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TREATMENT, PSYCHOLOGICAL FACTORS FEATURED AT NIAAA CONFERENCE

Treatment and treatment evaluation, as well as psychological and social factors in drinking, were discussed at the Second Annual Alcoholism Conference of the NIAAA, held June 1-2 in Washington. Over 600 persons attended the conference.

Specially featured on the program was a guest lecture by Dr. Vladimir Hudolin of Zagreb, who described the extent of alcoholism in the Republic of Croatia and the treatment of alcoholic patients. The number of alcoholics is increasing, he said, especially among women; and in recent years alcoholics account for 50% of all male psychiatric admissions to hospitals. Treatment is most often carried out in psychiatric institutions. Because the number of alcoholics is too large to permit individual treatment, group therapy is playing a large role. In general, the alcoholic patient is able to continue to work, and thus therapy should be started in his professional organization. Family treatment is necessary as well. Therapeutic communities involve the alcoholic actively in his own treatment, requiring him to pass an examination on alcoholism after a certain period. There are now 130 clubs of treated alcoholics, involving about 20,000 members, family members, and therapists.

A second guest lecture was delivered by Dr. Griffith Edwards of the Institute of Psychiatry and Maudsley Hospital in London.

Reports from some of the other papers presented at the conference follow:

Drinking To Feel Powerful

According to David C. McClelland, Professor of Psychology at Harvard, systematic examination of fantasies produced while drinking reveals in males of varying social class background an elevated incidence of socialized and personal power thought and fewer indicators of inhibition than in comparable males under control conditions. He interprets these new findings as support for the hypothesis that males drink primarily to

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NCA MEDICAL-SCIENTIFIC SESSION HEARS LATEST WORK ON ALCOHOL AND CENTRAL NERVOUS SYSTEM

New tools and techniques are illuminating the effects of alcohol on the central nervous system in animals and man. Participants in the Medical-Scientific Session of the 1972 Annual Meeting of the National Council on Alcoholism, held April 10-14 in Kansas City, were brought up-to-date by accounts of the latest research in the field.

Other highlights of the meeting included an address by John Volpe, Secretary of Transportation; the presentation of the NCA Gold Key Award to Mercedes McCambridge by Senator Harold Hughes of Iowa; and a program on traffic safety and alcoholism chaired by Robert B. Voas of the Department of Transportation. At the AMSA-Region VI meeting held in conjunction with the conference, William S. Simpson, M.D., described the hospital-community approach of the Topeka State Hospital (PAN, Vol. 6, No. 3, Summer 1971).

Studies Question Validity of "Craving" Theory

New evidence questioning the validity of the "craving" theory of alcoholism has been reported in three different studies. According to the craving theory, postulated by Mardones, "every time the subject starts drinking, he is compelled to continue until he reaches a state of severe intoxication." (Earlier studies questioning the concept of craving were reported in PAN, Vol. 4, No. 3, Summer 1969.)

Alcoholics' Drinking Patterns Altered by Work-Contingency

Alcoholics required to perform a simple task (pressing a button) to get alcohol and cigarettes alternated drinking periods of 3 to 6 days and relatively abstinent work periods of 2 to 3 days, associated with partial withdrawal signs and symptoms. On the other hand, 18 alcoholics given unrestricted access to alcohol maintained stable levels of blood alcohol over drinking periods of 8 to 15 days. None of the subjects drank all the alcohol available, and in no instance did a subject try to "drink to oblivion." The results of this study, one of a series on the behavioral and biologic effects of alcohol, were reported by Nancy K. Mello, Ph.D., of NIAAA and Jack H. Mendelson, M.D., Chairman, Department of Psychiatry, Harvard Medical School.

