

PHYSICIAN'S ALCOHOL NEWSLETTER

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Conference Urges More Alcohol Education in Professional Schools

The first conference on alcoholism education in professional schools was held in New York April 1-2 as the Medical Scientific Session of the Annual Meeting of the National Council on Alcoholism. Physicians from one-third of the medical schools in the United States attended the conference, as well as representatives from the fields of nursing, social work, alcoholism counseling, and A.A.

In a major address, William Willard, M.D., Dean of the University of Kentucky College of Medicine and Chairman of the AMA's Council on Medical Education, stated, "Medical schools today, I suspect, reflect more the state of the art than they do the leadership role in alcoholism. If there are to be significant changes in the teaching of alcoholism, the medical schools must be helped by those who wish help from them."

A panel on "What is Being Done Now" was chaired by Jack Mendelson, M.D., Chief of the National Center for Prevention and Control of Alcoholism. Paul Cornely, M.D., Chairman of the Department of Community Health Practice of Howard University College of Medicine and President of the American Public Health Association, led a panel on "Present Programs and Future Vistas." The conference also featured a series of workshops and plenary sessions. The proceedings of the conference are being edited for publication.

A general impression from the conference suggests that: (1) The current generation of medical students, with their new emphasis on sociomedical interests, are the greatest hope in encouraging inclusion of alcoholism in medical school curriculums. (2) The attempt to interest students by encouraging basic molecular research, while important as a general background, has been disappointing by comparison with those programs providing actual patient contact. (3) While didactic courses on alcoholism are strongly recommended in

Day Care Program Rehabilitates Urban Ghetto Alcoholics

Alcoholics in an urban ghetto can be successfully involved in a therapeutic program for social and psychological rehabilitation, workers from the Harlem Hospital Center Alcoholism Unit reported to the American Orthopsychiatric Association meeting held in San Francisco in March. The report was made by Sheldon Zimberg, M.D., Director of the Unit; Henry Lipscomb, M.S.W., Coordinator of Clinical Services; and Elizabeth B. Davis, M.D., Director of the Center's Department of Psychiatry.

Federation Meetings Report Research on Alcohol

Research on alcohol in the fields of pharmacology, nutrition, and physiology was reported at the 54th Annual Meeting of the Federation of American Societies for Experimental Biology held April 12-17, 1970, at Atlantic City, N.J.

Synergism Between Alcohol and Chloral Hydrate

The reactions of chloral hydrate (CH) and ethanol with alcohol dehydrogenase from human liver were studied by J. Freeman and M. P. Schulman of the University of Illinois College of Medicine. In their experiments, the oxidation of ethanol to acetaldehyde was 23 times greater in the presence of CH than in its absence. The acceleration of CH reduction to its pharmacologically active form, trichlorethanol, by a coupled redox of CH and ethanol catalyzed by ADH may provide the molecular basis for the synergism between the two drugs.

(Reports are continued on page 5)

the core curriculum, of greater importance is coordination of existing teaching about alcohol-related subjects and the additional provision of alcoholism electives. (4) Adequate financing is essential if inclusion of alcoholism interests in medical schools is to be solid and on-going, although programs costing almost nothing can be effective as long as the person interested in the program retains his interest. (5) The need for inclusion of alcoholism in professional schools is embarrassingly clear.

The authors outlined five fairly distinct and predictable stages for patient involvement in day care. Stage 1, "enthusiastic acceptance," lasts for about 1-3 weeks after the patient enters the Unit. He abstains from alcohol and accepts the program wholeheartedly. In Stage 2, the patient starts "provocative drinking," sometimes on the premises. This stage tends to last about 2-6 weeks, and the patient is either able to modify his drinking or drops out of the program. Dropouts are visited at home and encouraged to return. Many are advised to start on Antabuse. When the patient has become abstinent or drinks very little, he has reached Stage 3 of "group involvement." This stage may last from 2-6 months, during which the patient develops close attachments to staff and other patients. Stage 4, also lasting 2-6 months, is one of "beginning independence." The patient may move out of the program into an employment, training, or educational situation. Severe anxiety may cause a reversion to Stage 2 drinking. The last stage, of indeterminate length, involves some achievement of success in job or training. The patient is followed in a weekly group therapy program with or without medication.

