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Physician's Alcohol NEWSLETTER



SEPTEMBER 1973

Biochemists report metabolic studies at Stockholm

A group of international experts met in Stockholm, Sweden, July 9-11, to discuss recent advances in the area of alcohol and aldehyde metabolism. The First International Symposium on Alcohol and Aldehyde Metabolism attempted to clarify controversial issues ranging from the molecular structure of enzymes to the systems involved in alcohol metabolism in the complex milieu of the intact cell.

The meeting, which was sponsored by the American Society of Biological Chemists, the International Union of Biochemists, and the National Institute on Alcohol Abuse and Alcoholism, was held as a satellite symposium to the IXth International Congress of Biochemistry.

Hugo Theorell of the Karolinska Institute, who is a pioneer in this field, delivered the plenary lecture on the historical aspects of physiological alcohol combustion.

Following are reports on some of the papers:

Imidoesters activate LADH

Bryce V. Plapp, Jack C. Kim, and Manfred Zoltbrocki of the Department of Biochemistry, University of Iowa, reported on the effect of various substituents on the amino groups on the extent of activation of liver alcohol dehydrogenase relative to native enzyme. Earlier work had indicated that picolinimidylation in vitro of a few amino groups per active site of the horse enzyme increased the turnover numbers, Michaelis and inhibition constants, and rates of coenzyme dissociation 10-fold or more. The recent work showed the substituents that retain the positive charge of the amino groups give 10 to 20 fold activation: picolinimidyl, nicotinimidyl, isonicotinimidyl, and others. In contrast, substituents that lack a charge (carbamyl, ethylcarbamyl, and phenylcarbamyl) activate 1 to 4-fold, while those that produce a net negative charge (maleyl, succinyl) inactivate. Size and charge of the substituent differentially affect binding of coenzymes and

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Chronic alcoholics respond to lithium therapy, Kline and Wren tell 3rd NIAAA alcoholism meeting

Lithium therapy appears to have a marked and statistically significant beneficial effect on chronic alcoholics, Nathan S. Kline, M.D., Director of the Research Center of Rockland State Hospital (Orangeburg, N.Y.) and J. C. Wren, M.D., of the VA Hospital in Togus, Maine, told the Third Annual Alcoholism Conference of the National Institute on Alcohol Abuse and Alcoholism. The conference was held in Washington, D.C., June 20-22.

Patients with chronic alcoholism and nonpsychotic depression were selected for a double-blind study using lithium and placebo. All patients had required hospitalizations for their excessive drinking. Patients who had cardiovascular or renal system damage were screened out because lithium must be used cautiously if cardiac or renal compensation develops. Patients with manic depressive or recurrent endogenous depressions were not included.

AMSA joins NCA as medical component

The American Medical Society on Alcoholism has joined the National Council on Alcoholism as its component organization in the medical field. The announcement was made by Dr. Maxwell Weisman, President of AMSA, and Dr. Frank A. Seixas, Medical Director of NCA. The joining of two major groups in the field of alcoholism marks a significant step in meeting the need outlined in 1972 by the National Institute on Alcohol Abuse and Alcoholism, the federal government's organization in alcoholism, which stated: "Further efforts are needed to improve both communication and cooperation among professional and lay groups interested in alcoholism."

Under the terms of the agreement, AMSA has given up its incorporation to fuse with NCA, but its funds and activities will continue to be separate. AMSA will assume a consulting and advising role in assuring the medical-scientific accuracy of NCA position statements in matters of policy affecting medical issues.

Mr. George Dimas, Executive Director of NCA, will become Executive Director of AMSA, assuming a managerial function under the AMSA Board. The Medical Department of NCA will remain administratively separate. However, AMSA will nominate new members of the NCA Medical Affairs Committee. Dr. Weisman will become a member of the Executive Committee of NCA's Board of Directors.

The Togus VA Hospital was selected for the study because it is the only psychiatric center available to the VA patient in the state of Maine, and therefore much greater control of the patient population was possible than in a large city.

As expected, the patient population was unreliable. Of the 73 patients selected, 43 failed to complete the first follow-up period of 44 weeks. Of the remaining 30 who completed the 48 weeks of continuous treatment, 14 were from the placebo group and 16 from the lithium group.

