

PHYSICIAN'S ALCOHOL NEWSLETTER

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ALCOHOL ACTIONS AT HIGH ALTITUDES

SANTIAGO—A sheep in the Andes becomes less drunk on the same amount of alcohol than does a sheep at sea level, according to Drs. Zapata Ortiz, Luis Batalla and Ines Gonzales of Peru.

The sheep in question were natives of Lima, 150 meters above sea level, and Cerro de Pasco, 4,000 meters higher, and were thus adapted to their relative barometric pressures. The alcohol was administered intravenously in doses of three mgm/Kg. of absolute alcohol. The intravenous route was chosen to obviate absorption differences.

There were uniformly lower concentrations of alcohol at the timed intervals measured in the high altitude sheep. The difference was statistically significant. However, there was also a significant hypervolemia in the high altitude sheep. Rate of disappearance of the

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NEW BRAIN SURGERY TECHNIQUE CONTROLS ALCOHOL SYNDROME

SANTIAGO — In a presentation to the Intl. Symposium in Memory of Prof. E. M. Jellinek, Dr. Juan Marconi of Chile reported the results of a neurosurgical coagulation procedure designed to eliminate the neural responses in thalamus which appear to give rise to the inability to abstain from ethanol and the inability to cease its consumption.

The research was designed to test the hypothesis postulating a neurophysiological base for alcoholism.

Two of three alcoholics, each of whom had a history of from 15 to 25 years of unsuccessful treatment, have been followed post-operatively for 36 and 23 months, respectively. One has ceased to experience clinical drinking bouts and clinically-induced "inability to stop" although induced "inability to abstain" persisted. He has actually abstained for 24 months. In the other, clinical withdrawal symptoms ceased during the post-operative period and the induced "inability to stop" threshold is higher. There have been no drinking bouts, save

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EXAMINE ALCOHOLISM IN LATIN AMERICA

SANTIAGO—Although the methods used to study the prevalence of alcoholism in Latin America vary from country to country, a comparison of results of epidemiological studies reveals valuable findings, according to Drs. Alfred Saavedra and Javier Mariategui.

Epidemiological studies of alcoholism rates were reviewed for Argentina, Brazil, Columbia, Chile, Guatemala, Mexico and Peru. They showed varying rates, mostly in the range of three to 15 per cent. In Quilpe, a small town near Valparaiso, there were 1.5 per cent alcoholics and ten per cent excessive drinkers *among children six months to 18 years of age!* In the small town of Morelos in Mexico, in the male population over 40 years of age, 32 per cent were alcoholics and an additional 16 per cent excessive drinkers!

All investigators found that drinking is not criticized in Latin American countries; it is even considered a sign of manhood. Most of the native population drink during civic, religious, social and traditional feasts and during business transactions. Even among adolescents with high educational standards, alcohol plays an important part in the establishment of friendships. In rural towns, the lack of interests and motivations, recreation or work, all bring about the indifference and boredom which are the predominant factors that lead to drinking.

Investigations reveal a high percentage of illiteracy among the alcoholics, as high as 57 per cent in Argentina

PRAGUE ALCOHOL CLINIC KEYED TO COMPULSORY TREATMENT

The city of Prague has one million inhabitants—and a well-organized and effective public program for the detention and treatment of alcoholism, both acute and chronic. Maxwell Weisman, M.D., Director of Community Psychiatric Services for the State of Maryland, reports that emergency care for the acutely intoxicated in Prague begins at a 22-bed sobering-up station, receiving both men and women, housed in a 50-bed psychiatric inpatient unit for intensive treatment.

The patient is generally brought by police, although some are brought by a relative or neighbor, or perhaps sent by a factory or health institution. At the station, open 24 hours a day, are five male nurses, two female nurses and a social worker. Daytime medical services are provided by two doctors from the anti-alcohol department of the psychiatric clinic while seven doctors rotate on night-time emergency duty. Also assigned to assist in the station are alcoholics in their last week of treatment in the inpatient unit.

