

Round Table Discussion

LESS COMMONLY RECOGNIZED ALLERGIC CONDITIONS IN INFANTS AND CHILDREN

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Chairman Horesb: For many years the Academy round table discussions have been on the commonly known allergic conditions in infants and children such as asthma, hay fever and eczema. These allergic diseases have now become familiar and are easily recognized by all pediatricians. In this round table discussion we will present conditions less commonly recognized as having an allergic etiology. It is now generally known that any organ or group of organs may be involved in an allergic reaction. The symptoms will depend upon the tissues sensitized, the degree of sensitization and the nature and amount of the allergen present. Investigations during the past decade have revealed an allergic basis for various well known clinical entities for which no clearcut etiologic background had been found. Every pediatrician is plagued by a host of complaints from parents about conditions which are extremely common, yet he can find little or nothing concerning their cause. Such conditions as poor appetite, disturbed sleep, habit spasms, nervous disorders, irritability, headache, stomach ache, frequent colds, poor resistance to infections, diarrhea, constipation, skin rashes, bed wetting and behaviour problems are only a few of the many problems which face the pediatrician with a private practice. Occasionally an organic basis is found for the symptoms but much too frequently "nothing is found." Thus for many of these problems the pediatrician has had very little to offer other than the old familiar phrase "he will outgrow it." It is our purpose to alert the physician to the possibilities of allergic etiology and to demonstrate that much can be done for many of these childhood problems if the essential fundamentals of allergic knowledge are kept in mind.

Before commencing the discussion of these pediatric allergic conditions, I wish to review the criteria for the diagnosis of an allergic disease. In this discussion we will use the term allergy in the restricted sense referring to conditions known as atopic diseases. This form of allergy includes the common allergic syndromes such as asthma, hay fever and eczema and other conditions characterized by reversible tissue changes which are activated by antigens producing wheal-like reactions, increased capillary permeability, edema, smooth muscle stimulation and increased activity of mucous glands.

A symptom or group of symptoms may be considered as allergic (atopic) if:

1. They are not adequately explained by other means.
2. There is absence of clinical findings of an organic nature.
3. There is a strong family history of allergy.
4. There is an associated allergic condition in past or present history of the patient.
5. They are ushered in with manifestations which are unquestionably allergic, i.e., a gastrointestinal disturbance preceded or accompanied by hives or a headache preceded or accompanied by frequent sneezing and rhinorrhea.
6. They are associated with eosinophilia of blood and mucus secretions.
7. They recur seasonally.
8. They recur in periodic attacks.
9. They are of a chronic nature.
10. They are of a benign nature.
11. They are relieved by the administration of epinephrine.
12. They are associated with positive skin tests.

From the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 16, 1950.

13. They are accompanied by the secretion of excessive amounts of mucus.

14. They are accompanied by intense pruritus.

All these characteristics are not found in every allergic disease. Also every one of its manifestations may be encountered in a nonallergic illness. In general it may be said that the allergic disease has no pathognomonic symptomatology. Its recognition, therefore, depends upon the suggestive coincidence of many of its characteristics.

We will discuss the pediatric allergic conditions by systems. Gastrointestinal manifestations of allergic disease will be considered first. Some of these are: cheilitis, glossitis, canker sores, gingivitis, geographic tongue, parotitis (recurrent), nausea (chronic), vomiting (recurrent), abdominal pain, gaseous distention, cardiospasm, pylorospasm, colic, gastric symptoms simulating peptic ulcer, constipation, diarrhea, mucous colitis, celiac syndrome, clay-colored stools, biliary colic, intestinal bleeding, ulcerative colitis, excoriation of buttocks, pruritus ani, anorexia and malnutrition. The physician must always bear in mind that sensitization is only one of the many possible causes for the manifestations listed above and therefore a complete differential diagnostic study is imperative. Dr. McGee will begin the discussion on gastrointestinal manifestations.

INFANTILE COLIC

Dr. McGee: The first symptom presenting itself in infancy which suggests allergy is so-called "colic." It seems that it is much more prevalent than it was formerly. This viewpoint may be due to the fact physicians are more cognizant of the existence of colic and are more willing to accept allergy as a factor. The stress and strain of our lives and the unsettled world affairs perhaps reflect themselves in the infant's make-up. The commercial propaganda that evaporated milk will agree with every infant plus the far too early introduction of multiple foods might be a factor.

When we are given such an unhappy baby as a colicky infant, what should we do to overcome or alleviate that troublesome complaint?

