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Physician's Alcohol NEWSLETTER



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"Fatal driver profile" linked to alcohol

An analysis of accident investigation research studies conducted in the cities of Boston, Baltimore, Albuquerque and Oklahoma City revealed several common results, according to data reported to the 21st Annual Meeting of the American Association of Automotive Medicine by James C. Fell of Washington, D.C. Single vehicle accidents were overrepresented in alcohol-related crashes, and most of the fatal crashes occurred between 12 midnight and 4 a.m. and usually on a weekend night. Well over 10% of the alcohol-related drivers in fatal accidents had invalid licenses (the range was from 10% in Baltimore to 20% in Oklahoma City). Most of these drivers were either single, separated or divorced and the proportion of "problem drinkers" ranged from 50% to 75%. The alcohol-related "fatal driver profile" appears to be a 25-35-year-old-male, who prefers beer, has no more than a high school education, tends to be a heavy or problem drinker, and drives an older model vehicle.

• To examine the effects of alcohol and diazepam used singly and in combination on driving-related skills, Herbert Moskowitz, Ph.D., and Marcelline M. Burns, Ph.D. of Los Angeles studied 12 males, aged 21-45, in four laboratory sessions. Both alcohol and diazepam doses were moderate. The alcohol treatment produced .07% BAC or less. The diazepam treatment was .033 mg/lb (roughly 5 mg). The combination caused poorer driving performance.

• H.M. Simpson, Ph.D., R.A. Warren, and Louise Page-Valin, of Ontario, Canada, described the use of barbiturates and alcohol in British Columbia traffic fatalities. The Canadian data are particularly full since three-quarters of deceased victims are tested for alcohol.

• The alcohol education curriculum for DWI offenders in Tallahassee, Florida was described by Maurice E. Dennis, Ph.D., now of College Station, Texas. The program involved both cognitive and affective learning situations and made use of didactic, group, and audiovisual presentations. Transactional Analysis and Value Clarification techniques were also incorporated.

Researchers explore racial differences in response to alcohol at NATO meeting

Scientific investigation into long-observed racial differences in physiological responses to alcohol and alcohol metabolism is a relatively recent phenomenon.* New evidence and calls for new research on this subject were presented at the NATO International Conference on Experimental and Behavioral Approaches to Alcoholism, held August 28-September 1, 1977, in Bergen, Norway. Some reports from the conference follow:

Heavy drinking tied to heavy smoking in animal experiments

Heavy drinkers also tend to be heavy smokers, and new pharmacologic evidence linking the two behaviors in rats was reported to the annual meeting of the American Society for Pharmacology and Experimental Therapeutics held in Columbus, Ohio, August 21-25. At the meeting William Wildfeuer, Richard P. Miller and Joseph Adir of the University of Maryland found a 43% increase in nicotine plasma clearance in rats fed ethanol over those fed sucrose. The rate constant of formation of cotinine, the major metabolite of nicotine, was also significantly increased. These changes in the pharmacokinetics of nicotine upon chronic ethanol ingestion may partly explain the increased cigarette smoking among heavy drinkers.

• Chronic administration of ethanol to aggressive mice was associated with measurable levels of blood and brain alcohol and a significant increase in brain gamma-aminobutyric acid (GABA), said W.R. Wooles and J.P. DaVanzo of East Carolina School of Medicine. Although ethanol has no effect on brain GABA levels in normal mice, it raised the levels in mice made aggressive by isolation, which may be a mechanism by which ethanol influences aggressive behavior.

• Since acute ethanol administration alters circulating levels of glucocorticoids, B. Tabakoff et al. of the University of Illinois Medical Center monitored plasma corticosterone in mice during a period of chronic ethanol feeding and during withdrawal. Morning corticosterone levels were significantly elevated over those of control animals in ethanol-consuming mice, and evening levels were also higher in the ethanol-treated mice. Withdrawal from ethanol re-

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• Arthur R. Zeiner, Alfonso Paredes, and H. Dix Christensen from the University of Oklahoma Health Sciences Center reported on a study undertaken to discern alcohol absorption time, peak blood alcohol concentration attained, peak acetaldehyde level, heart rate change and blood pressure change among a group of Chinese, who purportedly show sensitivity to ethanol, and a group of Caucasians, who show such sensitivity minimally or not at all.