Despite a total intake of 3000 to 5000 calories daily, subjects did not gain or lose weight over 105 days of observa-

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Following are brief reports from the medical-scientific session:

Ethanol Elevates Brain ADH Activity

Does prolonged ethanol ingestion increase brain ADH and/or AldH activity? Yes, according to a study of rats reported by Neil H. Raskin, M.D. of the Department of Neurology of the University of California in San Francisco. Tolerance to ethanol is probably a manifestation of central neuronal adaptation (cellular tolerance) rather than alteration in the rate of the systemic metabolism of alcohol. Decreased CNS responsiveness to chronic ingestion of ethanol may be explained by augmented brain levels of ADH and AldH, both found in a group of rats within 2 weeks of beginning a regimen of oral alcohol. In the experimental group the brain ADH activity was significantly higher than in the controls, by a factor of approximately 0.5. The time course of the appearance and magnitude of elevated brain ADH activity is similar to that of behavioral tolerance in rats.

Na-Sensitive Neuron Cells Vulnerable to Ethanol

Sodium-sensitive cells of the lateral hypothalamic (LH) neurons of the rat are very sensitive to ethyl alcohol at relatively low doses, said Matthew J. Wayner of the Brain Research Laboratory of Syracuse University. He speculated that ethyl alcohol in the brain might have a selective effect on interneurons just as it does in the spinal cord, except that these interneurons in the LH have a very sensitive inward Na pump

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EDITORIAL

Diagnostic Criteria for Alcoholism

To Be Published in August

Readers of PAN will be gratified to learn that the Committee on the Criteria for the Diagnosis of Alcoholism has, after much deliberation, achieved consensus on a set of criteria. This document has been accepted for simultaneous publication in the August issues of the *Annals of Internal Medicine*, the official organ of the American College of Physicians, and the *American Journal of Psychiatry*, the official organ of the American Psychiatric Association. This marks the first time that the *American Journal of Psychiatry* has agreed to publish an article simultaneously with another professional journal. After publication, reprints will be available from NCA.

The Criteria Committee was assembled under the sponsorship of NCA and is chaired by Dr. Samuel Kaim, head of the extensive alcohol and drug addiction services of the Veterans Administration. In addition to the primary members of the committee, listed below, the criteria have been examined by the Medical Affairs Committee of NCA and other workers in the field—a total of over 65 physicians whose experience and knowledge made them particularly suitable for this task.

The criteria do not contain many surprises for those who have worked in the field; they are intended rather to form a baseline so that never again will a Supreme Court decision say that doctors disagree about what constitutes the diagnosis of alcoholism. However, the criteria are not meant to be a static concretization which will limit conceptual change. Indeed, it is hoped to develop experience-rated modification on the basis of the utilization of the criteria.

However, no matter what one's view of alcoholism, interests of simple justice demand that we restrict a firm diagnosis of alcoholism to those cases which are severe enough (or "far enough along") so that we may have a reasonable assurance that alcoholism is indeed a major problem for the majority of individuals so characterized. Thus, while early indicators are present, some favorite clues of some practitioners may not appear. In general, the committee has attempted to avoid very subtle, disputed, and complex items as being of not too much help for the person who must make an on-the-spot decision. Some of these parameters, however, may be useful in preventive and educational endeavors.

The committee hopes that the criteria will be useful for the many new services being developed under the Hughes bill, the DOT's ASAP programs, and in implementing the new laws that put public inebriation into the health rather than the criminal field.

Members of the committee, in addition to Dr. Kaim, include: Henry Brill, M.D., Director of Pilgrim State Hospital and past chairman of the AMA Committee on Alcohol and Drug Dependency; Luther Cloud, M.D., Associate Medical Director of the Equitable Life Assurance Society, past president of NCA and Chairman of its Medical Affairs Committee; David H. Knott, M.D., Ph.D., Director of the Alcoholism Service at Tennessee Psychiatric Hospital and University of Tennessee School of Medicine; Charles S. Lieber, M.D., Professor of Medicine, Mt. Sinai Medical School; William McIsaac, M.D., Director of the Texas Research Institute of Mental Science; and Jack H. Mendelson, M.D., Director of Psychiatry Service, Boston City Hospital, and Professor of Psychiatry, Harvard Medical College.

