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LETTER TO THE EDITOR

MDMA Study

Recently you published a study by Vollenweider and colleagues (1998), who administered a recreational dose of 1.7 mg/kg MDMA ("XTC") to 13 healthy volunteers with no prior use of MDMA. Although the described short-term effects of MDMA are very interesting, we think this study should not have been performed because of the risk of long-term effects. In their introduction, the authors state that "animal research strongly suggests that a single recreational dose of MDMA is unlikely to produce long-term serotonergic deficits in humans". We disagree with this ascertion for the following reason: Repeated administration of MDMA to animals leads to damage of serotonergic axons and terminals which regenerate only to a certain extent and in a very abnormal manner (Fischer et al. 1995). This damage is associated with decreased concentrations of serotonin in the brain. Single dose MDMA also causes a rapid, biphasic decrease in concentration of serotonin in the brains of animals: concentration drops within 1–3 hours restores within 24 hours and drops again after 24–36 hours, lasting for months or even a year (Steele et al. 1994). Therefore it cannot be excluded and even seems likely that administration of a single dose of MDMA to humans causes damage of serotonergic neurons. Even more because primates seem to be more sensitive to both acute and chronic effects of MDMA: in rats, 10 mg/kg (Colado et al. 1995) and in monkeys, 5 mg/kg causes these effects (Ricaurte et al. 1988), a dose that closely approaches the usual recreational dose.

If MDMA were a newly developed drug it would almost certainly not be allowed in clinical phase I studies on these grounds. It is undesirable that illicit drugs that are neurotoxic in animal experiments are administered to healthy volunteers, even though people take these drugs voluntarily for recreational purposes.

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