Professional Dyslexia About Dyslexia

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Dyslexia: Organic Versus Emotional Reactions

The neurologist has a set of descriptive terms he applies to varying degrees of sensory and motor malfunctions such as acalculia, dyscalculia, agnosia, dysnosia, agraphia, dysgraphia, alexia, aphasia, and so forth. The educator *sees* some 15 percent of his pupils as having learning problems resulting from partial central nervous system dysfunction and thinks of this as coming under the umbrella term of "minimal brain dysfunction" with a more definitive descriptive term of a disorder under the term "dyslexia" (visual dyslexia, auditory dyslexia, dysgraphia) (Jordan, 1972). Dyslexia is viewed as a continuum from minor to major disabilities in learning. The child cannot learn in the usual way or at the usual speed due to the disordered central nervous system function. He becomes frustrated, anxious, angry, defensive, and develops a failure complex. The psychiatrist diagnoses his patient based on a cluster of symptoms and does not break down his diagnosis into its component neurological parts. He uses such terms as "confusion," "dissociation," "disorientation," "psychomotor excitation," or "psychomotor retardation," or "blocking,"

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and so forth. The associated emotion of the patient is seen as overshadowing the soft neurological evidences of organicity. It is customary for the psychiatrist to assume the evidence of neurological disorder is evidence of the emotions and thought influencing the organic body function (psychosomatic) rather than the organic central nervous system state influencing the emotions and thought (somatopsychic).

Testing 200 psychiatric patients and several behaviorally disordered students, the majority of which also had learning problems, highlighted a curious revelation. We professionals (neurologists, educators, psychologists, and psychiatrists) are something like the three blind men who examined an elephant in which one examined the trunk, another a leg, and another the tail. From their descriptions it could not be determined that they all had a common source—the elephant. Single substance exposure provocative (induction) food and chemical testing was used after four or more days of avoidance of these substances. Under these controlled conditions emerging symptoms were recorded by an objective observer. They were observed equally in the psychotic (lesser in neurotic) patients, and in the learning problem students the same pattern of

disordered central nervous system function was described by the neurologist, educator, and psychiatrist. The only difference is that in the psychotic cases there also, in addition, emerged the grosser symptoms as classically described by the psychiatrist. It became apparent that there is a continuum between the neurological disorders of the central nervous system described by the neurologist, learning problems described by the educator, and classic psychiatric syndromes such as schizophrenia, manic-depressive, psychotic depressive, and so forth. With this type of provocative testing the difference in diagnostic categories disappears. All schizophrenics during their illness have learning problems and neurological impairment. Since this type of testing evokes symptoms at their highest potential, it became clear that classic neurological symptoms (as described by neurologists) were being evoked. Rinkel, Randolph, and Zeller had previously observed neurological symptoms such as aphasia occurring during food testing (1951). Frequently a single patient evidenced the full spread of minor to major symptoms such as: milk evoked the loss of ability to read fluently because words danced around, or were so big that three words filled a page, or other classic dyslexic symptoms; or soy evoked an aphasia in which there was little or no comprehension of the spoken word; while wheat evoked paranoid delusions with associated visual and auditory hallucinations. Often it was discovered that a single food or chemical evoked a full spectrum of minor to major symptoms with minor symptoms (dyslexia) beginning at 15 minutes after the exposure, and major symptoms (psychosis and/or major neurological symptoms) emerging at 45 minutes and again tapering off to minor symptoms. Symptoms occurring during such testing are usually over in two to three hours, but occasionally last up to three days.

A good example of the continuum between dyslexia and psychosis is that of confusion of sequences in which the dyslexic has a hard time remembering the month, day, and year of his birth or the sequences of the alphabet, and that of the dissociation as to time, place, and person in the psychotic. It is the same process of disorientation ranging from minor in dyslexia to major in the psychotic.

Physical Characteristics of Central Nervous System Maladaptive Reactions

Bassoe (1932) and Galtman (1936) independently observed central nervous system tissues to be swollen during these reactions. This tissue edema reduces the blood supply by as much as 40 percent. Synaptic junction transmitters are either increased beyond optimum or reduced below optimum in amount. Central nervous system allergic reactions have the characteristics of either an over- or under-response. Thus, there is hyperkinesis and hypokinesis, psychomotor excitement and psychomotor retardation, mania and depression, hyperalert-ness and hypoalertness, insomnia and drowsiness, and so forth through the entire gauntlet of possible symptoms. Neurologists consider chronic continuous symptoms to be most likely the evidence of tissue damage, while fluctuating symptoms are more likely a reflection of fluctuations in oxygen supply to tissues due to the fluctuations in blood supply. Central nervous system allergic reactions with their resulting edema and reduced blood supply fulfill well the neurologist's expectations of fluctuating neurological symptoms. The type of central nervous system allergic reactions occurring depends upon the area and extent of central nervous system tissue involved in the reaction. Thus there can be a pure reaction of motor or perception, or it may include emotion or memory. A central nervous system allergic activation of prior learned responses gives the content of delusions, hallucinations, obsessions, compulsions, and so forth. Thus in a psychosis we see life experiences serving as a vehicle of expression of the illness while the central cause of illness is the central nervous

system allergic reaction activating these learned responses. In learning problems we see a more purely motor and sensory allergic reaction unrelated to learned responses.

