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Effects of sexual arousal on lymphocyte subset circulation and cytokine production in man.

Haake P, **Krueger TH**, **Goebel MU**, **Heberling KM**, **Hartmann U**, **Schedlowski M**.

Department of Medical Psychology, University Clinic of Essen, Essen, Germany.

OBJECTIVE: Sexual arousal and orgasm induce an increase in sympathetic activity as well as in catecholamine and prolactin plasma concentrations. However, the effects of sexual arousal and orgasm on immune functions in man are unknown. Thus, this study investigated the effects of masturbation-induced orgasm on lymphocyte circulation and cytokine production in healthy young males. METHODS: In a crossover design, 11 volunteers completed an experimental condition in which they were asked to masturbate until orgasm and to participate in a control condition without sexual activity. Blood was drawn continuously for determination of endocrine parameters. In addition, leukocyte and lymphocyte subsets were analyzed via flow cytometry, and the production of lipopolysaccharide-induced interleukin 6 and tumor necrosis factor alpha was measured before and then 5 and 45 min after the orgasm. RESULTS: The results confirmed transient increases in adrenaline and prolactin plasma concentrations. Sexual arousal and orgasm increased the absolute number of leukocytes, in particular natural killer cells (CD3-CD16+CD56+), in the peripheral blood. In contrast, T cell (CD3+) and B cell (CD3-CD20+) subpopulations as well as the production of interleukin 6 and tumor necrosins factor alpha remained unaffected by sexual activity. CONCLUSION: These findings demonstrate that components of the innate immune system are activated by sexual arousal and orgasm.

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