To date, about 55% of the 79 patients randomly assigned to the Comprehensive service were able to achieve Stage 4. In spite of the many difficulties in moving to Stage 5 (separation from day care, anxiety about jobs, and primarily, the lack of adequate vocational rehabilitation opportunities available in the community), 33% of the patients have made this step.

The authors stress that the alcoholic population of the urban ghetto who have been treated in the program are not "skid-row" types. Their problems involve social, economic, and psychological con-

(Continued on page 4)

EDITORIAL

Alcoholism Education: A Year-Round Need

The time has come for summer schools of alcohol studies. This year there are more than ever, and they are being held in every section of the country. We salute these important sources of alcoholism education.

At the recent conference on professional education in alcoholism (see story, page 1), Dr. Charles Garvin reported that at present alcoholism education in schools of social work is inadequate, despite the large proportion of social work clients with alcoholism problems. He also stated that when a specific alcohol program is established, it is very difficult to find an adequately prepared worker to assume the responsibility. "I'm not denying that many social workers have taken such jobs and have grown to heroic extent to prepare themselves," Dr. Garvin said. "I'm talking about getting someone quite adequate to begin with. It is true that some avail themselves of special institutes on this subject, but this could be viewed as a corrective for a deficit that should not have existed in the first place."

The conference on alcohol education in professional schools was designed to help correct that deficit. Primarily addressed to medical schools, it clearly demonstrated the problem. More important, it showed the beginnings of solutions. The large numbers of medical educators who attended despite formidable transportation and communication difficulties, the number of programs already in effect and others planned for the near future, and the participants' desire to share their experiences—all these sounded a hopeful note.

If all the medical, social work, and nursing schools immediately installed comprehensive training courses, and if alcohol counseling schools arose all over the country, the summer institutes would still be useful. As matters stand, they are essential. Once again, we salute them.

FAS

New York State Elevates Bureau of Alcoholism

The New York State Bureau of Alcoholism, formerly in the Division of Mental Health of the State Department of Mental Hygiene, has been elevated to the status of a separate division. The new division will remain in the Department of Mental Hygiene. John R. Butler, who served as bureau director, has been named an assistant commissioner and will head the division.

BOOK REVIEWS

Combined Effects of Alcohol and Other Drugs

R. B. Forney and F. W. Hughes. Springfield, Ill.: Charles C. Thomas, 1968. 124 pp. \$6.50

In a monograph written for the physician, layman, or pharmacist, the authors focus on alcohol as a drug and its unpredictable effects when it is taken in combination with other drugs. Three chapters are devoted to specific alcohol-drug combinations: alcohol and other central nervous system depressants; alcohol and central nervous system stimulants; and alcohol and other drugs such as anticoagulants, hypoglycemic agents, and diuretics. The authors stress that alcohol in combination with other drugs can produce undesirable pharmacological and toxic effects and that definitive studies are needed on alcohol-drug interactions.

Summer Institutes

JULY 19-24 — "Short-term Training Course to Strengthen Alcoholism Information and Referral Activities," Fourth Annual Summer Institute, The University of Wisconsin. Information from University Extension, Room 809 West Towers, 606 State Street, Madison, Wisconsin 53706.

JULY 19-24—12th Annual International School of Alcohol Studies, University of North Dakota. Information from Bernard Larsen, Director, Commission on Alcoholism, State Capital, Bismarck, N.D.

AUGUST 16-21 — Eastern Pennsylvania Institute of Alcohol Studies, Ursinus College, Collegeville, Pa. Information from Miss Margaret Sutton, Chief, Community Organization Section, Pennsylvania Department of Health, P.O. Box 90, Harrisburg, Pa. 17120.

AUGUST 16-21—Southeastern School of Alcohol Studies, University of Georgia Center for Continuing Education, Athens, Georgia. Information from Charles B. Methwin, Director, 1260 Briarcliff Road, N.E., Atlanta, Georgia 30306.

