CS05-02 - **THE INVOLVEMENT OF DOPAMINE IN HUMAN SEXUALITY**

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Studies in humans and animals have suggested that the central dopaminergic system is involved in all components of male and female sexual behavior: desire, erection, orgasm and satisfaction. Copulating activity enhances DA release in the nucleus accumbens as measured by microdialysis in male rats. This rise in DA release lasts until ejaculation and then declines during the refractory period.

Dopaminergic agonists such as L-dopa, apomorphine, amantadine, bupropion, amphetamines and cocaine have been reported to arouse sexual behavior. Short term use of cocaine and other drugs that increase dopaminergic activity (Marijuana, MDMA) facilitate sexual desire and erection and delay ejaculation. These effects are reversed in chronic abuse when brain DA is depleted.

Central dopaminergic blockers, like first generation antipsychotics suppress sexual functioning via the D2 receptors blockade and the corresponding elevation in plasma prolactin levels. Due to their weak antagonistic activity at D2 receptors, second generation antipsychotics are associated with fewer sexual side effects and thus provide an option in the treatment of patients with schizophrenia.

Enhancement of dopaminergic activity by the addition of the DA agonists or bupropion, a norepinephrine-dopamine reuptake inhibitor, has been reported as an effective approach in the management of antidepressant-induced sexual dysfunction. The significant facilitating role of the DA system on sexual function should not be viewed independently. The dopaminergic system interacts with other systems like gonadal hormones, Nitric Oxide and serotonine in the complex neurobiology of sexual function.

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