At first let us be sure the infant is getting the optimum number of calories in the proper proportion, that the mechanism of nursing is correct, that a calm atmosphere prevails, that hunger is satisfied, etc.

If the infant is on powdered, evaporated or boiled milk, try a modified cow's milk formula, as Similac®, or a low fat one, as Dryco®. With no improvement in symptoms after a minimum of 4 days, use a different animal's milk, such as goat's milk evaporated, boiled or powdered formulas, as the lactalbumin in all animals' milk varies.

From animal milk we turn to "vegetable" milk as Mull-Soy® or Sobee®. The lactalbumin and casein of milk are different from the protein of vegetable milks. Many colicky and other types of allergic infants do well on those milks and in a few months the majority have developed sufficient tolerance to milk to return gradually or even suddenly to it.

For the minority of infants who still are miserable an amino acid milk such as nutramigen® is helpful. It is unfortunate that completely hydrolysed proteins taste so terrible but, fortunately, infants in the first few months of life will usually accept such a formula.

Where failure still prevails, results may be obtained by strained meats to which, of course, must be added fats as soy bean oil, carbohydrates, minerals and water. It is surprising how well such meat formulas are liked and tolerated, even by little infants.

In a few cases none of the preceding suggestions meet with success. Here all we can do is alternate, as soon as trouble begins, between 2 or 3 of the formulas which give fewer or less severe symptoms.

Of course, antispasmodics, antihistamines and sedatives are indicated and should be attempted, so long as needed.

Fortunately, nature comes to the rescue of the colicky infant and the floundering and puzzled parents and pediatrician, and at the age of 3 to 18 months, nearer perhaps 6 to 12 months of age, a tolerance to milk is built. But, do not be misled and say, "Thank God, this is over," for at the age of 2½ to 5 years, when children often gather together, trouble begins in a different form. The previously colicky infants now develop recurrent or chronic head colds, croup, bronchitis, so-called sinus infection and/or headaches, stomach aches, nausea, vomiting, diarrhea. They usually are irritable children who have a short span of attention.

Colicky infants are generally poor vegetable eaters and usually have finicky appetites.

To reduce subsequent allergic reactions in colicky babies, introduce very slowly vitamins and

foods and then preferable synthetic vitamins and single foods. Allowing an interval of first 5 days, then 3 days, when introducing a new food or vitamin often keeps untoward symptoms at a minimum and gives a means of detecting offending foods and vitamins.

Where both parents have allergic backgrounds, practically all children will become allergic in some manner, the allergy manifesting itself sooner when their parents' allergy is clinically active. With a unilateral history of allergy, half their children become allergic victims.

Other gastrointestinal symptoms suggestive of allergy in young children are excessive regurgitation, constipation, recurrent diarrhea, mucus in the stools, perianal erythema, gaseous distention, pyloric spasms.

Dr. Maurice Kaufman, Lexington, Ky.: How long would you say a child should be off a food before you would say that particular food had nothing to do with the allergy?

Dr. McGee: I think it depends on the symptoms; pain may clear up in a few days but eczema might take a month to clear up.

Dr. Harry Lowenburg, Jr., Philadelphia: How frequently do you find eosinophiles present in the stool in intestinal allergy?

Dr. McGee: I have often said that it is frequently absent so I haven't been very lucky in finding eosinophiles in the stool in gastrointestinal allergy.

Dr. P. E. Williams, Hamilton, Ont.: With a colicky baby do you really get good results when you take them off cow's milk and put them on goat's milk? I haven't had much luck with it.

Dr. McGee: Cow's milk and goat's milk have a common antigen—the casein factor. In casein sensitivity there will be no improvement with goat's milk.

RESPIRATORY TRACT MANIFESTATIONS OF ALLERGIC DISEASE

Chairman Horesb: The common respiratory tract manifestations of allergic disease are: asthma, hay fever, perennial allergic rhinitis, wheezing, cough, tracheitis, bronchitis, bronchiectasis, angioneurotic edema of the larynx, croup, pharyngitis, tonsillitis, sinusitis, enlarged tonsils and adenoids, epistaxis and frequent colds. When some of these symptoms occur alone as the sole manifestation of the allergic state, they frequently go unrecognized as allergic symptoms. *Dr. McGee* will discuss some of the respiratory manifestations.

RESPIRATORY MANIFESTATIONS

Dr. McGee: Allergy of the respiratory tract presents bizarre symptoms and signs. It may affect any part of the tract in various ways.