Another characteristic of allergic (and similar) reactions is that of interference with maturation of tissues. This can include any tissues of the body, including the central nervous system. In chronic central nervous system allergic reactions the central nervous system will experience interference with this maturation. Such a delay in maturation of the central nervous system is one of the sources of dyslexia. With extra effort the central nervous system can faultingly learn to make corrections of the sensory and motor disorders under these circumstances: (1) delay in maturation of central nervous system, (2) frequently evoked central nervous system edema with resulting focal decrease in oxygen supply to these tissues, and (3) fluctuating synaptic junction transmitters.

Among the several possible causes of disordered sensory and motor function, allergic and allergic-like reactions to foods and chemicals were found to be the usual cause of learning problems and psychosis (Philpott, 1974). Sometimes there was observed to be a superimposed emotional state on top of the organically disorganized central nervous system. More often we observed what educators observe, and that is that the disordered central nervous system function produced such an uncomfortable and poorly functioning sensory and motor function as to itself evoke anxiety (Jordan, 1972). The patient would describe his fearful-ness as a reaction to his disordered perception; others gave evidence of anger, fearfulness, depression, and anxiety as a response evoked rather quickly and strongly as the primary reaction to a food or chemical. One is reminded that we are dealing with human beings with multiple emotional and organic potentials and that they reinforce each other, and there is never a complete either/or situation. However, the existence of a strong organic substrate as the primary driving force in most learning problems and psychoses is glaringly consistent in the majority of cases subjected to induction tests of commonly used foods and frequently met chemicals (Mandell, 1974).

History of Central Nervous System Allergy (Allergic and Allergic-like Reactions)

In 1898 Baker described fatigue in school children as being food related (Baker, 1898). Experimentally induced fatal anaphylaxis (Richet, 1907) involved a central nervous system reaction. The term "allergy" was first used for a reaction less than anaphylactic in degree (the term allergy was first used in the year 1906). Rowe (1928, 1944) described food reactions as affecting the central nervous system function. Randolph and Rollins (1950) first demonstrated a central nervous system reaction to a food by blind technique. In all, about 30 articles were published up to 1970 on allergy and similar maladaptive central nervous system reactions to foods and commonly met chemicals (Speer, 1970). The last five years or so have seen a rapid increase in interest in the subject of central nervous system reactions to specific substances. Originally the term "allergy" was used broadly to denote a maladaptive reaction of any part of the body to a specific substance. Progress in the areas of immunology and toxicology has redefined and circumscribed the term "allergy" as indicating those responses in which antibodies can be demonstrated. Therefore, the term "central nervous system maladaptive reaction to specific substances" is more correct, maladaptive reactions being used to designate responses occurring on exposure to specific known substances. These maladaptive reactions may involve any tissue of the body, including the central nervous system, and may produce practically any response of which these tissues are capable. These maladaptive reactions have been termed "the great masquer-ader" (Crook, 1973).

The sources of these maladaptive

reactions on exposure to substances are multiple and such as: 1. Allergic with antibody formation. 2. Metabolic errors which may be enzyme deficiencies such as produced by inheritance, infections (residual or current), or produced by physical injury. An example is that of galactosemia, which may be inherited or developmental. Vitamin-dependent states which may be inherited or developmental—these vitamin-dependent states most likely represent an undiagnosed metabolic error in which the larger use of the vitamin has some degree of symptom alleviation. 3. Nutritional deficiency states with the resultant enzyme deficiencies and poorly functioning tissue which cannot handle the frequency of contact with a specific food or chemical without symptom formation.

Sources of Food Addiction

Rinkel et al. (1951) observed what they called "masked food sensitization." The various stages of sensitization and tolerance of foods to which the subject was allergic was worked out. The value of a four-day abstinence with food testing starting on the fifth day was described. Later Randolph (1953, 1956), observing the relieving aspect of frequently eaten food to which maladaptive reactions were made, called this "food addiction." Addiction has been defined as relating to substances frequently used for relief (or partial relief) of symptoms, while the same substance produces symptoms on withdrawal of the substance. Many food reactions clearly fit this definition of addiction, the same as tobacco, alcohol, or narcotic addiction does.

