

3, 4 - Methylendioxyamphetamine による マウス脳内 [^3H] paroxetine のインビボ結合の減少

橋本謙二, 五郎丸 毅

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REDUCTION OF *IN VIVO* BINDING OF [^3H] PAROXETINE IN MOUSE BRAIN BY 3, 4 - METHYLENEDIOXYMETHAMPHETAMINE

Kenji HASHIMOTO and Tsuyoshi GOROMARU

ABSTRACT The effects of 3, 4 - methylenedioxyamphetamine (MDMA) on the *in vivo* binding of [^3H] paroxetine, a potent and selective 5 - hydroxytryptamine (5 - HT ; serotonin) uptake inhibitor, in the brain of the mouse were studied. The distribution of radioactivity in the brain of the mouse, after intravenous administration of [^3H] paroxetine, was significantly altered by pretreatment with MDMA (15 mg / kg, i. p., 3 hr before). The hypothalamus / cerebellum and cerebral cortex / cerebellum ratios, as a function of time, were significantly decreased after the pretreatment with MDMA, indicating that the *in vivo* binding of [^3H] paroxetine to uptake sites for 5 - HT in the brain of the mouse was significantly decreased by MDMA. These ratios could reflect those of the total binding, to the non - specific binding and free ligand, since the cerebellum has very low levels of binding for [^3H] paroxetine. Furthermore, these ratios decreased after pretreatment with MDMA, in a dose - dependent manner. However, the binding of [^3H] paroxetine to membranes from the brain of the mouse *in vivo* was not altered by treatment with MDMA. The discrepancy between the *in vivo* binding and *in vitro* binding of [^3H] paroxetine in the brain of the mouse is discussed.

抄録 マウス脳内 [^3H] paroxetine のインビボ結合に及ぼす MDMA の影響を調べた。ラジオリガンド静注後の脳内放射能分布が, MDMA の前投与によって著明に変化した。小脳の放射能分布に対する視床下部および大脳皮質の放射能分布の比は, MDMA の投与によって有意に減少した。この事は, [^3H] paroxetine のインビボ結合が MDMA によって減少している事を示している。しかしながら, インビトロにおける [^3H] paroxetine の結合実験の結果は, MDMA の投与によって変化しなかった。マウス脳における [^3H] paroxetine

のインビボ結合とインビトロ結合の相違について述べる。