When the readmission rate of the two groups were compared, lithium appeared to modify the patients' drinking habits significantly ($p < 0.01$). Of those patients readmitted for their drinking, the lithium group did not appear to repeat as frequently as did the control ($p < 0.025$). Although both groups were less depressed at the end of one year, when compared to their depression rating at the beginning of the project, there was not a significant difference between groups when analyzed using analysis of covariance. This finding was in contrast to the authors' original assumption that lithium might control alcoholism by controlling depression.

Lithium offers significant promise as a treatment for alcoholism, the authors concluded, particularly since it can be administered over long periods of time and there is little difficulty in controlling dosage level. Lithium can also be de-

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EDITORIAL

This guest editorial was written by Dr. Ruth Fox.

The AMSA-NCA Family

As a friend of Marty Mann, I "attended the birth" of NCA in 1944, when it was formed as the National Association for Education on Alcoholism. Working closely through the years with NCA, I became its Medical Director in 1958 and remained in that post until 1968. At that time I became a member of its Board and Medical Affairs Committee. So I have worked with and through NCA on a very close basis for many years.

In 1956 a small group of physicians interested in alcoholism started meeting in New York City. I was also a member of this group and I watched it too grow until it became large enough to want to bring in members of the medical profession from the rest of the country, and was incorporated as the American Medical Society on Alcoholism in 1962. We always enjoyed very good and cordial relations with NCA, which reserved a place for our meetings whenever its national meeting was in New York, and later gave us visibility through making available the *Physicians' Alcohol Newsletter* to its affiliates, and in many other ways.

The coming together of these two organizations with which I have had such

long and close association is a very gratifying thing for me to see. But I think of it not only from this historical view. To me, it has always seemed that unity among the organizations dealing with alcoholism is the best way for us to accomplish the difficult goals which we all have set for ourselves. Aside from this, the increasing strength of medical interest in alcoholism in this country and the participation of these physicians in AMSA means that a great deal of talent and judgment can be brought in to help NCA's authoritative position in the field, by advice and guidance.

In addition, AMSA will benefit from the far-flung nature of NCA and its enthusiastic volunteers, as well as from its administrative structure. Many AMSA members have already participated in NCA, which has drawn three presidents from our ranks, as well as two medical directors, and other board members, and board members of affiliates. Many of NCA's volunteers are people who have heard of NCA through their own physicians who were AMSA members.

This affiliation has been referred to as a "marriage." I prefer to think of it as family members coming together. I have great hopes for its contribution to the realization of our efforts to conquer alcoholism and to treat the person with alcoholism.

RUTH FOX, M.D.

Paredes named director of Oklahoma programs



Alfonso Paredes, M.D. has been named Director of the Division of Alcoholism for the State of Oklahoma. Dr. Paredes is Professor of Psychiatry at the University of Oklahoma Center for Alcohol-Related Studies and a member of the Editorial Board of PAN.

MEETINGS

SEPTEMBER 28-30—4th Annual Meeting of American Medical Society on Alcoholism, Sheraton-Valley Forge Hotel, Valley Forge, Pa. "Alcoholism 1973" is the theme of the program, which will include a series of short informational sessions designed for the physician who is faced with the problem of diagnosis and the treatment both of the chronic illness and its acute complications. A. Carl Segal, M.D., Director, Bureau of Mental Health, Howard County, Maryland, will be the Awards Dinner guest speaker on Saturday, September 29.

OCTOBER 4—"The Executive Alcoholic—Identification, Implications, and Treatment," Silver Hill Foundation, New Canaan, Conn.

OCTOBER 11-12—"Medical Complications of Alcohol Abuse," at Washington-Hilton Hotel. Cosponsored by AMA and NCA, NIAAA, and VA. Contact Walter Wolman, Ph.D., AMA, 535 N. Dearborn, Chicago 60610.

NOVEMBER 12-16—International Conference on Alcoholism and Drug Abuse San Juan, Puerto Rico, and St. Thomas, Virgin Islands. General theme is a new look into symptoms of social maladjustment—the abuse of alcohol and other drugs. For more information, contact ICAA, Case Postale 140, Lausanne, Switzerland.

BOOKS

Alcoholism: Progress in Research and Treatment. Edited by Peter G. Bourne and Ruth Fox. New York: Academic Press, Inc. 1973. 439 pp. \$21.

