FOOD ALLERGIES AND AUTISM SPECTRUM PROBLEMS IN CHILDREN by Sidney MacDonald Baker, M.D.

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Children with autism are sensitive. Of the thousands of children I have known in thirty years as a doctor, the few hundred with problems in the spectrum related to autism stand out as the most distinctively sensitive of them all. Touching, tasting, hearing, smelling, and seeing involve an enterprise that is not only characterized by difficulties in processing and organization but is also involves a heightened, often painful, sensitivity.

What does it mean to be sensitive?

We all know what it feels like to have sunburned skin or a reaction to a certain sound of chalk on the black board and we can empathize with children who are involved in a more global sensitivity, but we scientists still do not understand what happens at the cellular or molecular level to change a person's reactivity from normal to sensitive.

Even the words we use: “hypersensitive”, “allergic”, “intolerant”, “hyper-reactive” do not have precise definitions. Many physicians, however, would quibble if we were to say that “autistic children are allergic” as opposed to “allergic children are sensitive”.

How Doctor Baker discovered the behavioral allergy connection...

I was such a physician. Twenty five years ago when a child psychiatrist sent me Martin Zelson for evaluation of his seasonal behavioral deterioration. Martin was on the verge of being thrown out of his school program where he was in a group of other school aged children with severe developmental and behavioral problems, mostly in the autistic spectrum. Martin was aggressive, hyperactive, and destructive.

...I was skeptical, proficient in allergy evaluation, and was a former school boy New England wrestling champ. Evaluation and treatment of Martin’s inhalant and food sensitivities resulted in a major improvement so that he was able to benefit more from his school program and participate in family activities that would have previously been

impossible. His allergic responses were cognitive and behavioral in the absence of the kinds of symptoms we usually consider to be allergic (stuffiness, eczema, wheezing, itching).

3 decades in practice revealed how common allergies are with children...

As it turns out, I have learned in the past three decades that Martin was not an exception. Most children with his kinds of problems - and including children with all sorts of attention problems - have hypersensitivity to foods, and inhalants. Those of us physicians who have taken a close look not just at their histories and allergy test results but at their biochemistry and immune systems now recognized that they tend to be in a state of inappropriate immune activation.

Autism is not caused by allergy, and yet...

Don't get me wrong. I am not saying that "autism is caused by allergy". I am saying that children who have problems in the autistic spectrum (as well as children who have significant attention problems) are sensitive not just in the area of their senses, but also in their immune system's reaction to the

environment. This association is a lot easier for me to understand if I look at the central nervous system (CNS) and immune systems from a functional, as opposed to an anatomical, point of view.

Anatomically the CNS and immune systems are quite distinct and different. One is made up of stationary long branching permanent cells with a compact headquarters between ones ears. The other is made up of a disseminated population of short-lived mobile cells with no specific organ to call home. Pick up any textbook of anatomy, physiology, or pathology. The CNS and immune system chapters are widely separated as are the experts who wrote the chapters. From the way I see it, however, they are a functional unit.

An important hidden link between the CNS and immune system...

Look at it this way: The cells of both systems arise from the same origin in the neural crest of the embryo. Both systems contain the only cells of our bodies that exist as permanent, undividing cells from infancy to old age. (Such long-lived cells are a subset of the otherwise ephemeral cells,

lymphocytes, of the immune system.) Both systems have the job of perceiving the environment. The CNS takes in the big world of our senses, our every day cognitive experience. The immune system takes in the microscopic or molecular world of that has to do with “sensing” the constant presence of friendly or unfriendly (such as cancer) cells, germs, food molecules, and toxins.

The chemistry of the immune system perceiving its tiny environment is not very different from our nose smelling the bread baking in the oven. However we have a direct experience of the bread while our immune system only makes us aware of its activities when something seems to be quite wrong, and the message that something is wrong may be quite delayed or obscure. The memory of your fifth birthday party when your friend Jeffrey spilled purple juice all over your new sneakers is in your CNS. That same week, when the doctor gave you your shot against tetanus, diphtheria, and whooping cough, the enduring memory of the “taste” of those germs was evoked in your immune system where it remains today. The birthday and the immunization are stored differently in you body, but functionally they are come under the same heading: perception and memory.

Another important link between the CNS and immune system...

Perception and memory are the basis for “recognition”. Recognition is a term we use interchangeably to describe the day to day activities of both our CNS and our immune systems. Finally, both of these two systems share the capacity for this mysterious process called sensitization, which is, in a way, an inconvenient or painful alteration of the memory and recognition process. Viewed from this perspective, it is not surprising that children who have problems with taking in and processing the world express that problem on both the cognitive and immune levels. They are really just different aspects of the same underlying mysterious disorder.

We try to help our children organize and integrate their cognitive world by imposing certain simplified order. Such order may take the form of repetitive behavioral and linguistic exercises or efforts to modify responses (desensitize) to sensory input. On the immune level we try to impose a simplified order by avoidance of, or desensitization to, offending foods and inhalants. This applies whether the mechanism of the reaction to foods, for example, is “allergic” within the academic

definition of the word or “intolerant” within a notion that covers a variety of mechanisms, including the mischief caused by certain peptides derived from gluten and casein.

Helping a picky, hypersensitive child...

So you have a picky kid. Your job is to help him or her learn better picking. If her or she chooses to limit his or her activities to monotonous behavior, you try to broaden his or her cognitive experience by picking and presenting other, more useful, kinds of stimuli. If he or she is sensitive to tastes, touch, smells, sights or sounds, you take steps to help him or her integrate and become less painfully sensitive to these stimuli. If your kid’s immune system is picky, your job is to find the stimuli that are bothersome, and present ones that are not mischievous.

How important is the food allergy link to children?

...When you have lots of other things to think about, should you change the diet of a child who has decided to live on French fries, smooshed bagels, chocolate milk, pretzels, Twinkies and diet coke, rejecting all alternatives with an iron will?

Yup! And when you get over the hump, you are likely to be rewarded with changes in sleep, behavior, attention and “sensitivity” that make the struggle worth it. There are several ways of checking for food allergy. Trial and error changes in diet are tedious but inexpensive. I have found IgG ELISA blood testing as done at Immuno Laboratories to be a reliable measure both in term of my experience with individuals as well as in research studies done to validate the test.

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