Also James Rankin, M.D., Director of the Toronto Addiction Research Foundation; Anthony Reading, M.D., Assistant Professor of Psychiatry, Johns Hopkins Hospital and Medical School; Richard S. Shore, M.D., Director of the Bureau of Alcoholism, San Francisco Department of Public Health; Harold N. Willard, M.D., Professor of Medicine, Yale University School of Medicine; and Stephen J. Wolin, M.D., St. Elizabeth Hospital, representing NIAAA. Dr. Irvin Hendryson, Associate Dean of the University of New Mexico and President of NCA, has served ex officio, Dr. Frank A. Seixas, Medical Director of NCA, acted as staff.

FAS

Computer Classifies Alcohol Patients

Alcoholic patients entering a treatment program in Missouri can now be typed and classified, using the results of an analysis of data collected as part of a statewide computerized information system called the Standard System of Psychiatry (SSOP). The results of the analysis were reported by Harold Altman, M.D., Richard C. Evenson, Ph.D., Ivan W. Sletten, M.D., and Raymond Knowles, M.B. of the Missouri Institute of Psychiatry, St. Louis, to the 125th Annual Meeting of the American Psychiatric Association held in Dallas in April.

The alcohol data was collected on an Alcohol History Form over several years from 875 inpatients within the Missouri Division of Mental Health. Fifteen factors were isolated and grouped into three main types. Group 1 was primarily younger, married, employed, and living with their primary family. Members of Group 2 were more likely to be older, unemployed, living alone or with friends, and show signs of greater deterioration. Group 3 appeared to be primarily female.

BOOKS

The Alcoholic Patient in Surgery

By Albert W. Lowenfels, M.D. Baltimore: The Williams & Witkins Co., 1971. 268 pp.

A comprehensive treatment of the difficult surgical problems arising in the care of acute and chronic alcoholic patients, this book describes pre- and postoperative care, the withdrawal syndrome, anesthetic management, psychiatric consultation, and the complications of various organs affected by alcohol.

Nature and Nurture in Alcoholism

Edited by Frank A. Seixas, Gilbert S. Omenn, E. David Burk and Suzie Eggleston. Vol. 197, *Annals of the New York Academy of Sciences, May* 25, 1972. 229 pp.

Proceedings of the 1971 Medical-Scientific Session of the Annual Meeting of the National Council on Alcoholism.

MEETINGS

AUGUST 3-6—Annual Meeting, International Doctors in AA, Hotel Stanley, Estes Park, Colorado (Near Denver). Information from IDAA, 1950 Volney Road, Youngstown, Ohio 44511.

SEPTEMBER 4-9—30th International Congress on Alcoholism and Drug Dependence, Amsterdam, Netherlands. Information from International Council on Alcohol and Addictions, Case Postale 140, 10001 Lausanne, Switzerland.

SEPTEMBER 10-15—23rd Annual Meeting, Alcohol and Drug Problems Association of North America, Atlanta, Georgia. Information from ADPA Annual Meeting, P.O. Box 80684, Chamblee, Georgia 30341.

TRAUMA SIGNIFICANT IN ALCOHOLIC BRAIN DAMAGE

Betty Chandler, Arthur Vega, and Oscar Parsons, from the Oklahoma Center for Alcohol-Related Studies, have completed an investigation to assess brain damage in alcoholics. Recall of dichotic-represented digits was used to detect deficits in performance due to brain damage. (The subjects listened simultaneously to different series of numbers fed through earphones to each ear. As a part of the test, subjects were asked to report the numbers later.)

Dichotic testing showed that the "brain trauma" alcoholics made more errors than the other two groups. There were no differences between the "no brain trauma" alcoholics and control subjects. This study suggests that head trauma in alcoholics might play a more significant role than alcohol in the brain damage found among these patients.

Reports on Treatment and Social Factors from NIAAA Meeting

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feel strong rather than to satisfy oral dependency or to reduce anxiety.