Nineteen contributors present research data on topics that range from the biochemical effects of alcohol—including damage to the liver as well as possible genetic implications—to cross-cultural studies of drinking patterns and the far-reaching social impact of alcoholism on the individual and his family, his job, and the law. Shows how nonphysicians as well as private practitioners can treat the alcoholic, suggests programs for social control of alcoholism, and evaluates the success of AA.

Manual for a Selective Traffic Enforcement Program for Alcohol-Related Motor Vehicle Crashes. U.S. Department of Transportation, Washington, D.C. 20590. 43 pp. 50c.

A guide for traffic law enforcement administrators.

NIAAA sets up National Center for Alcohol Education

The National Center for Alcohol Education has been established by NIAAA as a counterpart to the National Clearinghouse for Alcohol Information. It is designed to serve as a national resource for the promotion and development of innovative approaches to the training and education of executives, policy-makers, and workers in the field of alcohol abuse and alcoholism.

The Center is engaged in several major undertakings, including executive seminars, an experimental educational laboratory, curriculum development and distribution, a survey of alcoholism education and training, and a resident scholar and fellows program.

For additional information on the Center's activities, contact the National Center for Alcohol Education, 1901 North Moore St., Rosslyn, Virginia 22309.

Alcohol linked to violent death, NYC study shows

Alcoholism and alcohol ingestion just prior to death are closely associated with various forms of violent death, a study of 1,000 adult decedents at the Office of Chief Medical Examiner in New York City has confirmed. The study, which was conducted in 1972-1973 by Paul W. Haberman, Senior Research Associate of the Columbia University School of Public Health and Michael M. Baden, M.D., Deputy Chief Medical Examiner, also showed that alcoholism or problem drinking was under-reported by relatives and other persons identifying decedents or was sometimes not evident in post-mortem medical examination.

In the sample, three-tenths were classified as alcoholics and one-sixth as narcotics addicts, including 5% classified as both. A substantial minority of alcoholics and narcotic addicts would not have been so classified without both post-mortem medical findings and information from respondents when identifying decedents.

Of the alcoholic totals, 25.3% died in various types of accidents, 8.6% by suicide, and 25.7% in homicides. 16.1% died of natural causes.

Compared to the alcoholics, the narcotic addicts were much younger, more often born in New York City, single, and more likely to be homicide victims than accident victims.

Findings from the study were reported to the 22nd Annual Meeting of the Society for the Study of Social Problems, held in New Orleans in 1972 and the 28th Annual Conference of the American Association for Public Opinion Research, held in Asheville, N.C. in May 1973.

Biochemists meet in Sweden

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substrates. The amidinated derivatives seem most suitable for in vivo applications.

Localization and function of aldehyde dehydrogenases

NAD-dependent aldehyde dehydrogenases exist in virtually every tissue, where they are found in both the supernatant and mitochondrial fractions. The supernatant fraction of rat liver contains at least 2 distinct enzyme activities, and there is some evidence for a third enzyme. The mitochondrial fraction of rat liver contains at least 2 enzymes of wide substrate specificity.

The function of these enzymes is presumably to carry out oxidation of aldehydes of endogenous and exogenous origin arising from alcohols, amines, and long chain fatty acid CoA derivatives.

According to R. A. Deitrich and C. Siew of the Department of Pharmacology of the University of Colorado School of Medicine, who described the localization and function of aldehyde dehydrogenases, studies directed toward development of inhibitors or inducers specific for each enzyme are in progress.

Intracellular localization of acetaldehyde metabolism

Experiments to determine the ratio between the contribution of the oxidation of acetaldehyde in rat liver by mitochondrial and cytoplasmic enzymes were reported by B. Quistorff, N. Grunnet, and H. Theiden of the University of Copenhagen.

Cells were incubated with ethanol and the ADH mediated ethanol oxidation was inhibited by addition of pyrazol.

Preliminary results showed no incorporation of ^3H during the period of labelling (1 min.), whereas the incorporation in B-hydroxybutyrate corresponds to half the ^3H label present in the amount of ethanol oxidized to acetate. This observation indicates that acetaldehyde formed by the non-ADH mediated ethanol oxidation is metabolized exclusively in the mitochondria.

Rat liver catalase described

The intracellular location, functions, biosynthesis and degradation of rat liver catalase were described by C. de Duve of the Rockefeller University in New York and the University de Louvain, Belgium.