AUGUST 23-26—6th Annual Teenage Institute on Alcohol. Information from Terrance J. Boyle, Chief, Alcoholism Program, Ohio Department of Health, 450 East Town Street, Columbus, Ohio

AUGUST 30-SEPTEMBER 4—8th Annual Florida Institute on Alcohol and Other Drugs, Florida Technological University. Information from S. George Clarke, Director, Community Services, Bureau of Alcoholic Rehabilitation, P.O. Box 1147, Avon Park, Florida 33825.

The Alcoholic in the Emergency Room

Richard H. Anderson, M.D., and Maxwell N. Weisman, M.D., Available from NCA, 2 Park Avenue, New York City 10016. 20¢ per single copy.

Designed to assist medical staff in general hospitals in emergency treatment of acute intoxication and acute withdrawal symptoms.

Legal Services and Community Mental Health Centers

Henry Weihofen. Washington, D.C.: Joint Information Service, 1700 18th Street, N.W., 1967. 74 pp. \$2

This booklet, written by a Professor of Law and published by the American Psychiatric Association and the National Association for Mental Health, treats such subjects as legal services for administration and staff of community mental health centers, legal services for patients, services to the community, and how legal problems are solved.

Physician Reports Alcoholic Priapism

In a communication to the editor, Anthony H. Nikiel, M.D., of West Lynn, Mass., reports a case of priapism associated with alcoholism, the second such case he has observed. In both cases surgery was necessary to drain blood from an abscess in the corpus cavernosa.

MEETINGS

JUNE 23-24—2nd Annual Meeting of the American Medical Society on Alcoholism, Chicago.

AUGUST 7-9—Annual Meeting, International Doctors in Alcoholics Anonymous, Conference Center, The University of Iowa, Iowa City, Iowa 52240. Reservations with Director of Conferences at above address or with Information Secretary, IDAA, 1950 Valley Road, Youngstown, Ohio 44511.

SEPTEMBER 21-25—3rd International Conference on Alcoholism and Addictions, Cardiff. Information from Dr. Myrddin Evans, Regional Alcoholic Unit, Whitchurch Hospital, Cardiff, Wales.

SEPTEMBER 27-OCTOBER 2—21st Annual Meetings of the NAAAP, San Antonio, Texas. Information from Texas Commission on Alcoholism, 808 Sam Houston State Office Building, Austin, Texas 78701.

Rumanian Psychiatrist Analyzes Alcoholics' Creative Art Work

When alcoholics take up the paint brush, their creative efforts reflect their psychic troubles. Their paintings can be used in connection with clinical data to obtain a complete image of their psychopathological makeup. In a report to the 29th International Congress on Alcohol and Drug Dependence held in Sydney, Australia, Dr. Constantin Enachescu, a psychiatrist associated with the Dr. G. L. Marinescu Hospital in Bucharest, Rumania, presented several paintings done by his patients. The most frequent disturbances portrayed are terrifying dream experiences, pictures of deliriums and hallucinations, fantastic monsters, and scenes of death and disaster. The paintings are very expressive, often in burning and vivid colors.

Dr. Enachescu stressed both the clinical and the therapeutic value of these artistic efforts. They not only help the clinician to better understand the particular disturbances experienced by an alcoholic but also help the patient to express and to look critically at his own troubles.



THROUGH AN ALCOHOLIC'S EYES: This painting, created by a patient of Dr. Constantin Enachescu, reveals the terrifying world of an alcoholic. Forebodings of death and disaster are ominously portrayed.

Illinois Hospital Combines Team Approach With Milieu Therapy

A visit to the alcoholism facility at Lutheran General Hospital, which is described in the following story, will be a feature of the 2nd Annual Meeting of the AMSA to be held in Chicago on June 23-24.

A multidisciplinary team approach has

been effectively combined with milieu therapy at Lutheran General Hospital in Park Ridge, Illinois, reported J. J. Rossi and V. D. Pisani at the 29th International Congress on Alcoholism and Drug Dependence held in Sydney, Australia, in February.

The 30-day program is based on an integrated use of the medical model of

disease coupled with the social-psychological model of maladaptive behavior. The learning model is emphasized. The program involves a daily series of informational processing in groups; daily group therapy emphasizing action techniques, such as sensitivity exercises, role playing, etc.; weekly marital relationship process groups; and weekly "Bridge" groups which bring together a wide cross-section of patients, former patients, AA members, employers, and outside members of helping professions.