Power Not Motive of Female Drinker

Sharon C. Wilsnack, Research Fellow of Clinical Psychology at Harvard, used three different methods to assess motivational factors in women's drinking. Previous investigators, she said, had assumed men and women drink for the same reasons. In a pilot study 20 young women were asked to list 10 adjectives which described how they felt after having 2 drinks. A second method was a literature review on female alcoholism. In the third investigation, subjects attended informal parties of 6 women and 8 men. They wrote imaginative stories at the beginning and the end of each party (TAT test). Comparisons were made between "wet" parties at which liquor was served and "dry" parties in which soft drinks were substituted. All measures supported the hypothesis that women drink not to enhance power or dependency needs but to enhance womanliness. No obstetrical or gynecological disorders were reported in only 22% of a sample of woman alcoholics in contrast to 65% of controls who had married.

Alcohol and Drug Use Among Teenagers

Teenagers who use alcohol more heavily than many of their peers also tend to use a variety of other psychoactives, according to a questionnaire study reported by Henry Wechsler, Ph.D., and Denise Thum, Ph.D. of the Medical Foundation of Boston.

Today's typical male adolescent is a moderate alcohol user, another questionnaire study showed. More than 3,500 male students from seven junior and senior high schools in three Boston communities were surveyed, said Harold W. Demone, Jr., Ph.D., Executive Director of the United Community Services of Metropolitan Boston.

Sober Time: Neglected Variable in Recidivism of Alcoholics

Skid Row alcoholics would reinvent the halfway house, said Jacqueline P. Wiseman, Ph.D. of San Francisco State College. In trying to account for the high rate of recidivism among alcoholics, the factor of sober time—what the alcoholic does when he is consciously attempting to remain sober—has been largely overlooked. An exploratory study of one type of alcoholic, the indigent male over 35 who has been committed to public institutions for his drinking problem, showed a lack of preparation for resumption of the stresses and decisions of sober time. They experience difficulties in making decisions and mobilizing energies.

Treatment for Lower-Class Patients

Structured Learning Therapy may prove a means of treating lower-class alcoholic patients, who typically do not respond to psychotherapy, reported Arnold P. Goldstein, Ph.D. Professor of Psychology of Syracuse University. Groups of patients see videotapes, depicting an aspect or dimension of the particular interpersonal skill that the therapists wish to train or the particular type of avoidance behavior that is meant to be reduced.

Criteria for Patient Care Evaluation

Criteria to evaluate patient care have been developed by Gary L. Tischler, M.D., and Donald C. Riedel of the Yale University School of Medicine. Criteria of appropriateness provide guidelines for admission to treatment services. Criteria of adequacy are meant to insure that the treatment process per se unfolds in a rational and systematic manner. Criteria of effectiveness measure the success or lack of it of a particular treatment intervention.

Psychotherapeutics of Alcoholism

The typical alcoholic and the typical psychiatric therapist may have personality traits which are similar and interact on an unconscious level, said Robert A. Moore, Medical Director of Mesa Vista Hospital, San Diego. Faced with the addict's presence and provocation, the psychotherapist denies the similarity to his own wishes. Sometimes the envious rage surfaces, leading to "therapeutic" attacks upon the patients. However, such overt expression creates guilt so he may adopt an opposite attitude, a reaction-formation, leading to permissiveness until the patient drifts away. The psychotherapist should be an active intervenor, participant and reality interpreter, like the psychotherapist who does well with schizophrenic patients. Dr. Moore encourages the use of Antabuse.

Indian Treatment Center Uses Native Leaders

A unique treatment program for alcoholics geared to the cultural idiosyncrasies of the Cheyenne-Arapaho Indians is in progress in Clinton, Oklahoma. The program is supported by a grant from the U.S. Department of Health, Education and Welfare, and the director and originator is Bernard S. Albaugh.

The goals are to stimulate a "spiritual awakening" using principles and rituals of the Native American Church and other practices taken from the Indian cultural heritage. For example, Indian sweat lodges still in use by tribal leaders in the area are used to symbolically clean out "evil spirits and sickness." The program includes lectures on native customs, beliefs and vows given by elderly Indians who have gone through the rituals of their own tribes and who are qualified to be chiefs and headsmen.