Ethanol interacts with hepatic microsomes

Recent work reported by C. S. Lieber et al. of the Mount Sinai School of Medicine and VA Hospital, Bronx, N.Y., indicates that enhanced rates of ethanol metabolism after chronic ethanol consumption can be attributed at least in part to increased microsomal ethanol oxidation, a large fraction of which is catalase independent.

Enzyme substrate compounds in action in the perfused liver

According to Britton Chance of the Johnson Research Foundation of the University of Pennsylvania, the striking results of current studies is that the catalase H_2O_2 compound (ES) is in a steady state at near saturating concentrations in perfused liver in the absence of added alcohol. Titrations with alcohol diminish the steady state ES concentration to $\frac{1}{2}$ maximum and afford an evaluation of the relation of peroxidatic and catalatic activities in terms of solutions for the reaction mechanisms.

With quantitative evaluations of the enzyme substrate performance in situ and in perfused organs, the regulation and optimization of alcohol oxidation activity via the catalase activity is now feasible.

"Acatalatic" microsomes metabolize drugs but not ethanol

A strain of acatalasemic mice was compared with genetic control mice by Kostas P. Vatsis and Martin P. Schulman of the Department of Pharmacology of the University of Illinois College of Medicine to determine the metabolic pathways. They concluded that the drug metabolizing pathway is unrelated to the microsomal oxidation of EtOH and that the postulation of a unique microsomal ethanol oxidizing system (MEOS) independent of catalase activity is unnecessary.

Physician's Alcohol Newsletter

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NIAAA meetings cover medical, program, education topics

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ected in serum rapidly, making it easy to monitor the patient's adherence to the medication regimen.

In welcoming the 1,000 conference participants, Dr. Morris E. Chafetz, Director of the NIAAA, emphasized that a "people-oriented perspective" was needed to help solve the problems of alcoholism. "We shall remain committed—first and foremost—to treating a population of sick people who have been tragically neglected throughout our Nation's history," he said.

Charles C. Edwards, M.D., Assistant Secretary for Health, told the conference that the nation's failure to develop a national health strategy had hampered efforts to substantially improve health care for the American people. He described the reorganization of the federal health enterprise as a way to "give the Department of Health, Education and Welfare a single articulate voice in the area of Federal health policy." Also important are attempts to make more effective use of the invaluable guidance the private sector has to offer, he said.

Endocrine function normal in long-abstinent males

No basis for the treatment of chronic alcoholism with adrenocortical products or stimulants in the late stages of rehabilitation was found in a study of endocrine function in long-abstinent alcoholic males conducted by Joyce C. Shaver, M.D. and a team from the Roosevelt Hospital Department of Medicine and Columbia University College of Physicians and Surgeons.

The major indices of adrenocortical function and of the response to serum insulin and growth hormone levels to an oral carbohydrate load were essentially normal in a group of rehabilitated chronic alcoholic subjects abstinent for at least two years, when compared to an age-matched group of normal male volunteers.

Some differences were noted, however. Mean daily excretion of urinary 17-ketosteroids was lower in the alcoholic group but still within normal range. The alcoholic group also showed a somewhat greater mean response of plasma corticoid levels to ACTH stimulation, but only when samples were assayed by the method of saturation analysis, not by colorimetry. In a study of hormonal factors related to carbohydrate metabolism, the alcoholic subjects showed a lower mean insulin-glucose ratio at ½ hour, in a glucose tolerance test.

Currently under investigation is the question of when or how endocrinopathies that, according to others, occur with

active alcoholism may resolve toward the normal state. A prospective study will evaluate endocrine function serially in alcoholic subjects beginning with their admission to hospital for detoxification and initiation of general supportive measures for rehabilitation.

Comparative study reveals differences in French and American alcohol behavior

Different patterns of drinking prevail in France and America, resulting in different symptoms and behavior in alcoholics, according to a cross-national study conducted by Thomas F. Babor, Ph.D., McLean Hospital and Harvard Medical School; Thomas R. McCabe, Ph.D., Westcenter, Tucson General Hospital, Arizona; Phillip Mesanes, M.D., Limoges, France; and Jean-Pierre Ferrant, M.D., La Membrolle, France.

Samples of clinically diagnosed alcoholics were studied in each country by means of identical questionnaire surveys.

Although French and American alcoholics reported approximately the same average daily alcohol consumption, there was more variability within the American sample. The American pattern was more periodic: only 49% of the U.S. sample reported daily consumption of liquor, even though this was the preferred beverage. In contrast, 77% of the French reported daily wine consumption. The data also indicated greater intemperance on the part of the Americans. American alcoholics become drunk more often, experience more legal and familial complications, and manifest more symptoms of "preoccupation with alcohol."

