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THE NEUROPSYCHIATRIC FACTOR IN ALLERGIC DISEASE*

NORMAN SHURE, M.D. and M. COLEMAN HARRIS, M.D.

For some time allergists have recognized that a certain percentage of their cases are no more than temporarily or partially relieved by conventional allergic management. In some instances no benefit at all is obtained. The reasons for unsuccessful therapy in these patients have been attributed to (a) improper diagnosis, (b) unrecognized pathology, (c) undiscovered allergic factors, (d) misunderstood or inadequate skin tests, (e) incomplete desensitization, and (f) failure of the patient to cooperate in allergic management of the case.

During the past decade, but very particularly during and since World War II, there has been an increased interest of the profession in the neuropsychiatric, or psychosomatic, aspects of all branches of medicine. Recently, in a paper presented before a national group of allergists, Abramson discussed psychodynamics in allergic patients. From his discussion it is clear that the neuropsychiatric aspects of allergic disease have not as yet been clearly understood, adequately evaluated, or nosologically aligned. This recent emphasis on psychosomatic relationship in allergic disease constitutes, in effect, a return of the pendulum. For example, in reviewing the definition of bronchial asthma in the various editions of Osler's *Principles and Practice of*

Medicine, Eyermann points out that in the first edition, published in 1892, asthma was defined simply and solely as a "neurotic affliction." In subsequent editions the term "neurotic" was qualified and further modified. In the twelfth edition published in 1935, the word "neurotic" was deleted. But now psychiatrists are using the term "psychosomatic asthma" to designate the psychogenic cause of the disease as opposed to the allergic or infectious origin, which most of us had begun at last to feel was firmly established.

Though the derivation of the term "psychosomatic," now part of the glib vocabulary of every physician, is quite obvious, it has at least two connotations. On the one hand, to those physicians who think only in terms of organic pathology, the adjective indicates the effect of the mind on organic disease. To these physicians, it is conceivable that psychologic influences may aggravate, precipitate, or maintain the symptoms of an already existing organic disease. In World War II medical officers, both in the Army and Navy, frequently saw examples of this. The precipitation and exaggeration of symptoms in such conditions as peptic ulcer were notable.

On the other hand, psychiatrists are inclined to use the term "psychosomatic" to indicate a disease or illness which originates *de novo* as a result of personality problems, emotional influences, or psychological factors. Peptic

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a minimum. Carrying this thought still further, we can place properly the case which presents good skin reactions but does not respond well to antigenic treatment into the category where 50 per cent of each, the intrinsic and extrinsic factors, may be operating. The treatment of the patient with 90 per cent intrinsic and 10 per cent extrinsic allergy would by necessity be primarily psychiatric. That of the patient with 90 per cent extrinsic and 10 per cent intrinsic would be primarily allergic. The treatment of the 50-50 case obviously would require both allergic and psychiatric therapy.

It is our belief that no purely *emotional* allergic disease, 100 per cent intrinsic and 0 per cent extrinsic, exists. The individual attack of asthma or hay fever, for example, may possess a high degree of emotional components, but the person must be allergic, in the organic sense, basically.

It is important that one differentiate the allergic state from the allergic attack. The allergic state is a condition inherent in the individual with a hereditary predisposition to sensitization. The allergic attack is a physical phenomenon, expressing outwardly the latent tendency of the allergic state upon exposure to specific excitants. These excitants, we believe, may be neuropsychiatric as well as allergic. It is our belief, too, that no purely *organic* disease, 100 per cent extrinsic and 0 per cent intrinsic, exists. We accept the concept that a person in the allergic state who exhibits positive skin reactions, but is symptom free, is considered to be in perfect allergic balance with his environment. We extend this idea of equilibrium and feel that an allergic individual with no symptoms is in complete harmony with his psyche as well as with his environment. Such a person will develop symptoms when he comes in contact with an overwhelming dose of pollen or when he meets an intolerable, emotional situation.

It is interesting to speculate on the several mechanisms which may explain properly this interrelationship of mental and organic control of allergic disease. One is the thought that the allergic response is, at times, in the nature of a conditioned reflex.

Anaphylactic reactions based on a conditioned reflex have been produced in animals. Metalnikov sensitized rabbits with cholera organisms and produced nonfatal anaphylactic reactions by subsequent injections of the cholera vibriion. Each injection was invariably accompanied by the beating of a gong and it was possible eventually to elicit the expected allergic reaction merely by the sound of the gong. An attack of asthma may easily be initiated with an association of ideas conditioned by previous attacks.

Another possible explanation for the mechanism of an allergic response aided or initiated by emotional factors is that psychic influences may condition the autonomic nervous system in such a manner that excitants previously unable to produce reactions can now penetrate the barrier removed by the new threshold and cause an allergic response. When it is remembered that the respiratory tract, from its anatomic position and embryologic origin, is closely connected with the gastro-intestinal tract, and that, furthermore, both are largely controlled by the autonomic nervous system, it is readily apparent that just as psychic influences such as fear, love, anger, and hate affect digestion, they also may play an important role in the production of dyspnea, orthopnea, chronic cough, and edema of the nasal as well as bronchial mucous membrane.

It is entirely possible that emotional upheavals may influence the allergic state by way of the vascular mechanism. The relationship between the cortex and the thalamic area is well known. The thalamus is the great emotional center of the brain, and by its connections to the hypothalamus, influences the

autonomic nervous system. Thus, emotional impulses from the higher centers of the brain may increase, by way of the autonomic nervous system, the permeability of blood vessels and allow the penetration of allergens previously held back by the vascular barrier; or by increasing the blood supply to a susceptible shock tissue or organ, they may aid indirectly the union of the circulating antigen with the sessile antibody.

The question now arises about the effect of organic disease on the psyche. In prolonged illnesses, this has long been recognized. In allergy, an attack of asthma, with its terrifying sense of suffocation, is a frightening experience. An asthmatic who has to look forward to these repeated attacks of suffocation, with their attendant feeling of helplessness, is likely to be grouchy, irritable, quarrelsome, and apprehensive between his attacks. During his attack this anxiety, aggravated by the situation, often has the tendency of perpetuating the seizure, thereby producing a vicious cycle. Whatever the explanation, the complementary interrelationship of the psychic and organic factors is important in the production of allergic disease.

SUMMARY

A concept of the causation of allergic disease herewith is presented in which, in addition to the allergic factors, emotional states and psychic stimuli are introduced as integral parts of every case. The adoption of the terms "intrinsic" for the neuropsychiatric factors and "extrinsic" for the organic factors in the production of allergic disease is suggested.

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