

components of cigarette smoking topography (number of cigarettes, number of puffs, puff duration, pause duration, cigarette duration) as a function of a smoker's history of alcohol consumption. Smokers were grouped as a function of their self-reported and observer-verified current drinking status over the three months prior to the study, as well as a history of alcohol abuse as assessed by DSM-III criteria. Data analysis showed significant differences between groups for nicotine content of the cigarettes smoked ($p < 0.0001$), number of cigarettes smoked ($p < 0.0001$), cigarette duration ($p < 0.002$). The data indicate a history of alcohol use is associated with increased daily smoke exposure.

THE EFFECTS OF SMOKING ON DISCRIMINATIVE FORCE EMISSION IN HUMANS

Michael Klitzke, Thomas Lonbardo and Stephen Fowler
University of Mississippi

In comparison to non-smokers, smokers exerted more force during a fine motor task after smoking a cigarette or when abstinent from smoking. Task performance was assessed in terms of measured peak force exerted, duration of response, interresponse time, number of correct responses, and total number of responses. Significant negative correlations were found between the number of years smokers smoked and peak force exerted during the smoking condition. The findings suggest an important role for force measurement technology in human behavioral pharmacology research.

THE ROLE OF PAVLOVIAN CONDITIONING IN OPIATE WITHDRAWAL IN RATS

Jean A Paty
Clinical Psychology Center, University of Pittsburgh, Howard D Cappell
University of Toronto

Experiments were conducted to examine the hypothesis that conditioned compensatory responses (CR), which are hypothesized to mediate drug tolerance, are expressed as withdrawal when the drug is not present (Siegel, 1983). In Experiment 1, it was confirmed that saccharin aversion is a reliable, sensitive index of withdrawal from morphine. In Experiment 2, animals were first made tolerant to a dose of 60 mg/kg morphine given in a distinctive environment (DR). They were then left for 30 days to recover from the with-

drawal effects associated with the cessation of a chronic high drug dose. These animals were then given a placebo, saline, in the DR. If the CR was expressed as withdrawal then a saccharin aversion should have occurred in the presence of drug related cues. The results did not confirm this prediction. It is concluded that perhaps non-specific measures of withdrawal will not demonstrate a general withdrawal like effect in the presence of drug related stimuli.

BEHAVIORAL EFFECTS OF CHRONIC COCAINE ADMINISTRATION

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Osmotic minipumps continuously infused cocaine (0.1 or 0.3 mg/kg/hr) during 14-day periods in three squirrel monkeys (*Saimiri sciureus*) trained under a fixed-interval 180-sec stimulus-shock termination schedule. Cocaine was administered (IM) acutely using cumulative-dosing procedures once per week prior to and during chronic treatment. Control response rates increased during chronic treatment (0.1 mg/kg/hr) but returned to pre-pump levels following termination of chronic treatment. Tolerance developed to the gross behavioral effects observed initially in all subjects during chronic treatment (0.3 mg/kg/hr) and to rate-suppressing effects observed in one subject. However, tolerance did not develop to the acute effects of cocaine.

CLONIDINE, NEGATIVE CONTRAST AND NOVELTY-INDUCED STRESS

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Rats were shifted from 32% to 4% sucrose solutions. The resultant negative contrast effect in consummatory behavior was not alleviated by clonidine (0.00312, 0.00625, 0.0125, 0.025, 0.050 mg/kg). The lower doses had no effect on behavior, the higher doses reduced consumption in both shifted and unshifted rats. In Experiment 2 clonidine (0.0625, 0.0125 mg/kg) raised plasma glucose levels in animals exposed to a novel environment. These results are at variance with those obtained with chlordiazepoxide and other anxiolytics and suggest limits on the degree to which clonidine can be considered to function as an anxiolytic.

PAPER SESSION

Human Psychopharmacology

Friday August 28, 1987 • 2:00 p.m. - 3:50 p.m.

Marriott Marquis Hotel • Kern/Sullivan Room

Chair: Stephen A. Daniel, Mercy College

TOXICOLOGY SCREENING IN ACUTE SPINAL CORD INJURY

Allen Heinemann
Northwestern University Medical School, Sidney Schnoll
University of Virginia, Roger and Mary Keen
Northwestern Medical School

The validity of self-reported intoxication at time of spinal cord injury (SCI) was examined by comparing self-reports with the results of blood serum and urine analysis for 78 cases at admission to an acute SCI center. Serum ethanol was the most frequently found substance followed by lidocaine, cocaine, cannabinoids, opiates, meperidine, morphine, and methadone. While 51% of the sample reported

being under the influence of some substance at the time of SCI, the relationship between these two measures was not statistically significant. These results suggest that routine drug testing at admission to an SCI center will produce false negatives as well as false positives if presence alone is interpreted as evidence of intoxication.

DRUG TYPE, PERSONALITY, PSYCHOPATHOLOGY AND EARLY TERMINATION IN SUBSTANCE ABUSE

Michael J Stark
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