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which makes them particularly vulnerable to ethanol because of its effect on Na conductance and the excitability of the cell membrane. Consequently, ethanol turns off these Na-sensitive neurons, and the other cell is released from inhibition and increases in frequency, or is turned on. The turned-on cell probably participates both in the specific motor effect of drinking and in a nonspecific motor arousal involved in the determination of adjunctive behavior.

Ethanol Affects Ion Transport and Action Potential

Ethanol inhibits the active transport of K+ in rat brain slices and the (Na+K) ATPase, reported Yedy Israel, Ph.D., of the Department of Pharmacology of the University of Toronto School of Medicine. Ethanol was shown to inhibit both active Na+ transport and action in squid giant axons; however, the former was more affected than the latter. The inhibition by ethanol could be partly counteracted by increasing the concentration of K+ in the medium.

Biosynthesis of Catecholamines Tested in Rats

In the panel on biogenic amines, Arnold J. Friedhoff, M.D., Professor of Psychiatry of the New York University School of Medicine, discussed a series of studies that tested the hypothesis that ethanol produces tolerance and perhaps withdrawal and addiction by stimulating the production of compounds which antagonize the effects of ethanol, such as norepinephrine (NE). Increased production by the animal of central activators such as NE would require the ingestion of increased amounts of alcohol to obtain an effect. In rats administered alcohol for varying periods of time, the activity of two drug-detoxifying microsomal enzymes in the liver was increased with short periods of ethanol administration. However, the activity in the caudate of tyrosine hydroxylase, the rate-limiting enzyme in NE synthesis, was unaffected by short periods of ethanol. Prolonged administration of ethanol produced a significant decrease in tyrosine hydroxylase activity, contrary to expectation.

Serotonin Plays Role in Ethanol Preference

Irving Geller, Ph.D. of the Southwest Foundation for Research and Education in San Antonio, administered the compound MMTC, and the serotonin precursor, 5-HTP, chronically to albino alcohol-preferring rats. A decrease of ethanol intake incurred in all rats with a concomitant increase of water intake in some animals. Biochemical analysis of the brains of rats treated with MMTC or 5-HTP on a regimen similar to that used for the alcohol-drinking rats revealed an increase of whole brain serotonin, suggesting a possible relationship between alcohol drinking and the brain serotonergic system of the rat.

R. D. Myers of the Laboratory of Neuropsyschology presented his work on the role of cerebral serotonin in the ethanol preference of animals, and Liisa Ahtee, M.D. of the University of Helsinki described her experiments showing the increase in 5HT content in the brain of ethanol-selecting rats. These papers represent extensions of work reported in PAN, Vol. 6, No. 4, Fall 1971.

Acetaldehyde Mediates Effect of Ethanol on Biogenic Amine Metabolism

Acetaldehyde competitively inhibits 5-hydroxyindoleacetaldehyde oxidation to 5-hydroxyindolocetic acid, explaining in part the mechanisms of the shift in the biogenic amine metabolism from the oxidative to the reductive pathway, reported Edward Majchrowicz, Ph.D., of the NIAAA. This diversion of the metabolism is probably responsible for the increased formation of 5-hydroxyindoltrypotophanol and methoxyhydroxyphenylglycol. The fact that this action of acetaldehyde occurred even in the presence of excessive amounts of nicotinamide adenine dinucleotide (NAD) contradicts the idea that the cause for this shift in the metabolism is due to the increase in NADH/NAD ratio, caused by ethanol metabolism.

These results suggest that the effect of ethanol on biogenic amine metabolism is mediated by acetaldehyde at the aldehyde dehydrogenase locus and not monamine oxidase. The alteration in biogenic amine metabolism may be due to competitive inhibition and not necessarily to change in NADH/NAD ratio.