Mental health systems and the judiciary

When two distinct systems—the judiciary and the community mental health system, both theoretically existing for the betterment of society—interact at the operational level, many dilemmas become apparent. Some of these problems, as described by Robert F. Aiken, M.S. and Sheldon Weiner, M.D. of the NIAAA/ASAP Alcoholic Program in Waterbury, Vermont, concern the rehabilitation of convicted drunk drivers.

The well-meaning, but sometimes misguided loyalty of a community mental health counselor to his client, versus the public responsibility faced by the judiciary, has resulted in an ongoing non-communication or mis-communication between the two systems. Is the issue of confidentiality, for example, really client-oriented or therapist-oriented?

Faced with daily decisions that affect people's lives, a judge cannot allow himself to dwell upon the intricacies of

human personality but must rely on other services to make appropriate recommendations. If the mental health system fails to do this well, or if the judiciary tends to expect too much from the art of rehabilitation, misunderstanding results. Probation officers frequently get caught in the middle, and become the "bad guy" in the struggle to establish client/therapist rapport.

Other reports

● Anthony Reading, M.D., described the role of the Johns Hopkins Hospital in Baltimore in a community alcoholism program. The program has five major components; hospital services, alcoholism recovery unit, outpatient services, community services, and data coordination and evaluation. ● The denial process is highly evident in the work place, said Wade H. Williams, Jr., Regional Alcoholism Coordinator, North Carolina Department of Mental Health. Although the work place, which is a highly structured environment, is an appropriate time for early intervention in alcoholism, a chain of denials that ultimately involves the employee, his wife, the supervisor, the company physician, the local hospital, and the insurance company serves to prevent adequate diagnosis and treatment.

● Alcoholics Anonymous can be seen as a "crisis cult," a minority movement seeking justice in a world that categorized the alcoholic as deviant and immoral, said William Madsen, Ph.D. of the University of California (Santa Barbara). AA gives the alcoholic what he has always sought: social acceptance by a caring group that understands him.

● Donald W. Goodwin, M.D., of Washington University School of Medicine, reviewed the latest findings on the genetic bases of alcoholism, previously reported in PAN.

● Allan Beigel, M.D., Director of the Southern Arizona Mental Health Center in Tucson, outlined four approaches to the delivery of comprehensive community-based alcoholism services: (1) the governmental approach in which either state or local government assumes primary responsibility; (2) the single community agency approach, in which one agency with previous alcoholism experience assumes primary responsibility; (3) the consortium model approach, in which multiple agencies jointly establish a board which is independent from the operation of any single agency; and (4) the "for profit" approach, in which an established corporation assumes initiative and responsibility.

Anthropologists call for more cross-cultural studies in alcoholism at Chicago conference

Anthropologists have paid little attention to alcoholism until the last few years, according to Professor Dwight B. Heath, anthropologist of Brown University. Tracing anthropological data and literature from before 1849 to the present, he noted many studies on alcohol, using a variety of anthropological techniques; but with a few notable exceptions, alcoholism has only begun to draw interest as a subject since 1965.

His remarks were made at a conference on Alcohol Studies and Anthropology, held August 28-31, by invitation at the Center for Continuing Education of the University of Chicago, in conjunction with the Ninth International Congress of Anthropological and Ethnological Sciences. This conference was thought to be the first ever held specifically on the subject of alcohol and anthropology.

Along with much discussion of earlier cross-cultural studies such as those of Horton, Field, and Bacon Barry and Child, and evaluation of theories, methodological considerations, and prospects for future research in cross-cultural studies of alcohol and drinking, there were several papers of particular medical interest.

D. Fenna, L. Mix, O. Schaefer and J. A. L. Gilbert of Alberta, Canada, compared the rate of fall of the blood alcohol level as measured by a breathalyzer in small samples of Caucasians, Eskimos and Indians. They concluded that the Indians and Eskimos were significantly slower in metabolizing ethanol than the Caucasians. Discussion of the paper brought forth methodological criticisms of the small size of the population, the lack of matched controls, the use of the breathalyzer, the theoretical interpretation of both reasons for the differential disappearance rate of ethanol, and the method by which this might have been accomplished. The consensus appeared to be that while these data merited further exploration, they provided no connection between such phenomena (if indeed corroboration can be found) and alcoholism, and most certainly did not justify any political action programs designed to provide for differential treatment of Indians, Eskimos and whites on the basis of these or similar findings at present.