Upon arrival at the station, the inebriate is washed and decontaminated, if necessary, and put to bed. Minor injuries are treated; patients in whom serious medical conditions are noted would first be sent to the appropriate

health center. Dr. Weisman points out that comatose alcoholic conditions are relatively rare because the intoxicated person is usually sent to the sobering-up station before complete collapse.

The patient may be detained for a maximum of twelve hours, the actual stay being determined by measurement of blood alcohol level. When sober, he is discharged with an explanation of the circumstances under which he was brought in and the reasons for his detention and charged the equivalent of about seven dollars. This fee is in the nature of a fine because medical services are completely free in Czechoslovakia, but, notes Dr. Weisman, 40 per cent of the patients never pay the fee.

Each discharged patient receives an

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Editorial:

WHITHER SKID ROW?

On Sept. 20, 1966, three New York City derelicts, sleeping in doorways, became human torches when teenage boys doused them with kerosene and set fire to their clothes.

In this dramatic way two of New York's most pressing human problems were emphasized. It is not our immediate intent to discuss juvenile delinquency and crime, although there are striking statistics that relate them to parental alcoholism and thus, secondarily, parental neglect. It is the victims of this peculiarly inhuman and sadistic act who cause comment. Despite the fact that the skid row derelict represents only ten per cent of the alcoholism problem, he cannot be ignored by medicine.

Becoming a human torch is only one of the many hazards facing the alcoholic in the doorway. Thus far, society's only solution has been to have him arrested for public drunkenness. As PAN has reported, the U.S. Court of Appeals has ruled that chronic alcoholism is a sickness and thus its victims cannot be convicted of alcoholism as a criminal offense.

In Washington, D.C., this ruling has made headlines—and problems—for Federal Judge Charles W. Halleck of the "drunk court", who is reported by the Washington papers as having dutifully freed the chronic alcoholics (including Mr. DeWitt Easter, the original test case) only to find them back in court the next day. When he remanded them to the District of Columbia Alcoholism Clinic, they turned up in court again. The director of the clinic explained that "these men need a great deal more support than we are able to give them now," and recommended an inpatient facility and an intermediate care center or "halfway house."

When, following this suggestion, 42 men were sent to D.C. General Hospital, 17 of them never arrived because 30 alcoholics "overloaded the facilities" of the hospital. Twenty-five were housed temporarily in the infirmary of the Occoquan workhouse and finally the Glenn Dale tuberculosis sanatorium in Bowie was designated for their treatment. But here also facilities were limited and patients walked away and again appeared before the bench.

As the summer wore on, a \$281,440 two-year grant for an emergency care unit for alcoholics had been approved and the Mt. Alto Veteran's Hospital was being sought as a temporary facility for

treating alcoholics until Congress could be persuaded to provide funds for a permanent facility. Despite the confusion described above, in one 3-week period half of the 150 persons referred by the court were reported to be attending outpatient clinic treatment sessions regularly.

In New York, similar problems are beginning to arise as derelicts are no longer allowed the physical protection (but questionable medical support or rehabilitation) of a night in jail. On the 18th of August, Police Commissioner Howard R. Leary, issued a directive "to rid the parks of vagrants, derelicts, winos and other such undesirable persons." To quote the Times, "the order was made necessary, according to a Police Department spokesman, because of court rulings that public intoxication was not in itself disorderly conduct."

Happily, in New York, concurrent with the court decision, steps are being taken to start a series — albeit belated—

of comprehensive services for alcoholics. The Community Council of New York is working to enlarge services through its Committee on Alcoholism. Also, and notably, the Vera Institute of Justice, at the request of Mayor John Lindsay and with a substantial grant, has embarked on a fact-finding mission with the objective of developing medically oriented drying out stations and further rehabilitation of the homeless alcoholic.

New statistics, reported at the Academy of General Practice convention by Ronald Bayne, M.D., F.A.C.P., Montreal, and by David J. Myerson, M.D., and Joseph Mayer, Ph.D., Boston, (NEJM 275, 28,419) confirm that successful rehabilitation of the skid row alcoholic has an inverse correlation with the number of jail sentences.

