

Diabetes and Mental State

By

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As a result of the psychological investigation of 58 diabetic children and adolescents it has been concluded that emotional components, via their effect exerted upon neurohormonal functions, together with other factors, may play a role in the time of onset of diabetes. The considerable number of psychogenic depressive symptoms and other neurotic reactions found in the present material had existed also prior to the onset of illness, thus, diabetes developed on an already neurotic ground. It is believed that the chronic anxiety and the low frustration tolerance due to the chronic suppression of moods are greatly enhancing the regression taking place at an autonomic level, which, in the case of constitutional predisposition, may become a diabetes-precipitating factor. An attempt is made to clarify the characteristics of family relations of the diabetic child and to draw conclusions as to the origin of the neurotic symptoms.

Relevant literature on the correlation between diabetes mellitus and psychological factors is rather extensive. As a brief survey we present the main experimental results and our hypothesis formed on the basis of the psychological examination of 58 diabetic children and adolescents.

Originally, psychiatrists have noted glycosuria in melancholiacs. KOOS [9] thought that the emotional state of the patients was responsible for the elevated blood sugar level. PARSON [12] found the blood sugar level to vary in different mental diseases, and in diabetic children he observed a considerable number of depressive symptoms. According to him, the most conspicuous effect of insulin in children was the disappearance of depression.

Of the physiologists, it was CANNON [5] who observed that excitement and anger induced glycosuria in animals. The same was noted to occur in humans; for example in sportsmen following competitions, in soldiers in danger situations, or in anxiety states of patients before surgery.

According to MIRSKY [11], emotional glycosuria may arise also in healthy individuals; emotional hyperglycaemia is, however, rare. He supports this view by the fact that the regulating mechanisms which are disturbed in diabetics and upset the homeostatic balance, automatically restore the balance in healthy individuals.

According to the stress theory [15], part of the diseases including diabetes, are the result of faulty adjustment to stress leading to the derange-

ment of the constancy of the internal milieu.

Representatives of the psychoanalytic theory, headed by ALEXANDER [1], believe in the principle of multi-causality in the aetiology of psychosomatic diseases. DUNBAR [6] considers anxiety to be a prominent factor in diabetes. ALEXANDER and his school [1] found chronic anxiety and a pretentious attitude in their diabetic cases. The results of the investigations carried out at the Psychoanalytic Institute of Chicago seem to prove that diabetics live in a constant, basic conflict situation as regards food intake and absorption. The desire to eat and to refuse food arises simultaneously. The former may manifest itself with a considerable need for eating or being nourished, or with an exaggerated need for love.

Thus, they approach the problem from the opposite angle than MIRSKY [11], according to whom the child born with a predisposition to diabetes, can never fulfil his biological needs and his increased nutritional requirement might be due to a psychological insatiability.

The literature on juvenile diabetes deals mainly with the personality traits, and the home and school environment of the affected children. In one-third of the children examined by BRUCH [4], diabetes became manifest as a result of some important change such as divorce or death taking place in the family. FISCHER and DOLGER [7] believe that in children the emotional factor exerts a direct effect on sugar metabolism and on the

process of diabetes. SCHIFF [14] found a close correlation between the emotional tension of these children and the controllability of diabetes. LAUGHLIN and MOSENTHAL [10], on the other hand, reported that in 70% of 114 children they found a normal psychological state. BELMONTE [3] also reported severe emotional problems and holds the view that the most serious problems of juvenile diabetics have their roots in old psychic conflicts. TREUTING [17] is of the opinion that anxiety associated with the disease, may bring to surface latent characteristic traits. SWIFT [16], based on the investigation of 50 juvenile diabetics, has arrived at the conclusion that diabetics are significantly more pathological as regards dependence, self-evaluation, manifest and latent anxiety, sexual behaviour, hostility and social adaptation, than the healthy control group.

GEGESI KISS and BARTA [8] stressed the importance of the correlation between diabetes and environmental factors in delaying the manifestations and the result of treatment.

Thus, the propagators of the psychosomatic theory regard the human organism as a psycho-somatic-environmental entity in which the environment exerts its effect via emotions on the neuroendocrine system, which in turn influences through autonomic pathways the function of the various organs.

According to SELYE [15] predisposition to diabetes is an inherited trait, but whether or not a latent diabetes will be activated depends primarily

on how the organism reacts to stress. The nature and extent of reactions to stress are functions of the neuroendocrine system which is influenced by environmental effects. According to CANNON's concept [5], the main function of the endocrine-sympathetic nervous system is to prepare the organism in danger situations for fight or flight. One of the central components of this homeostasis-maintaining mechanism is the mobilization of sugar in the blood which leads to hyperglycaemia. In civilized man this mechanism does not only start to function in the case of some danger but also e.g. in the loss of security or of prestige. Furthermore, the danger is not necessarily real and conscious, but just as real external dangers, it produces the predominance of the autonomic nervous system and prepares the organism to ward off the danger. However, if autonomic activation is not followed by action and the preparation for the never occurring action takes place repeatedly, this autonomic preparation may become chronic and may act as a chronic stimulus on the insulin-producing mechanism. This state, in the case of an inherited susceptibility, constitutional predisposition, may play a role in the development of diabetes.

