Effects of concurrent chronic administration of alcohol and nicotine on rat sperm parameters.


Source
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Abstract
The prevalence of cigarette and alcohol consumption is high among young adult males during the reproductive period. The current study aimed to evaluate the impact of concurrent chronic administration of nicotine and ethanol on the quality of sperm in the rat. Fifty healthy Wistar male rats were randomly divided into five groups (n = 10) and were given the following for a period of 50 days: ethanol (E), nicotine (N), ethanol and nicotine (E/N); the control group (C) and an intact (I) group. Body weight as well as the weight, volume and dimensions of the testes and the weight of the cauda epididymis and vas deference were measured. The concentration, motility, viability and membrane integrity of sperm were also assessed. There were no significant differences between body weight and all testis parameters including weight, volume and dimensions. The concentration and motility of sperm in the E/N group was significantly reduced compared with the control group (P < 0.01). Nevertheless, only a marginally significant decrease in sperm viability was found in the E/N group compared with the control group. The study indicates that concurrent chronic administration of ethanol and nicotine may disturb male reproductive function.

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