) and more time in the dark area (all doses), whereas the total number of "rearings", transitions and latency were significantly reduced. A very similar behavioural profile was observed in mCPP-treated animals. Overall, these findings indicate that GHB exhibits anxiogenic-like properties in male mice. It is suggested that the anxiogenic effects of GHB could be related to its ability to modulate GABA and/or dopaminergic receptors.