Isoquinolines and Other Morphine-Like Substances

In the continuing controversy over the significance of morphine-like alkaloids produced by condensation of catecholamines with acetaldehye, Gerald Cohen, Ph.D. of the Clinical Research Center for the Study of Parkinson's and Allied Diseases at Columbia University presented data to show that tetrahydroisoquinoline (TIQ) alkaloids can act as false neurotransmitters. He described some of the molecular pharmacological properties of TIQ alkaloids that are derived from dopamine (DA), norepinephrine (NE), and epinephrine (E). There is evidence that TIQ's are formed in vivo in the adrenal medulla of rats during intoxication with methanol. It seems likely, said Cohen, that TIQ's form in man during ingestion of alcoholic beverages and that their presence may persist after the alcohol has left the body.

R. N. Dajani of the School of Pharmacy of the American University of Beirut discussed the metabolism of B-carboline compounds (reported in PAN, Vol. 6, No. 4, Fall 1971).

Ethanol Accumulates Nonuniformly in Tissues of Mice and Monkeys

Among the findings of several research groups at the Texas Research Institute concerning the metabolic and biochemical aspects of alcoholism was the fact that ethanol accumulated nonuniformly in tissues of mice and monkeys. Both were treated with radioactively labeled alcohol; and the tissues were frozen, sectioned, dried, and applied to X-ray film. In the mouse the concentration of ethanol is high in the liver, as expected, but relatively low in the brain. In the monkey brain a higher concentration of radioactivity was found in the cortex than the white matter, the visual cortex having a higher concentration than other cortical areas. The radioactivity in the brain remained at a relatively constant level for at least 12 hours. Significantly, there was a very high concentration of radioactivity in the pituitary gland. The research was conducted by W. M. McIsaac, M.D., and reported by L. F. Fabre, Jr., M.D.

Where Does Alcohol Act in the Brain?

Using electric stimuli on cats and dogs, N. H. Spector, Ph.D. of the Walter Reed Army Institute of Research has attempted to determine the neuron specificity of ethanol. He concludes that while no "nucleus" so far studied is homogeneous, either in a selected function, or in its response to a given drug, some CNS sites do show a clear-cut dose-dependent sensitivity to low levels of ethanol, and others do not. The time course of each event and the ensuing rebound phenomena are essential parameters. Further studies are needed to accurately pinpoint actions of ethanol in the CNS.

More Reports on Alcohol and Central Nervous System

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Brain Protein Synthesis

Ernest Noble, M.D. of the University of California at Irvine presented new data from his research on brain protein synthesis and alcohol, reported in PAN, Vol. 6, No. 4, Fall 1971.

Withdrawal Syndrome in Animals

Animal models of physical dependence on ethanol have been produced in the Laboratory of Animal Medicine of the University of North Carolina School of Medicine, according to Fred W. Ellis, M.D., Professor of Pharmacy. Both dogs and monkeys have been used. If severe dependence has been induced, abrupt termination of ethanol intake will be followed within 24 hours by the occurence of reactions similar to the withdrawal syndrome seen in man.

Working with mice, Gerhard Freund, M.D., of the University of Florida College of Medicine has observed withdrawal syndromes after intoxication with ethanol, phenobarbital, and potassium bromide. The various withdrawal syndromes were similar, although the bromide withdrawal seizures were milder and occurred later than the ethanol- and barbiturate-withdrawal seizures.

Alcohol withdrawal signs in mice have been studied quantitatively by Dora B. Goldstein, M.D., of the Department of Pharmacology of the Stanford University School of Medicine. The intensity of convulsions on handling are scored hourly, the mean score for the group computed hourly, and the time course for the rise and fall of the withdrawal reaction plotted. The peak occurs a few hours after the alcohol has disappeared from the blood. The numerical characteristics of the curve can then be determined. The intensity of the withdrawal signs, and thus presumably the magnitude of the underlying biochemical change, varies with the total dose of alcohol that the animals received over a period of days. Drugs that are thought to be pharmacologically equivalent to alcohol, such as barbiturates, benzodiazepines and ethanol itself, suppress the elicited convulsions in mice. Phenothiazines, on the other hand, make the convulsions somewhat more severe.

