

stimuli Naltrexone is a very safe drug since it has virtually no agonist or side-effects Naltrexone generally fails to maintain treatment participation by lower socioeconomic clients but may be used beneficially with paying drug abuse patients such as health care practitioner abusers Its use by psychologists treating opiate abusers in private practice should be promoted

TOBACCO DEPENDENCE BEHAVIORAL PHARMACOLOGICAL BASIS FOR NICOTINE REPLACEMENT Jack Henningfield, Ph D , Chief The Johns Hopkins University School of Medicine, Biology of Dependence and Abuse Potential Assessment, Laboratory, NIDA Addiction Research Center, 4940 Eastern Avenue P O Box 5180, Baltimore, MD 21224

The fundamental premise of replacement therapy is that the physiologically based feelings of discomfort and disruption of functioning which characterize drug withdrawal, can be therapeutically managed by administration of a chemical which produces cross-tolerance and cross-dependence with the one to which the person is already dependent The chemical may be different in structure, or may be identical in structure but administered in another route or vehicle, or it may even be of identical structure and form but is given according to a prearranged therapeutic schedule The putative replacement chemical should substitute for the abused substance on measures relevant to treatment of the drug-seeking behavior The rational basis for the utility of a replacement approach (vs antagonist administration) to treat tobacco dependence is that nicotine administration produces many of the effects of tobacco that are critical in the dependence process These effects of nicotine include, physiologic dependence which results in withdrawal following tobacco abstinence, and also many of the desirable effects of tobacco such as mood regulation, appetite control, and enhancement of concentration and verbal ("cognitive") performance Although no satisfactory nicotine substitutes have yet been developed, nicotine delivered via different routes of administration (e g , inhaled and IV), and with different vehicles (e g , tobacco smoke, snuff and polacrilex) produce similar effects on a variety of behavioral and physiologic measures However, differences related to the vehicle and pharmacokinetics of each preparation confer various advantages and disadvantages on each as a putative therapeutic nicotine replacement form For instance, cross-tolerance and cross-dependence are obtained for both cigarette smoke-delivered nicotine and polacrilex-delivered nicotine, but cigarette smoke better satisfies the desire to smoke than does the polacrilex Therapeutically managed nicotine replacement for tobacco can currently be accomplished by the administration of nicotine polacrilex (gum) Such administration produces dose-related reduction of withdrawal-related performance impairment and of other signs and symptoms of tobacco withdrawal These beneficial effects are dependent on adequate dose levels of nicotine being administered, and achievement of such levels may require dosing regimens to be specified by the clinician Desire to smoke ("craving") is relatively insensitive to nicotine replacement, however, there is evidence that the reinforcing efficacy of cigarettes is nonetheless reduced by administration of the polacrilex It is plausible that other routes of nicotine replacement would better satisfy the tobacco users desire to use his or her preferred form of tobacco Taken together, these findings are

consistent with those regarding replacement therapies in general and confirm that nicotine replacement via polacrilex is well-based on scientific principles

ALCOHOL ABUSE BEHAVIORAL FUNCTIONS OF PHARMACOLOGICAL ADJUNCTS George E Bigelow, Ph D The Johns Hopkins University School of Medicine, Behavioral Pharmacology Research Unit, D-5-West, Psychiatry Department, Johns Hopkins/Key Medical Center 4940 Eastern Avenue, Baltimore, MD 21224

It is in the alcoholism field that the most diverse rationales for pharmacological treatment of substance abuse problems have been articulated and acted upon These rationales have ranged from medical safety (prevention of withdrawal seizures), to subjective palliation (reduction of subjective distress during detoxification), to treatment of presumed underlying disorders thought to cause excessive drinking (prescription of anti-anxiety or antidepressant medications), to direct efforts to alter the effects of alcohol so as to make drinking less reinforcing (treatment with disulfiram) The last of these approaches—treatment with disulfiram—is the only pharmacological approach currently receiving extensive application in treating the behavioral aspects of alcohol dependence This presentation will review the various approaches and rationales for pharmacological treatment of alcohol abuse but will focus primarily upon disulfiram treatment and upon the use of behavioral procedures to enhance the efficacy of this pharmacological modality Disulfiram is a pharmacologically efficacious agent which has had limited clinical efficacy due to widespread behavioral nonadherence to medication use The action of disulfiram is to cause an aversive reaction if alcohol is consumed thus, its behavioral function is that of a punisher, and its limited self-administration by patients is not surprising Data will be presented illustrating the effective use of behavioral procedures to promote disulfiram use and to enhance clinical outcomes In addition, the presentation will discuss the possibility of utilizing the reinforcing effects of other medications to promote retention and participation in nonpharmacologically-based treatments for alcohol abuse Relevance of these approaches to other aspects of drug self-administration and medication compliance will be discussed

SYMPOSIUM

Conditioned Drug Tolerance Empirical and Theoretical Developments

*Friday August 28, 1987 • 10 00 a m -11 50 a m
Marriott Marquis Hotel • Julliard/Imperial Room
Chair Stephen Tiffany, Purdue University*

ENVIRONMENTAL CUES FOR DRUG ADMINISTRATION ROLE IN TOLERANCE AND RELAPSE Riley E Hinson Department of Psychology, University of Western Ontario, London, Canada

It is well established that environmental stimuli affect the display of tolerance and the occurrence of relapse An account of the role of environmental stimuli originally elaborated by Siegel suggests that environmental cues of drug administration elicit conditional responses (CRs) that tend to cancel the drug effect producing tolerance Most of the research on the conditioning model of tolerance has empha-