Each team is responsible for not more than 22 patients, and works independently under the direction of the (psychiatrist) medical director and (psychologist) program director. Staff conflicts have been mediated by group dynamics and milieu approaches, an avenue that has led to greater cohesiveness, closer cooperation, and mutual support.

A pilot study of 73 patients contacted from 9 to 12 months after treatment showed that 38% were completely abstaining from alcohol; 10% used it rarely, with no impairments; 23% used it episodically, with varying impairments; and 29% either showed no change or worsened. This 48% recovery rate compares favorably with other alcoholism programs but demonstrates no unique effects, the authors concluded.

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RESEARCH and REVIEW

Alcohol, Amines, and Alkaloids: A Possible Biochemical Basis for Addiction

Evidence supporting a biochemical explanation for the similarities between alcohol and narcotic addiction has been reported by Virginia E. Davis and Michael J. Walsh of the Metabolic Research Laboratory of the VA Hospital and Department of Biochemistry of Baylor College of Medicine. Their hypothesis delineates the relation of alcohol-evoked modification in the metabolic disposition of the biogenic amine, dopamine, with the resultant formation of morphine-like alkaloids as a basis for the addiction liability of alcohol. Physical dependence on alcohol might be envisioned as a persistent inhibition of the oxidation of 3,4-dihydroxyphenylacetaldehyde sending it along a normally untraveled metabolic pathway for the biosynthesis of tetrahydropapaveroline as a consequence of heavy and prolonged alcohol consumption. Preeminence of the THP pathway evoked by alcohol may then make this alkaloid available for subsequent conversion to addictive alkaloids.

This concept is supported by the evidence that many opiate addicts are known to substitute a quart or more of alcohol a day during periods of abstinence from a particular drug. Conversely, many opiate addicts have had previous alcoholic histories. (*Science*, Feb. 13, 1970, pp. 1005-06) [Also see "Isoquinolines Formed in Living Tissue," PAN, Vol. 4, No. 1, Winter, 1969, p. 1.]

Alcohol Affects Muscle Tissue

Alcohol may cause a variety of clinical syndromes involving skeletal muscles, as well as the more familiar ones involving nervous tissue, the heart, and liver. In reviewing a case of alcoholic myopathy, E. T. O'Brien and P. Goldstraw of the Dudley Road Hospital, Birmingham, England, suggest that this may be a more common condition than is generally realized. The case involved a 46-year-old man with a long drinking history. Clinical and biochemical features were more characteristic of chronic myopathy, but muscle biopsy indicated the acute variety, leading the authors to conclude that there is considerable overlap in the various syndromes. A diagnosis of acute alcoholic myopathy may be overlooked and the symptoms attributed to an alcoholic neuropathy. In acute cases, recovery after abstinence from alcohol is the rule, but in chronic cases recovery occurs in about 50% of the cases if alcohol is

stopped. (*British Medical Journal*, Dec. 27, 1969, pp. 785-86).

Alcoholics in Treatment Invite Punishment in Test

Alcoholics in treatment displayed a significantly stronger tendency than non-alcoholics to invite punishment, in the form of an electric shock administered by a female partner, as the consequence of a wrong answer in a nonsense-syllable recognition test. However, in a situation in which they had to accept responsibility for their errors, they did not invite punishment.

The experiment, involving 20 alcoholics in treatment in a VA hospital and an equal number of controls, was carried out by Stanley V. Butts, Department of Nursing Education of the University of Kansas School of Medicine, and Franklin C. Shontz of the University of Kansas. The authors also found evidence that the alcoholics were more inclined to seek punishment in passive rather than in actively aggressive ways. There was no evidence that the wife, who acted as the shock-giving partner in half the tests, was a particularly potent source of invited punishment for either group.

The results indicate that treatment programs which rely on pairing drinking behavior with noxious stimuli may feed into maladaptive behavior patterns rather than suppressing them. The best method for treating alcoholism may be to encourage others not to punish the patient for his behavior but to require him to accept personal responsibility for it. (*Journal of Consulting and Clinical Psychology*, Vol. 32, No. 2, 1970, pp. 216-220).