It is hoped that vigorous action by the Vera Institute, the City government, and New York City's medical community will make it possible to transfer the medical care of the alcoholic from the jails to the proper medical facilities with less confusion than in Washington. Confusion or not, at least some movement towards positive modern rehabilitative measures is demanded by the facts.

PRAGUE ALCOHOL CLINIC

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invitation to attend a Saturday lecture at the inpatient clinic. The audiences at these lectures, says Dr. Weisman, are sometimes as large as 150 because they are attended by the members of the inpatient unit and by many of the husbands and wives. A copy of the patient's file is sent to his trade union and to one of fourteen neighborhood anti-alcohol clinics.

The inpatient alcohol unit furnishes a short-term treatment of up to three months while longer treatment is carried out in a camp-like setting outside the city accommodating about 55 patients. Dr. Weisman noted that an interesting feature of the longer programs requires each patient to spend one hour daily in writing his autobiography. This is discussed with the patient

HIGH ALTITUDES

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alcohol from the blood was the same at both locations.

The experiment confirmed a much stated clinical impression that the effects of alcohol are not so strong in the Andes as in the lowland. The mechanism of action appeared to be a dilution effect due to the hypervolemia of the chronically hypoxic mountain dwellers and not any difference in the metabolism of alcohol.

both in individual consultation with his doctor and in group therapy sessions.

Repeated admission to the station, or failure to attend the lecture, is reported to the patient's neighborhood clinic and to his trade union organization. Upon a third admission, the patient is made to observe an emetic treatment in the inpatient program. Upon the fourth return, he receives an emetine injection and an alcohol stomach wash, thus experiencing the vomiting reaction.

The station has also turned over to the public prosecutor the names of those treated ten or more times who failed to respond to treatment or who had been in difficulties with the law. These have been sentenced to one-year prison terms.

Dr. Weisman feels that the highly coordinated program is valuable not only to the early detection of alcohol addiction but that it is extremely useful in yielding statistical information which shapes daily practice. For example, the statistics reveal that there are more admissions the latter half of each year than in the first half, and that drunkenness increases toward the end of the week because of progressive fatigue and nervous tension. The average age of inpatients has changed over the years with a significant increase in admissions of persons under 25 and a marked decrease in the 41 to 45 age group.

LITERATURE REVIEW

The Female Alcoholic, A social psychological study

Barry A. Kinsey, Ph.D.

Charles C. Thomas, Springfield Ill., 1966

This book is an analysis of structured interviews with 46 female alcoholics at the Willmar State Hospital in Willmar, Nebraska. The questionnaires were developed to test a multifactorial theory of alcoholism according to the "symbolic-interactionist school of social psychiatry." It is valuable in providing more data on female alcoholics — a neglected field — but does not point out clear differences between the development of female and male alcoholics.

The author states a control population would have been useful. Allowance also has to be made for the lack of substantiating data other than the patient's retrospective views after many years of alcoholism. Among the references, the article on endocrine treatment of alcoholism (p. 33) should be ascribed to Tintera, J. and Lovell, H.

The hypothesis tested was that predisposing factors of faulty self-image, ego development, and adjustment to sex roles; as well as "disharmony between primary and secondary selves" would be present along with orienting factors of cultural and situational availability. Uncontrolled drinking would then develop because of progressive realignment toward groups which tolerated heavier drinking, with concomitant progressive alienation from normal social relationships.

Alcoholism—Mechanism and Management

Max Hyman, M.D., Associate Clinical Professor of Psychiatry, Alcoholism Research Clinic, University of California at L. A. Charles C. Thomas, Springfield, Ill.

This refreshingly definite, non-exhortative, factual and scientific text reviews the state of current knowledge on alcoholism. With clear cut, non-ambiguous sentences, with every statement buttressed by an extensive but unintrusive bibliography, and with a definite point of view obviously based on a wide clinical and research experience, Dr. Hyman concisely cuts a path through the verbiage and the shibboleths with which this field is often plagued. Medical management, psychiatric counselling, community resources (including AA), follow up studies, epidemiological data prognosis and legal aspects are all discussed.