The early symptoms in infancy are recurrent or chronic nasal discharges and blockage, excessive sneezing, coughing, hoarseness and wheezing. These recurrent symptoms are often labeled as infectious in origin. However, an absence of any appreciable fever or loss of weight or appreciable evidence of acute illness does not favor such an opinion. The individual so affected may have other types of allergy and often a family history of allergic disorders can be found on close inquiry. In spite of chronic symptoms those children do not usually appear below par for their chronologic age and family type of inherited stature. As a group, they stand sudden weather change poorly and often do better with windows closed at night.

On physical examination a few signs stand out. They are often nose-rubbers or sniffers and often have a barking cough or clear their throats frequently. Those with such nasal blockage often become mouth-breathers like adenoid patients. In the latter there are often associated ear infections, malnutrition, adenoid expression and failure of appreciable relief from antihistamines. The inferior turbinates may appear grayish or whitish in color with or without edema. Smears from the turbinates or nasal secretion often show an increase in eosinophiles. There may be puffiness in the area beneath the outer third of the lower eyelids and subocular discoloration. These children are over-active and have a short span of attention.

Treatment directed locally, as has been so prevalent in adults, is without results. Nasal drops are seldom used, since the use and abuse of antihistamine drugs. Allergic surveys adequately made and followed by dietary control with or without antigen injections produce good results where cooperation is obtained.

Those infants who were colicky for several weeks or longer will often be victims of so-called "head colds" for a few days or weeks before the eruption of each single or group of deciduous teeth. Such an idea might appear unscientific to some pediatricians but not to those who have allergic

children of their own. When confronted with such a problem it is wise to defer the introduction of new foods or vitamins for a "head cold" might be the type of adverse reaction experienced from that new food. Apparently these "teething head colds" are associated with a latent allergy which becomes manifest only when an infant is under stress or strain. Here, perhaps, pain or discomfort from the tooth erupting gives rise to some imbalance between the sympathetic and the parasympathetic systems. The infant's gun is loaded, so to speak, whereas the discomfort of teething acts as the trigger.

The minority of so-called sinus infections of childhood are hardly more than the result of nasal allergy. The infection is secondary to blockage of sinus openings due to edema of turbinates. Local treatment, x-ray irradiations, nasal drops and antihistamines in such cases are not of lasting value as no attempt is directed to removing the cause. Here we are only treating the result. Adequate allergic survey and treatment based upon such a study is productive of good result in the majority of cases.

The removal of tonsils and adenoids for repeated allergic head colds or sinusitis per se usually results in complete failure. Where there is a history of repeated acute attacks of tonsillitis or adenoiditis or evidence of infected tonsils and adenoids, a tonsillectomy and adenoidectomy is definitely indicated and may help an accompanying nasal allergy. It is far better to remove infected tonsils and adenoids in the season when pollens are absent or less prevalent. Such a precaution reduces the subsequent danger of pollen hay fever or asthma which far too frequently develops in a year or so.

Dr. Robert J. Mason, Birmingham, Mich.: On giving the skin tests do you recommend that the average practicing pediatrician who is not particularly qualified or trained in allergy do intradermal skin tests?

Dr. McGee: It is perfectly all right to use scratch tests if you use them adequately but not intradermal unless you are trained in it and have plenty of time to spend in the phase.

Chairman Horesb: We have adopted a rule that we never do an intradermal test until the scratch test for that particular substance is negative.

CENTRAL NERVOUS SYSTEM ALLERGY

Chairman Horesb: In recent years the interest in nervous system allergy has increased among allergists, neurologists and psychiatrists. However, the possibility of allergy being a factor in many common nervous system manifestations is not yet generally recognized nor fully accepted. Clinical conditions such as migraine headaches, cyclic vomiting, epilepsy, narcolepsy, Ménière's disease, peripheral neuritis and mental disturbances have been studied from an allergic standpoint and have been claimed, at least in some instances, to be allergic in nature. We are fortunate to have Dr. M. G. Peterman with us today to discuss the subject of epilepsy.