MATERIAL AND METHOD

Complex psychological investigations have been conducted in 58 children and adolescents between 10 and 18 years of age (24 girls and 34 boys). Since the aim included the study of premorbid characteristics,

children were selected whose diabetes had become manifest after 6 years of age.

A detailed history was obtained from both parents, and individual as well as familial group explorations comprising all family members who lived in the same household, were performed; Rorschach's test and Popper's identification tests were carried out with the affected children.

RESULTS

Pathological signs and symptoms were found in a considerable percentage of the children:

Psychogenic depression (permanent anxiety, lack of interest, passivity, poor self-evaluation, tense feeling of guilt, suppression of aggression)	27 cases
Nocturnal fear	9 cases
Tics	3 cases
Nail-biting	12 cases
Thumb-sucking over 3 years of age	4 cases
Nocturnal or diurnal enuresis	6 cases
Encopresis	1 case

Several of these symptoms were found simultaneously in these children and only 12 cases proved to be symptom-free.

A high percentage of depression (47%) was the most characteristic feature in our cases. This finding is in accordance with the experience reported by the majority of experts. BARTA and HÓDOSI [2] also presume a basic condition of depression in which state every further frustration may

result in extreme reactions. The most characteristic symptoms of depression, the permanent anxiety and suppression of emotions are expressed in the neurotic reactions listed in Table I. The anamnestic and explorative data indicate that of the 58 children 32 suppressed their emotions to an extent where they become so passive as to never turn hostile either to adults or to other children and where they do not even try to enforce their will in a direct way. Nine are aggressive only with their siblings and only 14 dare to contradict their parents.

According to the parents, many of the children are behaving too well and have been model children from early childhood. Remarks of the parents such as "this child was a grown-up at the age of 4 already", "he never fought", "I can't remember him ever being angry" are not rare.

According to our data, the depressive symptoms, except for 6 cases, had been present even before the onset of illness. The same holds true for the neurotic reactions, except for enuresis, which is a well-known concomitant of diabetes and cannot therefore be evaluated fully as a neurotic reaction.

This frequent incidence of depression seems to prove convincingly the role of chronic anxiety and chronic autonomic stimulation. Anxiety mobilizes via nervous and hormonal pathways the energy needed to solve a situation, prepares the organism for fight and flight, but for our patients the anticipated action through the innervated areas cannot take place

because of the suppression of emotions. Thus, these children are unable to find an adequate outlet for their anxieties or tensions; at the beginning these repressed emotions produce neurotic reactions, depressive symptoms. If additional frustrations or lasting frustrating situations are met with in the already hypersensitive, overstrained condition, after a certain point the neurotic reaction is no longer sufficient for culminating the overstrain which will at last find expression regressively at a more primitive, autonomic level. According to our postulate, the coincidence of such an emotionally developed neurohormonal regression and constitutional predisposition may play a role in the aetiology of diabetes.

Our experience did not support the correlation presumed by several authors between some tragic family event — particularly the emotional loss of an object — and the time of onset of diabetes. Particularly the emotional loss of the mother, e.g. the first encounter with the kindergarten or school, or the birth of a sibling are considered crucial. On the contrary, we have observed the manifestation of diabetes half a year after entering school only in 8 cases, and merely in 5 cases did the diabetes manifest itself following the birth of a brother.

We are not convinced that this experience would contradict the disease-precipitating effect of emotional loss of an object. We believe that not so much the emotional trauma but rather the longer, continuous stress situations precede the onset of the

disease and for that reason a time coincidence could not be observed.

The high incidence among our patients of the youngest or only children in the family is striking. Of the 58 juvenile diabetics 15 are the youngest in the family and 9 are only children; thus 24 children, almost the half of the cases, belong to this group. These data seem to indicate that the emotionally central situation should also be considered central from the aspect of frustrations, and as such it represents a considerable load upon the nervous system.

The information concerning the feeding behaviour of the diabetic children before the onset of the disease was in agreement with numerous literary data. In the present material, 34 patients were good eaters since early childhood, in contrast to the data of healthy children and children suffering from other chronic diseases. If we consider that 19 are expressly preoccupied with the thought of food, the difference is even more striking.

The extreme eating habits and the preoccupation with food — if it has no organic background — always mark a disturbance in affective development. The unsatisfied emotional need is transformed into a need to eat and as such it can be regarded as a regressive supplementary satisfaction. This phenomenon is thus a sign of unbalanced psychic state prior to the onset of diabetes.

The social contacts, adjustment to school and to contemporaries were found to be very poor in this material. The great majority of the children

are lonely and feel unhappy outside their home environment. Merely 11 of them have friends and only 16 such contemporaries with whom they are in a loose contact.

The sexual behaviour of our juvenile diabetics is considerably infantile, and the affective reactions characteristic of adolescents are almost absent. Even though we found 3 girls to have intensive sexual experience, due to the character of their sexual adventures we regard them rather as infantile spite reactions addressed to the parents.

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