Liver Disease

A review of 87 alcoholic patients hospitalized with a diagnosis of acute liver disease was conducted by Drs. William C. Hardison and Frank I. Lee from the Thorndike Memorial Laboratory and the Second and Fourth (Harvard) Medical Services, Boston City Hospital and the Department of Medicine, Harvard Medical School, in an attempt to determine prognosis and to discover factors early in the hospital course that might correlate with poor prognosis.

The severity of the disease is indicated by the overall mortality rate of 33 per cent. The only physical finding present on admission associated with a statistically significant increase in mortality was asterixis; hepatomegaly was not associated with an increased mortality.

White cell count, serum bilirubin and urea nitrogen concentrations were the only admission laboratory tests that had mean values significantly different for survivors than for those dying during the hospital course. Higher values of these three tests correspond with a high-

er mortality rate; this was not found to be true with higher values of serum glutamic oxalacetic transaminase or serum alkaline phosphatase. Poor prognosis was associated with an admission serum bilirubin concentration of over five mg. per 100 ml. that did not begin to fall by the sixth post-admission day, but this point could not be analyzed statistically.

(N.E.J. Med. Vol. 275, No. 2. pp. 61-65).

Lactic Acid Response

Muscular cramps, tenderness, weakness and, sometimes, swelling in alcoholic patients, associated with the diminished response of lactic acid to ischemic exercise, has been investigated by Drs. Gerald T. Perkoff, Patrick Hardy and Enrique Velez-Garcia of Washington University Medical School, St. Louis, Mo. This syndrome closely resembles McArdle's Syndrome of hereditary phosphorylase deficiency but is reversible.

The occurrence of similar biochemical changes in less symptomatic patients during withdrawal from alcohol was also determined and points to an entirely new category of alcoholic disease.

Pathogenic mechanisms are unknown, but the possibility that alcohol may interfere with the metabolism of myoglobin is entertained. It seems likely that alcohol has similar effects on skeletal and cardiac muscle.

(N.E.J. Med. Vol. 274, No. 23. pp. 1277-1282).

Pamphlets Available

A Symposium on the Biochemical and Nutritional Aspects of Alcoholism. Sponsored by the Christopher D. Smithers Foundation, and the Clayton Foundation Biochemical Institute, University of Texas, Austin. (free)

Experimentation — The Fallacy of "Controlled" Drinking Where Alcoholism Exists. Published by the Christopher D. Smithers Foundation. A straightforward exposition of the fact that alcoholics do not "drink" (as the term is commonly used) but are solely concerned with ingestion of alcohol. Therefore any form of so-called "social drinking" is dangerous and practically impossible for these sick people whose illness is never "cured," only arrested.

NOTE: The July-August 1966 issue of the journal, *Psychosomatic Medicine*, contains as part 2 of two parts, a full report of the symposium on Alcoholism held at Harvard Medical School last summer. Biochemical, Neurophysiological studies, Animal Behavior, Human Behavior and Drug Therapy are the subtitles of a wide range of original experiment work. A more detailed report will be forthcoming in our next issue. Dr. Jack H. Mendelson was the editor.

NEW BRAIN SURGERY TECHNIQUE

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for one relapse 22 months after treatment.

The third patient continued to drink heavily and died 11 months post-operatively. There is some indication that coagulation was not achieved by reason of a technical mistake.

The neurophysiological hypothesis assumes that the effect of ethanol on a gamma, or intermittent, alcoholic after abstinence is the direct stimulation of two closely related central neuronal circuits: that which controls ethanol appetite, or desire, and that which regulates anxiety. The coexisting anxiety renders the need for ethanol overpowering and engenders "inability to stop." The "inability to abstain" of the delta, or in-

termediate alcoholic, arises from the indirect hyperexcitability of the same neuronal circuits freed from the effects of ethanol ingestion through complete abstinence.

Preliminary studies with implanted electrodes confirmed that the appropriate surgical site was in the region of the dorsomedial thalamic nuclei. Coagulation on the left and right sides was accomplished separately with an interval between interventions of about eight days.

The researchers pointed out that the procedure is indicated only after a long history of unsuccessful treatment in a patient without active psychotic complications and who is seriously disabled, physically or socially, from alcoholism.