Report on AA Growth Over 30 Years

In its first 30 years (1935-65), Alcoholics Anonymous has grown to an international organization of 12,040 groups, holding 15,991 weekly meetings. The number and location of local AA groups and the number of weekly meetings are two sets of objectively verifiable data available to a team of researchers studying the dimensions of AA. The study was carried out by Barry Leach, M.A., and Drs. John L. Norris, Travis Dancey, and LeClair Bissell. Other data, such as the precise number of AA members and the effectiveness of AA methods, are more difficult to obtain and evaluate.

In reviewing the growth of AA, the authors raise some questions about their data. Although in 1965 California and

New York had roughly the same drinking age population (18,000,000), California had almost 2.4 times as many AA groups (1,094) as New York (464). California, being larger, would be expected to have more groups. However, if population density is a factor in the epidemiology of alcoholism, New York would be expected to have more alcoholics and hence more AA groups. Another question is why the average number of weekly meetings held by groups in each state does not seem to correlate closely with the number of groups in the state, as it does in other nations in which AA has a considerably shorter history than it does in the U.S. A third question is why groups in Canada and Asia do not have the reduced number of Sunday meetings reported in the U.S.

The authors conclude that AA is, among other things, a subculture (or spontaneous cells thereof) of non-drinking alcoholics, regulated by themselves. Further data may provide answers to these and other questions about the patterns of AA growth. (*International Journal of the Addictions*, December 1969, pp. 507-41).

Alcoholics Rehabilitated in Ghetto Program

(Continued from page 1)

ditions that have contributed to their drinking problems and that in turn have been further impaired by their alcohol abuse. Recovered alcoholics have been used very successfully as therapeutic agents and invaluable role models for patients previously felt to be "hopeless."

Father and Son Studied During Experimental Intoxication

A study of a father and son, both chronic alcoholics, during a 14-day period of experimental intoxication in a research setting, revealed that they behaved differently toward each other when they were sober than when they were drunk. The study was reported by Drs. Sheldon Wiener, John S. Tamerin, Peter Steinglass, and Jack Mendelson of the Alcohol Study Unit of St. Elizabeth's Hospital, Washington, D. C. Before drinking started, aloofness, separateness, and distrust were the rule. However, the drinking phase was characterized by more honest communication, the emergence of hidden themes and "new affects" and the acting out of unresolved conflicts from the past.

Reports From Atlantic City Federation Meetings

(Continued from page 1)

Alcohol, Nicotine, and Brain Catecholamines

Acute administration of ethanol did not cause any change in the catecholamine levels in the rat brain, but accelerated the catabolism of norepinephrine (NE), reported B. Bhagat, M. W. Rana, and M. J. Hughes of the St. Louis University School of Medicine. However, chronic administration of alcohol slightly decreased the turnover rate of NE. Chronic administration of nicotine increased the rate of synthesis in the brain. When nicotine treatment was given simultaneously with administration of alcohol, it reversed the chronic effect of alcohol on NE synthesis and metabolism in the brain.

Rats on Alcohol and a Teen-age Diet

Using a "typical teen-age diet" instead of a purified lab diet to determine the alcohol drinking behavior in rats, U. D. Register et al. of Loma Linda University, Calif., found evidence that the teen-age diet may have induced ethanol consumption. Even in a group of rats whose teen-age diet was supplemented by vitamins and minerals, the ethanol intake was not reduced to that of the controls. The authors suggest that dietary-induced alcohol consumption results in liver pathology with a decreased capacity to metabolize ethanol by way of alcohol dehydrogenase in liver.

Effect of Fructose on Blood Ethanol Levels

To test the clinical efficacy of fructose as an agent in lowering blood ethanol levels, L. M. Lowenstein et al. of Harvard Medical School gave 12 human volunteers simultaneous doses of oral alcohol and intravenous fructose, glucose, or saline. The blood ethanol levels rose more slowly and levelled off at a lower level during fructose than during saline infusions. Glucose infusions did not significantly lower blood ethanol levels. The results indicate that fructose is a potentially useful compound in accelerating the disappearance of ethanol from the blood in man.

