

HEADACHE OF ALLERGIC ORIGIN

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Today, one does not consider the study of the symptom headache complete without an analysis of the rôle that allergy may play. It has long been recognized by the layman that in certain individuals, certain foods would produce headaches which vary in severity from the mildest forms to the most annoying types. This general knowledge was held by the laity for many years before the entrance of food allergy into the field of diagnostic and therapeutic medicine. One readily recognizes that with the coming of the study of allergic patients, all problems are not solved, but that it does add another therapeutic aid to the armamentarium of the physician. This important field has withstood its trials and has definitely been accorded a place in medical thought.

That headache is a common symptom in patients who have allergy is an established fact, and this is due to the diversified phenomena seen in allergic patients. Three outstanding types of headache are associated with allergy:—first, those headaches which are associated with respiratory allergy; second, those associated with gastro-intestinal allergy, and third, those associated with the migraine syndromes.

In the work at the Cleveland Clinic in the past two and one-half years, we have observed a large group of patients with seasonal and perennial respiratory allergy. Those with perennial symptoms are seen twice as frequently as those with seasonal symptoms and of those with perennial nasal allergy, about 30 per cent complain of headache. This usually is of a dull frontal type, with an area of pressure in the paranasal regions, and often there is pain in and about the eyeball. These headaches are part of the symptom complex of the hay fever attack which may or may not be associated with gastric symptoms, and their severity depends to a large extent upon the degree of involvement. The frequency likewise is associated with the frequency of the attacks of hay fever. The symptoms as a rule are most severe during the winter season, which is due primarily to environmental and climatic circumstances.

In the patients with seasonal allergy—and these are chiefly those patients who are sensitive to pollens—the headache is not as frequently a symptom as it is in the perennial type, but it is more severe, and naturally, of short duration. With the swelling of the mucous membranes of the respiratory tract, and in those patients with closure of the eustachian tubes, a generalized aching and sense of fullness presents a very annoying symptom. It has been considered that the mechanism of this type of headache in the patient with respiratory allergy was due entirely to swelling of the mucous membranes and consequent pressure; however, one also must consider the low grade

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or acute toxemia that necessarily is present, and that the headache is simply one of toxic origin, as are the other symptoms of fatigue, irritability, anorexia, and insomnia.

This dull type of frontal headache which is associated with symptoms suggestive of congestive phenomena is frequently seen in the presence of hypothyroidism and hypometabolism. Allergic patients frequently are found to have low basal metabolic rates and attention to these conditions also has resulted in a higher percentage of satisfactory clinical results.

In both the seasonal and in the perennial cases of respiratory allergy, the symptoms are readily amenable to treatment. Satisfactory relief from all symptoms has been secured in 95 per cent of the patients sensitive to pollen, and in 80 per cent of those with perennial allergy.

The consideration of food allergy as a factor in the production of headache leads to a larger field. Two distinct types are recognized so far as symptoms and degree of severity are concerned. One distinctly is not of the migraine type, although it is associated with symptoms referable to the stomach or colon. This headache is usually mild, it occurs at frequent intervals, and is attended by mild gastric symptoms such as a feeling of nausea, uneasiness, halitosis, regurgitation, or mild epigastric discomfort which is suggestive of pyloric spasm. These headaches last a few hours, disappear slowly and reappear very frequently. The patient seldom is incapacitated, but is annoyed constantly by this mild symptom complex.

The mention of migraine opens a wide field for medical conjecture, and one acknowledges that no more complex problem could face the therapist. Food allergy does not explain all cases of migraine, nor does dietary control based on allergy studies relieve all symptoms. However, we acknowledge today the persistent and thorough work of Rowe, Vaughan, Rackemann, and other workers in the field of allergy, and welcome the promising results these men have obtained.

In a diagnostic clinic, patients with migraine very frequently are encountered. This is due primarily to the failure of these patients to obtain satisfactory relief by use of the usual measures prescribed. They present themselves in the hope that an unknown etiologic factor may be discovered. In our survey of patients with migraine, an investigation of the factor of allergy always is included. The effort expended in this study usually is rewarded proportionately.