MENDELSON RESEARCH PROJECT TERMED 'LANDMARK' STUDY

(The work of Dr. Jack Mendelson in experimentally induced chronic intoxication in chronic alcoholics is such a landmark in the scientific study of alcoholism that although it appeared as a supplement to the Quarterly Journal of Alcohol Studies in May 1964 (supplement No. 2), the editors consider it of such importance that we are again calling attention to these experiments.)

Many well-entrenched concepts of alcoholism have been challenged in tests by Dr. Jack Mendelson of the Harvard Medical School on a group of chronic alcoholics given alcohol in large quantities while in a metabolic ward. Previous studies have been made on non-alcoholics given alcohol, and of chronic alcoholics who came under observation during the withdrawal period, and much has been inferred from retrospective historical data given by them. In contrast, Dr. Mendelson's group stimulated spree conditions on a group of ten men while they were hospitalized, starting with baseline observations and making measurements through a 24-day period of heavy alcohol consumption, and through the withdrawal phase.

During the two weeks when they were ingesting 30 ounces of whiskey a day, the degree of intoxication was surprisingly small. Also in some cases the alcohol level in the blood was as low as 35 mgm per cent (average 100-150 mgm per cent). It appeared that a process of reactive adaptation took place. With doses of 40 ounces a day, the blood levels shot up. Contrary to the literature, increased dosages of alcohol did not lessen depression or psycho-

pathic tendencies, and increased rather than decreased anxiety. The isolation, or escape mechanism, was not observed; instead the alcoholic patients showed mutual concern, generosity and interaction with their fellow drinkers. "Craving" did not appear with the first drink, but only after large quantities of whiskey were consumed over many days. (The goal of complete abstinence seemed still a good one for treatment.)

Tests of motor skills showed no deleterious effects with the daily dosage at or below 30 ounces. With 40 ounces, impairment was noted. These findings give support to the opinion that continuous alcohol intake, even in relatively large doses, impairs the motor capacities of alcoholics much less than those of the general population. Tests of attention in these patients likewise showed no deterioration at intake of 30 ounces or less, with little performance variance below 200 mgm per cent of alcohol.

Flicker fusion experiments supported the conclusion that alcohol depresses both the excitatory and inhibitory mechanisms of the central nervous system. The relatively rapid recovery of excitatory components of the central nervous system on cessation of chronic alcohol administration compared to the slower recovery of inhibitory systems could account for the clinical course of alcoholics in the withdrawal syndrome.

Electroencephalographic studies showed slowing of alpha frequencies during the final (40 ounces a day) stage of the intoxication period. An increase of alpha frequencies was found after ten days of habituation to the

lower 30 ounces a day dosage. Driving to photic stimuli was reduced on the 24th alcohol day, significantly increasing within 36 hours after withdrawal. This may relate to withdrawal seizures.

Measurements of serum lipids and free fatty acids supported the conclusion that fatty liver can be produced by alcohol independent of any nutritional deficiency (see PAN #1 and #2) and also produces hyperuricemia (Pan #3).

Although magnesium levels dropped significantly during withdrawal, no direct causal relationship between serum magnesium levels and the withdrawal syndrome was found. Data on glucose showed no significant hypoglycemia in those patients who had been maintained on an adequate dietary intake. This does not invalidate the finding that ethanol inhibits gluconeogenesis, which when complicated by decreased liver glycogen (on poor dietary intake), results in marked hypoglycemia.

Implications of the study included the necessity to re-explore crucial biological and biochemical phenomena of chronic alcoholism, and to directly observe and if possible, experimentally manipulate behavior concomitant with the inebriation of the alcoholic.

As for the former, a differential metabolism was suggested by these and further experiments after prolonged ingestion of alcohol as opposed to the initial drinks. As to behavior, treatment procedures based on modifying patterns of anxiety, in the alcoholic as a deterrent to alcoholism were questioned.

The withdrawal data were seen as an indication that alcoholism represents true addiction. Operant conditioning techniques seemed indicated for its further study, and in the differentiation of those who do and do not exhibit withdrawal symptoms under similar stimuli.

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