of canned foods (including meats), dry cereals, powdered milk, etc., to permit them to follow their prescribed diet as outlined by their physicians for a period of two months. The emergency diet outlined by the Committee in its earlier report still seems adequate for short term emergencies.

EMERGENCY DIET

Breakfast

Bread, 2 or 3 slices
Butter or margarine
Coffee and canned milk
or
In place of bread, a cereal and a can of milk

Noon and Night

Meat or cheese sandwich
or
Bread and butter alone, 3 slices
or
Meat and potatoes with such vegetables as are available (stew)

The preparation of special meals for diabetics will be impractical in shelters. It may then become necessary for them to depend on whatever foods are available. Some of these, such as the "survival biscuit," may be high in carbohydrate (8 per cent protein, 17 per cent fat, and 75 per cent carbohydrate). Under circumstances of nuclear attack, diabetics must remember that radical changes in diet and exercise, and also any injuries or infections that occur, may drastically change insulin requirements. Frequent urine testing will be imperative, and may be the only means by which they can regulate their insulin dosages.

It therefore becomes more important than ever for the diabetic, and also one or more members of his family, to be thoroughly trained in the management of this condition. Only by self-reliance, careful training for good control, and judicious preparations, can the diabetic expect to survive under such emergency conditions.

The purpose of this statement, as in our report of 1951, is not to discuss the logistics of procuring and distributing food, insulin and other supplies to the thousands of potential diabetic casualties, but rather to point out their special needs, so that proper measures for their care can be formulated, and then integrated into over-all civil defense plans, federal, state, and local. It is also designed to suggest recommendations that physicians may make to their individual diabetic patients, should such patients request planning assistance.

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BOOK REVIEW

COMA: BIOCHEMISTRY, PHYSIOLOGY AND THERAPEUTIC PRINCIPLES. *By Fazekas and Alman. $5.75. Charles C Thomas, Springfield, Illinois, 1962.*

In this monograph the chemical pathophysiology of coma is classified and described in terms of intracellular energy metabolism. Coma, considered as an essentially unitary phenomenon, is discussed in terms of oxygen and substrate defects, enzymatic and electrolyte disturbances, inorganic and organic chemical intoxications, vitamin deficiencies and a large miscellany including seizure states, mass lesions, infection and trauma. Thus, the breadth of the topic is enormous and so small a monograph must of necessity touch only lightly on individual subjects. This general approach may, however, be of value to the student and physician seeking a brief review.

The unitary concept of coma as a subject for a monograph must be questioned. Coma, perhaps more than any other state, is a product of diverse conditions which have little else in common and show large differences in their clinical context. The authors do arrive at the single concept that coma is the result of a disturbance in the production or utilization of energy in the cerebral area associated with consciousness. Such a thesis, however, lacks any definition since no disease process exists which can do other than involve a change from normal in energy production or utilization. While in the introduction there are detailed biochemical diagrams depicting the Embden-Meyerhof Pathway, Krebs Cycle and electron-transfer system, the biochemical correlations are elementary and diffuse, a reflection of how little knowledge we have of the biochemistry and physiology of the brain and the mechanisms of disease processes. Diabetic acidosis is described in four of the eighty pages devoted to descriptions of the various disease entities. Therapeutic principles derived

from the correlations occupy the final six pages. Little more is said of diabetic acidosis than that insulin administration is indicated to overcome the enzymatic defect produced by ketone formation. The authors' visualization of vomiting in diabetic acidosis as a homeostatic mechanism for the elimination of hydrogen ions is to be deplored. Tables, several with irrelevant and overly complex data, and references occupy nearly one third of the volume.

Despite its many deficiencies this book serves as a worthy effort to integrate the thinking of the biochemical physiologist with the clinical neurologist. One can only regret that the heterogeneous subject chosen spans such an incredible number of disease states, very few easily thrust into a framework of intermediary metabolism.

The result is a potpourri with a very tenuous base, the loss of consciousness.

EDITORIALS

EMOTIONAL STRESS AS A CAUSE OF DIABETES MELLITUS

Can emotional stress cause diabetes mellitus? This question has generally been answered in the negative on the premise that any stress which results in permanent diabetes mellitus merely makes clinically evident a pre-existing diabetic state. Reconsideration of this problem in the light of the pre- or pro-diabetes concept indicates that this view is still tenable.

Thus, there are many stimuli such as emotional trauma,[1] starvation,[2] infection,[3,4] administration of ACTH or adrenal type steroids,[5] chlorothiazide,[6] nicotinic acid, etc., which in entirely normal nondiabetic subjects induce a delay in the disposal of a carbohydrate load administered to the patient or produced within the body. This delay in disposal of the carbohydrate load results in an undue elevation of the blood sugar when measured two hours after a meal or during the course of a glucose tolerance test. Also ketosis, a feature of unregulated diabetes mellitus, appears in nondiabetic individuals subjected to certain types of stress.[1] In other words during the period of such shock or stress, food deprivation, illness, drug therapy, etc., a previously entirely nondiabetic individual manifests a blood glucose response to sugar and food loads and increases in blood and urine ketones which are similar to or indistinguishable from those seen in a patient with unregulated diabetes mellitus.

Such an entirely normal individual responding to stress or drugs differs, however, from the true diabetic in that following removal of the stress, subsidence of the infection, or withdrawal of the ACTH or steroids the subject reverts to nondiabetic blood sugar and ketone patterns. Obviously somewhere between the clearly nondiabetic normal group and the clearly diabetic group there must be a group of people who are developing diabetes mellitus. In such individuals a stress which would produce only transient impairment of carbohydrate metabolism in members of the clearly nondiabetic group could theoretically produce a permanent diabetes mellitus where none existed previously. The crux of the problem is analogous to this question: How many straws are needed to break a camel's back?

One might put it another way: Diabetes mellitus is a spectrum which extends from zero to 100 per cent with clearly nondiabetic individuals at the zero point and clearly diabetic individuals at the 100 per cent point. However, some individuals because of heredity, obesity, pancreatic injury, aging, repeated pregnancies, etc., fall on the 10, 25, or 85 per cent rather than the zero point. These individuals are generally spoken of as prediabetic or prodiabetic. Stress applied to such a prediabetic individual at the 85 per cent point might well precipitate 100 per cent diabetes; i.e., bring about the final exhaustion of the pancreatic islets or vitiation of insulin action which characterizes the true permanent diabetic. However, when this happens, it must again be conceded that this clinical manifestation was superimposed upon prediabetes, i.e., upon an inherent predisposition to diabetes mellitus.

There is perhaps another approach to this difficult problem of emotional stress as a cause of diabetes mellitus. Ordinary living, working and survival is filled with competition, pressure, hostility, stress, and strain. This must be accepted as a condition of life just as is the need for food, oxygen, etc. The bulk of any population submitted to identical stresses and strains, as in war, starvation, or persecution fails to develop diabetes mel-