Neurological Syndromes

Thiamine deficiency has cast some light on the character but not the distribution of the lesions in Wernicke's syndrome, said Pierre M. Dreyfus, M.D. of the Department of Neurology of the University of California (Davis) School of Medicine. Thiamine is involved in three major roles in the CNS: (1) energy metabolism through decarboxylation of alpha keto acids, (2) synthetic mechanisms as reflected by two transketolation steps of the hexose monophosphate shunt, and (3) the function of membranes and nerve conduction.

Two rare neuropathologic syndromes in alcoholism—the Marchiafava-Bignami syndrome and central pontine myelinolysis—were described by Charles M. Poser, M.D. of the University of Vermont College of Medicine.

Experiments on rats to determine whether alcohol plays a role in the production of myopathy, frequently seen in chronic alcoholics, were reported by Richard F. Mayer, M.D. The data suggest that prolonged consumption of alcohol in the rat can alter the muscle membrane as judged by the RMP but this need not progress to clinical weakness nor necrosis of muscle fiber.

Sleep Studies and EEG Analysis

EEG and related work conducted by Henry B. Murphree, M.D. of the Rutgers University Center of Alcohol Studies suggest that alcohol has both depressant and stimulant actions, the latter possibly mediated in part by catecholamine release. This may explain sleep disturbances and may also play a part in alcohol dependence.

In discussing validity problems in computer analysis of clinical EEG's, Bernard H. Fox, Ph.D. of the National Institute of Neurological Disease and Stroke said that we are at such a primitive stage in the exploration of predictors that, at least for the phenomenon associated with sleep, we cannot yet think seriously of individual prediction on a broad scale.

RESEARCH and REVIEW

Alcoholic "Diabetes": Glucose Intolerance Induced with Alcohol

Alcohol can produce in apparently normal people a diabetic state associated with increased levels of serum insulin, according to case studies reported by Gerald B. Philips, M.D., and Henry F. Safrit, M.D., of Roosevelt Hospital and Columbia University College of Physicians and Surgeons.

Two patients at Roosevelt demonstrated diabetes after consumption of alcohol, but neither showed abnormality in glucose tolerance when abstinent. When they were given alcohol by mouth in doses of 266 ml and 285 ml, in one day, in addition to a diet, they developed glucose intolerance. Of four similarly treated healthy volunteers, one developed glucose intolerance. The glucose intolerance was associated with an increase in the insulin response to glucose and a delay in the attainment of the peak insulin concentration. The effect of alcohol could not be attributed to its caloric value or to increased secretion of glucocorticoid or growth hormone.

Two of the subjects who responded to alcohol with glucose intolerance had close relatives with diabetes. It is possible, say the authors, that unrecorded alcohol intake might explain various clinical symptoms of diabetes, (*JAMA*, Vol. 217, No. 11, Sept. 13, 1971, pp. 1513-19.)

Excess L-dopa Found in Abstinent Alcoholics

Excess unmetabolized L-dopa has been found in the urine of abstinent alcoholics, providing the latest clue that alcoholism may stem from biochemical abnormalities. Dr. L. H. Rutter, a consultant biochemist who is conducting the study for the UK Medical Council on Alcoholism, believes that alcoholism has physiological bases rather than psychological ones, and that furthermore the "psychological" defects attributed to alcoholism may stem from metabolic causes.

L-dopa produces hypomanic side-effects in people being treated with it for Parkinson's disease. The symptoms include "increased motor and verbal activity with pressured speech, increased social involvement, intrusiveness, increased expressed anger, provocativeness, marked sleeplessness and some euphoria and delusions of grandeur," all symptoms recognizable in many alcoholics.

Dopa darkening of urine was found in 61% of the 45 men studied, and in 50% of the 20 women, but all showed some biochemical abnormality. In the majority, the evidence suggests a deficiency of enzymes or co-enzymes responsible for one or more stages in the synthesis or breakdown of glycogen. (*Medical Tribune*, March 30, 1972.)