The results suggest that a substantial percentage of the Chinese population has a biological sensitivity to ethanol which is in part described by high acetaldehyde concentration, increased heart rate, decreased blood pressure, and feelings of nausea. These aversive effects outweigh the pleasant effects of alcohol and thus individuals possessing this sensitivity are protected from being alcoholics. A much smaller percentage of the Caucasian than the Chinese population possesses this sensitivity.

• Clear significant differences between the responses to alcohol of Orientals and Europeans were also reported by Joel M. Hanna, Department of Physiology, University of Hawaii. In a study using Japanese, Chinese, and European subjects, he found that the Orientals show a higher frequency of visible flushing of the face, tachycardia, and a greater fall in blood pressure. Differences between Chinese and Japanese are less outstanding than those between Orientals and Europeans. The major focus of this response difference appears to be in the peripheral vasculature where Orientals seem more sensitive, but some central involvement may also occur.

• Reviewing the last six years of empirical research on ethanol and racial differences, James M. Schaefer, Department of Anthropology, University of Montana, said

*See also *Alcoholism: Clinical and Experimental Research* (Vol. II, No 1, January 1978).

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EDITORIAL

Daniel J. Feldman, M.D.

News has reached us of the death of Dan Feldman. Dan was one of the people who brought dignity to the idea of physicians taking care of alcoholics. A member of the original group that surrounded Howard Rusk, he wrote of alcohol rehabilitation in days when there were few others who could even grasp the idea.

He was one of the small band that early on became members of the New York City Medical Society on Alcoholism, the precursor of AMSA, and attended its meetings regularly. He founded, with Dr. Arnold Pfeffer, the Consultation Center in New York, the clinic which independently of both Consolidated Edison Company and of any psychiatric hospital, brought the new idea of industrial (now called labor management) programs into being, a quarter century ago.

For a while—when he left New York for California—Dan was quiet in the alcoholism field. He was very active, however, in continuing his broad interest in rehabilitation medicine and its special offshoot of psychiatry. But he returned with tremendous energy and interest to this area he knew so well, and both in the Veteran's Administration and at the University of California at Irvine, acted with distinction in developing alcoholism programs.

Always willing to reach out for the new, he pioneered with colleagues in using outpatient detoxification. But unlike others, he did this with a competent protocol so that the effect could be measured and reported on and its limitations assessed, as well as its indications and advantages. He turned his attention to early diagnosis of alcoholism, and has participated in NCA meetings with clinical papers assessing the place of abnormal findings in standard laboratory tests and their use in picking up alcoholism. He was in close touch with us on other projects, valuable to the field and NCA, which, we wonder now will ever get started.

We will miss Dan's energy, his enthusiasm, his involvement in teaching, his kindness, his eclecticism, and most of all his undone work. It just leaves a little more for us all to do.

Dan leaves his widow, Faith, and 3 grown children.

Frank A. Seixas, M.D.

New alcoholism fellowship

An alcoholism fellowship has been established to provide physicians (with a background in either internal medicine or psychiatry) with a multidisciplinary education in the field of alcoholism. Fellows trained in this program will be able to provide medical care for alcoholism and its medical complications as well as to conduct research related to alcoholism. Any physician with residency training in psychiatry or internal medicine is eligible for the program. This half-year program is multidisciplinary and multifaceted.

The specific aspects of the program includes 3 parts: (1) exposure to the various modalities available for the treatment of alcoholism; (2) training in the diagnosis and treatment of the medical complications of alcoholism; (3) research related to either clinical or laboratory aspects of alcoholism.

The program is centered in the Alcohol Research Center of Mt. Sinai School of Medicine at the Bronx V.A. Hospital. Positions are available July 1, 1979. For further information, please write to Dr. Charles S. Lieber, Alcohol Research Center, Mt. Sinai School of Medicine (CUNY), Veterans Administration Hospital, 130 West Kingsbridge Road, Bronx, NY 10468.

Lieber receives VA award

Dr. Charles S. Lieber of the Bronx, New York, Veterans Administration Hospital has received VA's highest medical research recognition, the William S. Middleton Award.