In a consideration of migraine, the question immediately arises in regard to which group of patients food allergy may be an important factor. A careful history which reveals any personal or family history of allergic manifestations is helpful. In this group of patients, one usually sees the most encouraging results after the allergy factor has

been investigated and controlled. Vaughan¹ reports a positive family history in 70 per cent of his patients who have migraine due to allergy. We, likewise, have been able to elicit a positive family history in the majority of our cases. Personal allergic manifestations, such as eczema, hay fever, asthma, and urticaria, anticipate the more definite factor of food allergy as an etiologic agent.

Granting the possibility of an allergic factor in the etiology of migraine, what diagnostic methods may be used to identify the causative agents? The impression of some physicians that allergy studies are of little value in identifying causative foods is erroneous. We find that skin tests with standardized extracts give about 60 per cent accurate results in cases of food allergy. If repetition of the tests does not increase the amount of information, then further study of dietary influences through elimination diets and food diary trial should be made. Probably the laboratory procedure of greatest value in cases of food allergy is the leucopenic index of Vaughan² which is based on the principle of hemoclastic crisis as pointed out by Widal, Abrami and Lancovesco³ in 1920. The ingestion of foods in normal patients produces a mild leucocytosis. In patients with food allergy, the ingestion of foods to which the patient is sensitive produces a marked leucopenia. Through this simple laboratory procedure, offending foods have been discovered when skin tests, elimination diets, and the food diary have failed. In the experience of Vaughan and other workers, this test has been from 90 to 100 per cent accurate.

At the Cleveland Clinic, we have seen a number of cases of so-called bilious attacks in children. These attacks consist primarily of gastrointestinal symptoms, but headaches always are present, which vary in the degree of their severity. Other evidences of allergy such as rhinitis, conjunctivitis, or urticaria may or may not be present at the time of attacks. These patients have been carefully examined, and it has been found that their symptoms were due essentially to allergy. Complete relief usually has been obtained from dietary management which was based on the results of the allergy studies and follow-up reports from these patients have been very encouraging.

What foods are factors and what dietary problems arise in the solution of these manifestations of headaches? Both skin tests and clinical trial have shown that the common foods—wheat, milk, eggs, chocolate, coffee, potatoes, beans, peas, and bananas—are causes in the order named. Dietary management usually demands special care, but no disturbance of the patient's nutrition need be encountered if adequate attention is given to regulation of the diet. This has been found to be true particularly in the group of children with food allergy in whom the state of general nutrition has improved and other general

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symptoms have disappeared after dietary management has been instituted which was based on the studies for allergy.

No comment on migraine or the syndromes which simulate migraine is complete without some discussion of the agents which give symptomatic relief regardless of the etiological factors, the severity, or the duration of the pain. In our experience, and in the experience of other workers, the oral, hypodermic or intravenous administration of ergotamine tartrate has given remarkable relief to these patients. The oral administration of 2 mg. of ergotamine tartrate at the onset of symptoms will give satisfactory relief in from 30 to 90 minutes, while the hypodermic or intravenous administration of 0.5 mg. gives relief in from 15 to 30 minutes. As a rule, no ill effects are encountered, and symptoms of nausea and occasional vomiting are transient. Patients can easily be taught the use of the syringe and needle so that no delay is necessary in receiving the drug at the opportune time. No other drug has been found which will give immediate relief from this headache.

In this presentation, the discussion of allergy as a factor in the production of headache has been limited to general principles. Further observations and more detailed data will be reported later. However, one important fact which must be acknowledged is that allergy may be wholly or partly responsible for the headache of a certain group of patients. Our results have been very encouraging, and we believe that more thorough and persistent effort in this field will give a larger percentage of patients with satisfactory clinical relief from their symptoms. It is necessary to recognize that every phase of the patient's problem must be thoroughly studied, and untiring effort be given in the study of allergy.

REFERENCES

1. Vaughan, W. T.: Allergic migraine: analysis of follow-up after 5 years. *Am. J. M. Sc.* 185:821-832, June 1933.
2. Vaughan, W. T.: Food allergens, III. The leucopenic index, preliminary report. *J. Allergy*, 5:601-605, September 1934.
3. Widal, F., Abrami, P., and Iancovescu, N.: L'épreuve de l'hémoclesie digestive dans l'étude de l'insuffisance hépatique. *Presse méd.* 28:893, December 11, 1920.