Data Fail To Support "Craving Theory"

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tion, suggesting that calories derived from alcohol are not equivalent to those derived from food. Data on the interaction of drinking and eating suggest that the commonly observed malnutrition in alcoholics may be more closely related to the alcoholics' effort to manipulate the intoxicating effect of alcohol by not eating.

The authors conclude that "drinking patterns observed in the work-contingent paradigm are probably more concordant with the alcoholics' real-world experiences than the unrestricted drinking paradigm." (*Psychosomatic Medicine*, Vol. 24, No. 2, March-April 1972, pp. 139-64.)

Social Setting Held Decisive in Controlled Drinking

An alcoholic may safely be given alcohol without triggering uncontrolled drinking—provided the social setting does not encourage this kind of reaction, according to studies conducted by Alfonso Paredes, M.D., of the University of Oklahoma School of Medicine. In 18 long-time male alcoholics permitted to drink in an "open" hospital setting, this compulsion to drink has not been set off; even when they consume enough alcohol to convict a person of drunk driving in Oklahoma, they do not exhibit the aggressive, hostile, and provocative behavior associated with their previous use of alcohol.

The difference, according to Dr. Paredes, is in the social setting. "If the social expectations are suspended—if the drinker doesn't have his job to worry about, if there is no nagging wife waiting for him at home, if the people around him are not expecting him to act or react in a certain way—then the alcohol doesn't trigger the 'uncontrollable' actions or the provocative behavior seen outside."

The project, supported by an NIMH grant, will be continued until a total of 40 alcoholics on the drinking regimen at the hospital have been studied. Follow-up evaluations will compare those who leave the hospital before the 5-week period is completed and those who complete the program in either the drinking or nondrinking group. (*Psychiatric News*, Feb. 16, 1972, p. 22.)

Patterns of Controlled Drinking

Rather than "losing control," alcoholic patients show varying degrees of control over their drinking, a team led by Edward Gottheil, M.D., Professor of Psychiatry of Jefferson Medical College in Philadelphia, reported at the American Psychiatric Association meeting in Dallas.

Groups of 7 to 10 volunteer alcoholic patients were studied and treated on a closed ward in the presence of available alcohol. The patients could elect to drink zero, one or two ounces of 80 proof ethyl alcohol each hour on the hour from 9 a.m. to 9 p.m. Monday through Friday for 4 weeks.

Some alcoholic patients (44%) could resist drinking altogether; some could drink in moderation (33%), and some could drink and then stop (23%). Even among heavy drinkers, intake varied from day to day, and drinks could be resisted after large amounts had been ingested and abstinent days alternated with drinking days.

The patients who stopped drinking appeared to tolerate this rather well and did not indicate a "craving" for alcohol.

Kansas City ASAP Surveys Drunk Drivers

"On the average, over the times, days and sites surveyed (Kansas City October-November 1971), if one were driving at about the same speed as traffic in the opposite direction, one would meet a drunk driver every 4 minutes." This startling statistic was among the data reported at the 1972 NCA Annual Meeting by Robert F. Boos, Director of the Kansas City Alcohol Safety Action Program.

The voluntary roadside survey, designed to collect baseline data to evaluate the effectiveness of ASAP, will be repeated in the remaining 2 years of the program.

Before the program started, a one-week staff workshop was conducted by the Safety Center Staff of the Central Missouri State College at Warrensburg, Mo. Highlighting the workshop was a "drink-in" demonstration, in which 11 participants, most of them news media representatives, drove a car on the safety center driving range while sober and then again after a 2-hour drinking period. All scored significantly worse after drinking, and there was a dramatic difference in the demonstration between how well a participant thought he had done and how in fact he had performed.

Dr. Boos also reported on a questionnaire administered to 874 recovering alcoholics and on interviews with 100 of them, conducted by the Kansas City NCA affiliate between September 1 and December 31, 1971. The survey showed that of the 100 interviewees, only 6 could not beat the system when they were stopped for drunk driving. The rest used various techniques—talking the police out of a ticket, legal maneuvers, political influence, or bribes—to evade conviction.

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