Dr. Lieber is chief of a large laboratory of liver disease, nutrition and alcoholism at the same Bronx hospital where Rosalyn S. Yalow, a previous winner of the Middleton Award, won the Nobel Prize for her medical research.

The presentation at the VA's Western Regional Conference for Research and Development at the Casa Munras in Monterey, Calif., was made by Dr. John D. Chase, VA chief medical director in behalf of VA Administrator Max Cleland. The conference was attended by VA scientists and administrators.

Administrator Cleland said of the selection, "I am delighted that this honor recognizes Dr. Lieber's landmark findings in the causes and effects of alcoholism. This is a subject in which I take great interest, as Administrator of the VA, and to which I have assigned a high priority for new efforts to find a solution and to provide more effective care for those who are afflicted with it."

Dr. Lieber is an internationally recognized authority on the metabolism of alcohol and its effects on liver function. He also is professor of medicine and pathology at the Mt. Sinai School of Medicine, New York.

MEETINGS

MARCH 18-29—Cruising Medical Seminar on Alcoholism, presented by the Center for Alcohol Studies, University of North Carolina, in conjunction with the Continuing Medical Education Program of UNC School of Medicine, NCA, and the Caribbean Institute on Alcoholism. The cruise is designed to qualify under the 1976 tax reform act as a deductible foreign seminar and carries 36 hours AMA Category I CME credit. The TSS Fairwind will dock at 7 Caribbean ports. For information, contact John E. Ewing, M.D., Director, Center for Alcohol Studies, University of North Carolina, Medical School Building, Wing B 207 H, Chapel Hill, NC 27514.

APRIL 9-14—Fourth International Conference on Alcoholism and Drug Dependence, to be held in Liverpool, England. For more information, write The Conference Secretary, B15 The Temple, Dole Street, Liverpool L2 5 RU, England.

APRIL 16-20—First International Arctic Rim Conference on Alcohol Problems will be held at the University of Alaska in Fairbanks. Co-sponsored by International Council on Alcohol and Addictions and National Council on Alcoholism-Alaska Region. For more information, write Suzanne W. Perry, executive director, NCA-Alaska region, 451st International Airport Road, Anchorage, AK 99502.

APRIL 27-MAY 3—National Alcoholism Forum, St. Louis, MO. AMSA-RSA Medical-Scientific sessions starting April 30. Meetings at St. Louis Gateway Convention and Exhibition Center. For information, write Dr. Frank A. Seixas, NCA, 733 Third Avenue, New York City, NY 10017.

MAY 22-26—An International Conference on Alcoholism and Drug Dependence will be held at Caracas, Venezuela. For information, write International Council on Alcohol and Addictions (ICAA), case postale 140, 1001 Lausanne, Switzerland.

JUNE 4-9—The 8th International Institute on the Prevention and Treatment of Drug Dependence will be held at Menton, France. For information, write ICAA, address above.

BOOKS

Alcoholism: New Knowledge and New Responses. Edited By Griffith Edwards and Marcus Grant. Baltimore: University Park Press, 1977.

The aim of this book is to bring together the medical and psychiatric approaches to alcoholism.

NATO meeting hears reports on behavioral approaches to alcoholism

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hat on the one hand, comparisons by rate of disappearance of ethanol indicate that in the American Indian it is significantly faster than Euro North Americans, but on the other hand, comparisons by rate of metabolism indicate nothing of the sort. He criticized the first generation of ethanol metabolism studies for unevenness in design, making comparisons tenuous if not specious. A second generation of more systematic studies is needed, he claimed. Ethanol metabolism studies, sensitivity reaction studies, biochemical studies of the dopaminergic system, and large family genetic marker studies need to be integrated with cultural stress studies before we make further conclusions about racial differences in alcohol response.

• John L. Horn of the University of Denver summarized the research on the nature of problem drinking that has come out of the Alcoholism Division of the Fort Logan Mental Health Center in Denver. Much of this work has involved multivariate analyses of questionnaires, the sample sizes of which have ranged from 300 to over 2,000. Horn noted that problem drinkers and those who diagnose or otherwise describe problem drinkers put somewhat different weights on the symptoms with which they identify alcoholism. Clinicians are likely to emphasize social role maladaptation and the patients' indications of desire for help. Drinkers themselves are likely to emphasize loss of control and dependence on alcohol for mood change in their self-descriptions.

