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The Effects of Acute Administration of the 5-HT Neurotoxin PCA on the Expression of Male Rat Copulatory Behavior: A Comparison with MDMA

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**THE EFFECTS OF ACUTE ADMINISTRATION OF THE 5-HT NEUROTOXIN
PCA ON THE EXPRESSION OF MALE RAT COPULATORY BEHAVIOR:
A COMPARISON WITH MDMA**

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3,4 Metylenedioxymethamphetamine (MDMA) is a potent neurotoxin which produces 5-HT nerve terminal degeneration in the CNS in both rodents and primates. Dornan et al (1991) reported that subcutaneous injections of MDMA (40mg/kg) every 12 hours for 4 consecutive days to sexually vigorous male rats produced a transient disruption in the expression of male sexual behavior when compared to saline injected controls. One week after the first injection, MDMA induced a disruption in the expression of male rat copulatory behavior when compared to saline injected controls. In MDMA treated males that did display ejaculatory behavior, however, both the ejaculation latency and the post-ejaculatory interval were dramatically lengthened when compared to controls. This inhibition was not seen, however, at a lower dose of 20mg/kg. One week after the first behavioral test, sexual behavior in MDMA treated rats appeared unaffected despite a marked depletion of 5-HT and 5-HIAA content. Presently, little is known about the effects on the expression of male rat copulatory behavior following administration of other amphetamines which are selective 5-HT neurotoxins. In this study, the effects on male rat copulatory behavior of parachloroamphetamine (PCA), a neurotoxin similar to MDMA, was examined. PCA (10mg/kg and 20mg/kg) or saline (1ml/kg) were administered intraperitoneally to sexually vigorous male rats. These doses of PCA have been shown to produce 5-HT neurotoxicity in the CNS of the rodent. Three days following the injection, a motor activity test was scored and a variety of parameters of male sexual behavior were assessed. One week later the males were tested again. The results of this study revealed that neither neurotoxic doses (10mg/kg and 20mg/kg) of the 5-HT neurotoxin PCA produces the transient disruption of male rat copulatory behavior seen when the similar 5-HT neurotoxin MDMA is administered on a neurotoxic regimen.