Dr. Joseph Westermeyer, of the Department of Psychiatry, University of Minnesota, pointed out many opportunities for cross-cultural studies in a clinical setting.

Herbert Barry III, of the University of Pittsburgh Department of Pharmacology citing additional material from aboriginal cultures to that presented in the past, reiterated the strong influence of dependency conflict as a motivating force for alcoholism. Joan Ablon of the University of California (San Francisco) called for further work on the dyadic interaction between spouses in studying alcoholism. A. E. LeBlanc of the Addiction Research Foundation, Toronto, suggested that animal research might finally prove the only kind that could reduce the complexities of the problem to measurable and analyzable variables. Margaret Sargent hoped that cross-cultural studies could discover attitudes, which, if adopted, could decrease the rate of alcoholism. Such attitudes could be the bases for educational programs.

James M. Schaefer of the University of Montana subjected previous cross-cultural studies to rigorous reexamination, discovering a new importance of religious and mythological attitudes, and of the dyadic father-son relationship. Martin Topper described a method that had been used successfully to elicit histories of drinking patterns and attitudes from Navajo Indians. This method was sensitive enough to uncover contamination effects from other Indian tribes in certain sections of the Navajo reservation. Finally, Michael Beaubrun contrasted the long and benign use of cannabis in Jamaica to the aggressive behavior and physical pathology elicited by alcohol when that substance was introduced.

The proceedings of the conference will be published.

Addict pigs described at Federation meetings

Like rats and primates, pigs can become addicted to ethanol. Experimental alcoholism was induced in Sinclair Miniature Pigs, which voluntarily consumed 5 and 10% ethanol solutions until more than 50% of calorie intake was from alcohol. The findings were reported by R. V. Brown, of the University of Missouri, Columbia, to the 57th Annual Meetings of the Federation of American Societies for Experimental Biology held in Atlantic City in May.

Pigs initially became inebriated with blood alcohol levels of 100 to 150 mg/100ml. In time they required levels of 300 to 350 mg/100ml. SGOT and BSP tests after 9 and 18 months of alcohol

consumption indicated liver damage, but 4 pigs that died did not evidence liver disease, which may be due in part to the high protein and vitamin supplement diet provided.

After 2 years exposure, alcohol was slowly withdrawn over 2 months with no apparent effects. All pigs exhibited withdrawal symptoms, extreme nervousness, hypersensitivity, anorexia, and hyperflexia.

Rapid decay of alcohol physical dependence in mice

Dora B. Goldstein of Stanford University reported experiments in which mice were subjected to 3-day episodes of ethanol intoxication, with intervals of 12 or 24 hours between successive episodes. Intoxication was produced by ethanol inhalation, using pyrazole to stabilize blood alcohol levels at about 2 mg/ml. The intensity of the withdrawal reaction (seizures elicited by handling) was compared with that seen when no sober interval was allowed. The withdrawal reaction was much milder after interrupted intoxication than after continuous intoxication, even when the interruptions were as short as 12 hours. On a rating scale with a range of 0 to 4 points, 9 days of continuous intoxication produced a maximum withdrawal score of 3.4 points. The same total period of intoxication with 12 hour interruptions every 3 days produced a score of 1.8 points, and with 24 hour interruptions only 1.4 points. Apparently the dependence that had built up during each intoxication period decayed substantially in 12 or 24 hours. The estimated half-time for the decay is 12 hours.

Changes in the neuroexcitability of alcohol-dependent rats undergoing withdrawal

Alcohol-dependent rats undergoing withdrawal exhibit a number of changes in neuroexcitability not previously described in experimental animals said Walter A. Hunt of NIAAA and St. Elizabeth's Hospital, Washington. On the day of withdrawal, lower pentylene-tetrazole (PTZ) seizure thresholds were measured. However, within the next few days an apparent resistance to PTZ-induced seizures was evident and lasted at least 4 weeks. Concomitantly, multiple convulsions after PTZ were noted from 1-7 days after withdrawal. Animals that were treated with alcohol once daily and developed no overt withdrawal signs exhibited a resistance to PTZ-induced seizures on the day of withdrawal and required 1-3 weeks for recovery depending on the dosage schedule used.