Horn suggested several distinct patterns of problem drinking: the alienation pattern, the rebellion pattern, the tranquilizer pattern, the function facilitation pattern, and the sociability pattern.

Patient descriptions suggest that alcohol is similar to heroin in respect to social role maladaptation problems and mood change problems; similar to the barbiturates in respect to loss of control problems and little

use to improve thinking processes; similar to marijuana in its use under socializing conditions and paucity of perceptual withdrawal problems associated with use; similar to the hallucinogens in paucity of compulsivity problems associated with use; intermediate with respect to the other drugs in worry and guilt, habituation and hangovers; and by itself as the drug used to improve ability to socialize.

• In an attempt to test the feasibility of training 15 heavy and 15 light social drinkers to discriminate their blood alcohol levels reliably, Vincent J. Adessor, University of Wisconsin-Milwaukee and James S. Henning, UCLA, found no significant differences but a trend for light drinkers to make higher estimates of their BALs than heavy drinkers. All subjects became less variable in their estimates over three days of training. The authors called for research which uses different strategies and better controlled designs to develop an explanation of performance changes. Also, controlled tests of discrimination ability by social drinkers in real world settings are needed to determine the utility of the method for prevention purposes.

• In a six-week drinking-decisions program at the VA Hospital in Coatesville, Pa., 120 out of 249 alcoholics abstained throughout the program, said Arthur I. Alterman. A majority of the 129 program drinkers showed alcoholic drinking on at least one occasion; however some patients seemed able to drink moderately.

Analysis of the post-treatment drinking behavior of patients who did well over the entire two-year follow-up period indicated that these patients either abstained or drank moderately. But program abstainers were no more likely to be among those who abstained following treatment than moderate program drinkers.

More animal studies from pharmacology conference

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sulted in a further increase in plasma corticosterone, but levels and rhythmicity returned to normal 24 hours after withdrawal.

• Isoquinoline alkaloids can be formed as a result of ethanol exposure, according to data from mice studies reported by M.G. Hamilton, M. Hirst, and K. Blum of the University of Western Ontario and the University of Texas Health Science Center at San Antonio.

• A system that can be used as a test procedure for studying the interactions of drugs and other compounds with chronic alcohol ingestion was described by Terry Gehlhausen and Joseph E. Zabik of the Indiana University School of Medicine. Rats are trained to consume their entire daily intake of fluid in a one-hour period and ethanol solutions are then substituted. An initially decreased volume intake results, possibly from taste aversion. The animals gradually adapt and new baselines are established within ten days. Volume consumed is inversely related to ethanol concentration, giving a uniform daily intake of ethanol.

• Evidence supporting the hypothesis that there is a common mechanism for opiate and ethanol dependence was given by a team led by K. Blum from the University of Texas Health Science Center, San Antonio, and the University of Western Ontario. Their results show that mice administered 20 mg/kg of cycloheximide daily for three days during ethanol exposure had reduced withdrawal convulsion scores compared to paired pyrazole-saline controls.

• G.D. Frye et al. of the School of Medicine, University of North Carolina, described definitive biochemical evidence from rat studies that thyrotropin-releasing hormone (TRH) has a central action. TRH increases cerebellar guanosine cyclic-3', 5' monophosphate in the cerebellum and antagonizes the decline produced by ethanol.

Scholarship for Rutgers Summer Physicians Institute

A. E. BENNETT SCHOLARSHIP FOR ALCOHOL STUDIES—June 25-July 14, 1978; tuition, room, board at physicians institute, Rutgers Center of Alcohol Studies, New Brunswick, N.J.; open to physicians, including medical students. Apply: American Medical Society on Alcoholism, 733 Third Avenue, New York, N.Y. 10017. The application deadline will be April 1, 1978.

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Hospitalization stays for schizophrenia correlated with arthritis and alcoholism

A study of 1802 discharged patients diagnosed as schizophrenic at the Hawaii State Hospital, conducted by Dennis G. McLaughlin of the Hawaii Department of Health, showed not only racial and sex differences in length of hospitalization but also correlations with arthritis and alcoholism.