Alcohol and Gastric Evacuation in Man

Changes in gastric contents in 8 human volunteers after ingestion of alcohol were measured by Joseph J. Barboriak and Robert C. Meade of the Marquette School of Medicine. They used a scintillation camera and a multichannel

pulse height analyzer to measure the rate of gastric emptying. The results indicate that ingestion of whisky before a meal retarded the "half time" of gastric emptying by more than one hour.

Enzymatically and Optically Active Cobalt and Cadmium Alcohol Dehydrogenases

All the zinc atoms in liver alcohol dehydrogenase can be replaced by cobalt or cadmium and other metals. D. E. Drum of the Harvard Medical School reported this substitution as an effective means to probe the active sites of zinc metallo-enzymes. The Co LADH and Cd LADH which result are enzymatically and optically active.

IC/EC Shift of Magnesium in Alcoholics

In a study of the intra- and extracellular shift of magnesium in human alcoholic subjects, a team of researchers led by Moira Breen of Northwestern University Medical School found that the whole blood Mg was the same in both normal subjects and non-cirrhotic alcoholics. However, the plasma Mg was significantly lower and the red cell Mg higher in the alcoholics than in the controls. Two alcoholic subjects studied during withdrawal had even lower plasma and higher red cell Mg concentrations resulting in high IC/EC ratios. The shift of Mg from the EC to the IC compartment is a better parameter than serum Mg for evaluating the metabolic state of alcoholic patients before, during, and after withdrawal.

Evidence of Ethanol Dependence in Dogs

Fred W. Ellis and James R. Pick of the University of North Carolina studied the effect on dogs of chronic administration of ethanol followed by abrupt termination. They observed muscle tremors and fasciculations, apprehension and altered behavior patterns, hyperreflexia, spasticity and rigidity, and in severe stages, convulsions. In general, the severity of the reactions could be correlated with the duration of the intoxication period. Intravenous administration of ethanol promptly interrupted this syndrome.

Blood Methanol Levels in Alcoholics

The blood ethanol and methanol levels in 19 adult male alcoholic volunteers were studied prior to, during, and following a 10-15 day free-choice drinking

period. The results were reported by E. Majchrowicz and J. Mendelson of the NCPA. As anticipated, higher blood methanol levels were detected in subjects consuming bourbon, which contains traces of methanol, than in those who drank grain alcohol, which contains none. Therefore, all the methanol detected in the blood of grain-alcohol drinkers was of endogenous origin. During alcohol withdrawal, blood methanol disappearance lagged behind the linear disappearance of ethanol by approximately 6 hours. The authors postulate that methanol and its metabolites may contribute to toxic disorders following high dosage ethanol intake and during ethanol withdrawal.

Effect of Propranolol on Mice Narcotized by Ethanol

A. A. Smith and K. Hayashida of New York Medical College report that the narcotic and respiratory depression induced in mice by ethanol may be blocked or reversed by propranolol in doses of 1 mg/kg. On the other hand, catecholamines, 1 mg/kg, injected with ethanol augmented the respiratory and narcotic depression. The authors suggest that ethanol's narcotic and respiratory effects may be mediated through its beta-adrenergic mechanism. Propranolol does not inhibit opioid depression, which is inhibited by amphetamines. Furthermore, unlike amphetamine, propranolol in the doses employed does not produce diaphoresis or hyperkinesia.

Hemostasis in Alcoholic Cirrhosis of the Liver

Patients with advanced cirrhosis were studied for the level of fibrinogen degradation products (FDP) by D. P. Thomas et al. of Tufts University School of Medicine. Plasminogen and antiplasmin levels were significantly decreased, and euglobulin lysis was accelerated in over half the patients. Despite near-normal fibrinogen levels, the thrombin time was prolonged, with a mean prolongation of 11.3 seconds. Elevated FDP levels were found in all patients with a prolonged thrombin time. There was a highly significant correlation between prolonged thrombin times and FDP titers. In cirrhotics who were oozing blood from multiple sites, the thrombin time was prolonged and platelet aggregation by ADP was delayed. FDP resulting from a primary fibrinolytic state contributes to the hemostatic defect in cirrhosis by interfering with platelet aggregation.