Other papers from the Federation meetings were reported in PAN, Vol. 8, No. 2, June 1973.

RESEARCH and REVIEW

Pattern of birth defects found among children of alcoholic mothers

Children born to mothers who are chronic alcoholics are likely to be malformed. An overall growth deficiency, lagging intellectual and motor development, small head size, heart defects, and subtle facial and limb abnormalities are among the typical defects.

Eight such children were identified in a University of Washington study. All had subnormal intelligence, with I.Q.'s ranging from less than 50 to 83, and most were below average for their age in performance of motor tasks. At birth the children weighed only half what the average baby weighs after a comparable period of gestation, and they were about 20% shorter than average. After birth, the children continued to be retarded in growth, even those who were cared for in a hospital or in foster homes.

The study, conducted by Drs. Kenneth L. Jones, David W. Smith, Christy N. Ulleland, and Ann P. Streissguth of the Department of Pediatrics, stemmed from Dr. Ulleland's observations (see PAN, Vol. 6, No. 2, Spring 1971, p. 5) that children born to alcoholic mothers tended to suffer growth deficiency and developmental delay. (*Lancet*)

Alcoholism desexualizes marriage

In the alcoholic marriage sexual intercourse loses its meaning as the climactic event that signals the achievement of emotional intimacy and mutual trust and responsibility. Sexual gratification becomes subordinate to the husband's need for alcohol and to satisfaction of the wife's neurotic needs, such as excessive expressions of aggression, desire to control and dominate, and so on. If progression of the illness is permitted to continue, sexual intercourse loses its power to maintain the cohesiveness of the family structure.

The desexualizing effects of the excessive use of alcohol, as described by Alfonso Paredes, M.D., Professor of Research Psychiatry, University of Oklahoma College of Medicine, result in the man becoming the object of maternal, relatively desexualized concerns. A "mother-child" attitude is observed between husband and wife, in which she tries to protect him from injury, provides a supply of alcohol, and even uses baby talk. (*Human Sexuality*, April 1973, pp. 98-115.)

Alcohol desire is psychological, not physiological

Two researchers have found no evidence that a physiological relation exists between having one drink and an in-

creased desire for another. Kenneth B. Engle and Thomas K. Williams studied hospitalized alcoholics at the Battle Creek (Mich.) Sanitarium and Hospital and assigned them randomly to one of four groups. Group I, the control group, received a strongly flavored "vitamin mixture" that contained no alcohol. Group II received the same mixture with one ounce of 100 proof vodka in it. Group III also received this mixture but were told they had consumed one drink of alcohol. Group IV received the non-alcohol mixture and were told that they had consumed one drink of alcohol.

The results of a questionnaire revealed that the only significant difference in subsequent reported desire for alcohol was between Groups II and III, which were given the vodka mixture. Those in Group III, who had been told that they had drunk alcohol, reported the stronger desire for another drink. (*Psychiatric News*, May 16, 1973.)

Alcohol and drug abuse found to be causes of sudden death

Substance abuse, especially alcoholism, was involved in more than half of the deaths where a psychiatric condition contributed to mortality, a study of 875 dead-on-arrival and emergency room sudden deaths in a metropolitan area showed.

The study, conducted in Charleston, S.C., during 1970 and 1971 by Kim A. Keeley, M.D., Peter Kahn, B.A., and Martin H. Keeler, M.D. of the Department of Psychiatry of the Medical University of South Carolina, also showed that more than half of the sudden death and DOA patients with substance abuse histories had visited their emergency room at least once within six months of their deaths.

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Pocket-sized breath alcohol testing device introduced



The Alco-Sensor, the latest in a series of breath alcohol testing devices manufactured by Intoximeters, Inc., is a pocket-sized, portable, reusable, self-contained fuel cell sensor. It responds in less than 1 minute to suspect breath alcohol samples, and has an automatic purging system which permits instant repeats of suspect breath alcohol samples.

An electrical modularized package includes a calibrated meter, and it has a low total power requirement which permits more than 1,000 tests with one battery. The Alco-Sensor is designed to work best under operating conditions of 68° to 98° F., which is body temperature.

For further information, contact Intoximeters, Inc., 1901 Locust Street, St. Louis, Missouri 63103.

PHYSICIAN'S ALCOHOL NEWSLETTER
Two Park Avenue
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