The shortest length of hospitalization was among Caucasians, followed by Filipinos, Hawaiians and part Hawaiians, Japanese, and Chinese. This sequence of races has a significant negative rank order correlation with the rates of age-corrected arthritis-rheumatism reported for the same races in the general Hawaii population and a similar negative correlation with age-corrected rates of admission for alcoholism to public mental health services for the same races. That is, ethnic groups having high rates of admission for alcoholism have short average lengths of hospitalization for schizophrenia, and ethnic groups having high rates of admission for alcoholism have high prevalence rates of arthritis and rheumatism.

In a separate study the commonly reported lower rates of arthritis in schizophrenics was found, but only in Caucasian schizophrenics; the Oriental controls already had a low rate. All three disorders have been reported to have a possible involvement of tryptophan metabolism. (VI World Congress of Psychiatry, Honolulu, August 1977)

Preventing anemia in alcoholics by adding folic acid to wine

Folate deficiency is a frequent cause of anemia in alcoholics, but its effects might be prevented by adding folic acid to wine, say Jonathan D. Kaunitz, M.D., and John Lindenbaum, M.D., of the Harlem Hospital Center and College of Physicians and Surgeons, Columbia University.

Their findings indicate that folic acid added to wine is soluble in concentrations much higher than would be needed to prevent megaloblastic anemia, that it does not appear to alter the taste or appearance of the beverage, that vitamin activity is reasonably stable under prolonged *in vitro* storage conditions, and that the vitamin is highly bioavailable in normal subjects and chronic alcoholics when given in intoxicating doses of these beverages despite their relatively high ethanol concentration. (*Annals of Internal Medicine*, Vol. 87, No. 5, November 1977, pp. 542-45.)

Problem drinking and the integration of alcohol in rural Buganda

In the rural African parish of Buganda, the traditional alcoholic beverage, *mwenge*, a banana beer, has been well integrated into a social context. A recently developed distillate, *enguli*, is less well integrated. A recent anthropological study conducted by Michael C. Robbins of the University of Missouri showed that *enguli* drinkers are younger and drink significantly more for personal psychological effects than *mwenge* drinkers, who drink for physiological reasons. No significant difference was found between the two groups in social reasons for drinking. (*Medical Anthropology*, Vol. I, Issue 3, Summer 1977).

Physicians more aware of alcohol and drug problems

The sixth of a series of surveys of physician members of the Medical Society of Erie County revealed an increasing recognition of problems in their patients related to alcohol or drug abuse. Cedric M. Smith, M.D., and Grace M. Barnes, of Buffalo, N.Y., found the return rate of slightly over 50% of the entire membership for this questionnaire particularly impressive. The results have permitted the establishment of a referral list in the medical society office for private patients seeking a responsive physician for an alcohol or drug-abuse problem, and for consultation to the medical profession. In addition, the priority for education and clinical programs should carry appreciable weight as the considered input of a major number of physicians in the county. (*New York State Journal of Medicine*, November 1977, pp. 2140-42)

Mendelson and Mello describe physical dependence on alcohol

Many complex interacting factors in both the central nervous system and the periphery underlie development of physical dependence on alcohol and barbiturates. Jack H. Mendelson, M.D., and Nancy K. Mello, Ph.D., of the Alcohol and Drug Abuse Research Center of Harvard Medical School described these factors to the Conference on Recent Developments in Chemotherapy of Narcotic Addiction. The conference took place Nov. 3-4, 1977, was cosponsored by PACT/NADAP and the New York Academy of Sciences and held in Washington, D.C.

Mendelson and Mello said that crucial signs which, in part, define physical dependence (e.g., psychomotor agitation and seizure disorders) are related to alterations in peripheral homeostatic processes such as acid-base and electrolyte balance. Although experimental animal studies suggest predictable relationships between amount and duration of ethanol administration and development of physical dependence, clinical studies with humans have failed to document consistent dose-time relationships.

Neurochemical and neurophysiological studies have not identified primary neural systems which relate the development of physical dependence. Since it is unlikely that specific receptor sites exist in the brain for ethanol or barbiturates, the basic action of these drugs on nerve cells probably involves changes in membrane fluidity and permeability. The neural hypersensitivity which characterizes the withdrawal syndrome may be conceptualized as a form of denervation hypersensitivity with concomitant enzyme induction and derepression.

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