Alcohol Affects Iron and Vitamin C Metabolism

— Reports From Glasgow Meetings —

The typical chronic alcoholic is likely to have both an excess of iron and a deficiency of vitamin C, Professor A. Goldberg, University Department of Medicine, Western Infirmary, Glasgow, reported to the International Conference on Alcoholism held in Glasgow in September 1969. Dr. Goldberg noted that alcoholism is often associated with anemia, sometimes caused by iron deficiency, provoked by blood loss and lack of intake of iron. On the other hand, excessive alcohol consumption often leads to iron overload—first, because of the high iron content of some alcoholic drinks (particularly cheap wine); second, because alcohol itself stimulates iron absorption; and third, because there is evidence of increased iron absorption, related to the role of the pancreas, in hepatic cirrhosis. This excess iron may cause inhibition of coupled phosphorylation in brain homogenates and also inhibits certain important enzymes of heme biosynthesis. Most important, excess iron may cause tissue damage to the liver, heart, and brain.

The exact mechanism of the absorption of iron is not known, but the protein ferritin within the intestinal mucosa plays an important role. Where there is little ferritin (in states of iron deficiency), the iron passes readily through the intestinal mucosa into the body; and where there is a lot of ferritin (in a state of iron excess), iron is prevented from being absorbed. The ferritin acts as a sort of curtain to maintain normal homeostasis of iron in the body, and it is possible that alcohol may inhibit the synthesis of ferritin in the intestinal mucosa.

It is not generally apparent that the chronic alcoholic commonly has a vitamin C deficiency, said Dr. Goldberg. He reported on a study of 60 patients with haematemesis, in which there was a significantly lower level of leucocyte ascorbic acid than in a similar group with peptic ulcers and a group of normal controls. Furthermore, within the haematemesis group, the lowest levels were found in patients whose bleeding had a precipitating factor (either alcohol or aspirin) and those over 45 years old. Ascorbic acid deficiency undermines the patient's healing power and also exposes him to bleeding from various sources, particularly the stomach, which further alcoholic excess may provoke.

Review of Treatment Outcome

Motivation was the prime factor and age the second most significant factor in the outcome of treatment in a group of 200 alcoholics at Crichton Royal Hospital in Dumfries, Scotland, in 1962-64, according to a review conducted by F. McGregor, Registrar. Comparing the results of the study with those of a previous study of 400 patients in the same unit from 1952-58, Mr. McGregor found only minor differences in factors related to outcomes. "The earlier we get them the better their chances," he said, adding that "if the patient wants help and is prepared to try his chances are very good . . . but his chances are dismal as long as treatment remains someone else's idea." Overall 44% did well (47% in the earlier study) and 56% did badly or died (53% earlier).

Group Therapy in Glasgow

Outlining the group therapy program at the Glasgow Council on Alcoholism, Mr. Archibald Thomas, Assistant to the Director, stressed that the council itself works with the alcoholic, rather than referring him to other agencies. Group therapy is conducted five nights a week at the center for those who have completed an initial counselling program. From group therapy people are referred to AA, if they desire. Mr. Thomas reported that over the past two years, he had identified over 300 alcoholics, 60% of whom are recovering.

Alcoholism and Psychoneurosis Related to Social Class

Alcoholism may be induced by positive as well as negative social conditions, according to research reported by Lucien Laforest of the Office for the Prevention and Treatment of Alcoholism and Other Toxicomanias in Quebec. Among the population he studied in the Lower St. Lawrence Region, psychoneurosis was a greater problem than excessive drinking. The region as a whole, and most of his sample, were of lower socio-economic status. He found two types of alcoholism: first, a psychological type, associated with dissatisfaction with living conditions; and second, a type characterized by physical dependence, associated with excessive drinking patterns of upper and middle classes. The first type of drinker takes alcohol to fight anxiety and to relieve frustrations and usually develops psychoneuroses. The second type uses alcohol as a socializing aid but may become progressively more dependent.

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