Maladaptive reactions to foods can be caused by: (1) Addiction caused by (a) food and chemical allergies with typical antibody reaction and (b) nutritional deficiencies. (2) Metabolic errors such as phenylketonuria (Perry et al., 1973), galactosemia, lactase deficiency, and vitamin-dependent states. A few metabolic errors have been clearly understood, but it is suspected there are many yet to be discovered. In the metabolic error reactions there is lacking the addictive quality of relief when the substance is contacted, but rather there is an immediate production of symptoms. (3) Idiosyncratic toxic reactions such as reactions to chlorine, fluorine, food additives, food coloring, insecticide residues, all of these occurring at levels below that which causes reactions in the majority of people. In any event there is a common denominator in ail of these reactions (allergic, deficiency, metabolic error, and toxic), and that is that symptoms are reduced by avoidance of these specific incriminated substances.

Reverting Addictions to Immediate Maladaptive Reactions

A four-day (or sometimes up to six) abstinence from food to which a person is addicted reverts the addictive state to that of immediate symptom production rather than the delayed addictive withdrawal symptoms. This is best achieved by a four-day fast. It can also be achieved if foods to which the person is not maladaptively reacting are used during this four-day pretest period. When the testing produces symptoms, then all possible causes for symptoms must be considered, such as: (1) allergic, (2) nutritional deficiency, (3) metabolic error, or (4) idiosyncratic toxic reaction. The reaction on a test does not in itself tell us the cause of the reaction.

Comprehensive Environmental Control (Randolph, 1964)

The purpose of environmental control is to isolate the person from all substances to which he may be reacting. These will include feeding of foods, fumes, animals, cosmetics, hair conditioners, and so forth. Homes are notoriously filled with fumes from gas stoves, hot air oil- or gas-fired furnaces, spray fresheners, moth balls, and so forth. It is easier to arrange for an adequate environmental control in a hospital setting where such a unit has been especially set up, and in some cases this is an absolute necessity. If during the fourth or fifth day *of* the fast the pulse still remains high, or there still remain

ongoing common symptoms, then it is likely due to a lack of proper environmental control. In this case the environment must be re-examined to see if there is some agent to which the person is reacting, and the fast continues for another two or three days until the major symptoms have subsided. Especially the pulse should be normal; that is below 85, before testing begins.

Summary

Maladaptive allergic or allergic-like reactions can affect any tissue of the body. The majority of the time when the central nervous system is a maladaptive shock organ, the common symptoms of allergy (runny nose, watery eyes, itching skin) or hives, respiratory or gastrointestinal symptoms) are not present. In small children there is a more frequent association of common allergic symptoms with central nervous system reactions than in adolescents or adults. If the child remains exposed to the substances to which he is maladaptively reacting, his common allergic and allergic-like symptoms will disappear and the central nervous system symptoms will take their place. Thus the milk or corn allergic infant may in later childhood be frequently eating dairy or corn products under the assumption of having "outgrown" these substances, only to have the development of hyperactivity, lethargy, insomnia, dyslexia, short attention span, poor concentration, over- or under-hearing. If the exposure continues, behavior problems can and often do result out of the poor learning of social behaviors. If the stress of the exposure still continues further frank psychosis can result.

Learning problems are frequently due to maladaptive allergic or allergic-like reactions occurring in the central nervous system. The most common cause for these maladaptive reactions is the most commonly used food for the particular person under consideration. Cereal grains (especially wheat, rye, and corn), dairy products, sugars (corn syrup, cane, and beet), eggs, chocolate, potato, and tomato are common offenders. Petrochemical hydrocarbons and food additives and preservatives are frequently involved. It can be anything other than pure air, pure water, or pure salt that the person contacts frequently. Learning problems characteristically occur at the stage of addiction at either the stimulatory contact stage or the delayed timing of three hours or more after contact, which is the withdrawal stage.

Learning problems as defined in such terms as dyslexia or minimal brain dysfunction are viewed as at the extreme left of the continuum with psychosis at the extreme right. Both have a basic organic cause as truly organic as the well-defined neurological dysfunctions of the nervous system. The causes of partial function and fluctuation of function give them the "soft organic" quality. The qualities of primary, secondary, or associated emotion and disordered behavior in these central nervous system allergic reactions have served to overshadow the underlying organicity as far as the education of psychiatrists is concerned. Efficiency demands that we deal realistically with both functional and organic factors, but also demands that organicity be given the priority. Once the organicity is handled there still remains the big therapeutic job of corrective education for dyslexia, desensitization of phobias, inhibition of obsessions and compulsions, excitation of motivation, conflict resolution, teaching of social skills, and, in general, personality maturity.

Quotable Quotes

"A number of other allergists have documented the many mental symptoms and behavioral problems caused by food additives and food allergies. If mental illness caused by allergies were recognized more, and emotional factors not always sought to explain mental disturbances, a great deal of time and money could be saved, and patients' mental conditions eliminated. There are

millions of patients enduring needless suffering. One can only guess at the number of major and minor tragedies that are enacted daily because of misinterpreted symptoms and inappropriate therapy" Rapaport and Linde (1970):

". . . one must be taught to suspect, for if one does not suspect, he does not test and if he does not test, he does not know " (Rinkel, 1951).

"Certain it is that the psychiatrist and the allergist should work together for the solution of their more difficult problems " (Alvarez, 1951).

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