Dr. M. G. Peterman, Milwaukee: There is no longer any doubt that epilepsy is an inherited disease. The fact has been established by the electroencephalogram but the peculiar nature which has not been established is why most children go 8 or 10 years before having the first seizure. Then the sequence is established and seizures continue to recur. What precipitates the convulsion, what is the inciting mechanism is not known. There are multiple factors which might be responsible. There are multiple factors which might affect the personality and the behavior of the child. It has also been pretty well established, what every general practitioner knows, that many seizures in the child with epilepsy are associated with some food disturbance. Either he has ingested an enormous amount of food, such as nuts or popcorn, or he vomits food which he has taken 2 or 3 days before, or he has a history of constipation. The gastrointestinal factor has never been explained but without a doubt it is a common one and has to do with the trigger mechanism. It has to do with the preparation of the organism which causes this discharge which we may register on the electrogram, but which we cannot otherwise explain. There is no reason that allergy could not be a factor or one of the factors in the trigger mechanism which precipitates the explosion or the convulsion or the electric discharge which we know as the convulsion. Also, we have never been able to explain the factor in the ketogenic diet which has made it the most effective treatment of epilepsy known.

When we started the ketogenic diet, we went on the basis that fasting was the most effective treatment known for epilepsy. There is no doubt of its effectiveness, there is no doubt of its value; anyone may establish that. We set out to produce a diet which had the chemical effect of fasting and still allowed enough calories to provide for physical activity and maintenance. Wilder approached

it from a chemical point of view and at that time I must say that I was not only skeptical of allergy but, knowing little about it, had the typical medical reaction. I am glad to say that I have changed my point of view and realize the possibilities of allergy. I think that there is no doubt that the restrictions which the ketogenic diet demands eliminate a number of foods or combinations which might be a factor in precipitating convulsions.

Dr. John J. Slavens, Toronto: May I ask Dr. Peterman about the inclusion of water or restrictions of water in the fasting?

Dr. M. G. Peterman, Milwaukee: Water restriction has been carried as far as was physically possible. We have studied water metabolism and do not think it is a factor. The immediate change is a spasm of the blood vessels in several areas. That change might be something similar to an asthmatic attack. It is a vascular disturbance. But we do not think it has anything to do with water. We have tried water restriction which we know is difficult in a child. One can restrict only so far and then the temperature goes up and water must be given. The younger the child, the more important the water and the greater amount necessary. The older the child, the more drastic the water restrictions can be and yet that does not seem to be the factor in epilepsy. I thought once it might have an important advantage in reducing or preventing cerebral edema of the brain. Now I know that drastic fluid restriction is not reflected in the brain. In allergy conditions one may reduce the water so much but the vascular spasm will occur just the same. The present theories on water metabolism must be thrown out. It is more likely the chemical change such as the sodium content of the brain which directly influences water metabolism which in turn influences vascular spasm of the brain.

Chairman Horesb: Thank you all. Our time is up. I am going to close this Round Table with the following brief summary:

1. In allergic reactions, almost every organ or part of an organ may be affected, the symptoms depending upon the tissues sensitized and the degree of sensitization. Allergy may simulate practically every organic disease. If no organic cause for the symptoms under consideration has been found and before either the child or his parents are branded as neuropaths or psychopaths, allergy should be considered. The current fashionable swing of the medical pendulum to psychosomatic medicine has unfortunately resulted in labeling any disorder for which no immediately obvious inflammatory, neoplastic, metabolic or traumatic cause can be found as psychosomatic. Unless specifically looked for, the diagnosis of allergy will be missed.

2. We wish to stress that the presence or absence of skin test reactions is not the one deciding factor in establishing a diagnosis of allergy. Cutaneous tests for sensitivity have attained a deservedly important place in the specific diagnosis of the cause of allergic diseases. However, like all the tests they deserve serious consideration only when properly done and the results well evaluated.

3. The child with low resistance to infection is a major pediatric problem. As pediatricians we must be more alert to considering more carefully the host and the factors influencing susceptibility. Lawrence Henderson and W. F. Petersen have repeatedly emphasized these other factors, including the organic state of the patient. To believe that bacteria plus human equals disease is an oversimplification of ideas. We must recognize that it is bacteria plus the kind of human, plus the state of the human that equals disease. An allergic disturbance can so change the state of the organism that the sensitized tissues—be they in the nose, throat, tonsils, ear drums, larynx or bronchial tubes—become the seat of inflammation from bacterial invasion. Otherwise quiescent bacteria become active as a result of the allergic reaction. Other impacts may do the same such as heat, cold, physical or emotional trauma. But in infants and children the allergic constitution is a major factor in low resistance to disease.

4. On the other hand, we wish to warn against over-enthusiasm and blaming allergy for all unsolved problems in pediatric practice. There may be a tendency in handling pediatric patients to forget that we usually have many different causes for the symptoms in question. We must not make the mistake of treating obvious pediatric problems along allergic lines, forgetting well founded old methods of treatment.

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OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

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