

## PDD DISORDERS—FALLON

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with peers. As stated earlier, self-stimulating behaviors often fall into the category of OCD.

In the child with autism, OCD will manifest in the types of self-stimulating behaviors which range from receptive hand movement to echolalia. In the child with ADD or ADHD, other types of OCD can be seen which range from checking the windows and doors for safety, to chronic hand washing.

In the most severe of cases, children are often placed on medications which reduce the behaviors. This too will be discussed in the section on strategies.

### Proprioceptive disruption

Children with PDD often have difficulty knowing where their bodies are in space. They have difficulty knowing where their body ends and the rest of the world begins. In other words, they may be clumsy or they can have generalized difficulty with gross and fine motor skills. It is difficult to ascertain whether this is due to an actual distortion in visual perception or whether it is a sensory processing problem.

There is ample evidence in the disciplines of occupational therapy, chiropractic and developmental psychiatry and developmental psychology, that the child whose proprioceptive problems are addressed early, can have significant improvement in attention, focusing, and cognition.

### Tactile defensiveness

One of the most common SI issues encountered in the child is tactile defensiveness. Most, but not all autistic children do not like to be touched. Like hyperacusis where the child is auditory defended, with tactile defensiveness the child perceives the sensation of touch as noxious. This is true not only of the child who is autistic, but also the child who has other PDD disorders such as ADHD or ADD. The tactile defensiveness can range from being extremely sensitive to being tickled to shunning human touch at any cost. Some children have difficulty with what we perceive as small issues such as seams on socks, or tags in shirts as being noxious.

Oral defensiveness also falls into this category. While a child may tolerate and in some cases welcome touch on the skin, they will not tolerate anything in their mouths. While this is thought to account for the nutritional problems of some of these children, this oral defensiveness can account for many other conditions which produces morbidity of the child including dental caries.

Many children who suffer from PDD spectrum have a history of chronic ear infections early in life. It has yet to be determined whether this is a primary causative factor or a result of PDD spectrum disorder.

The majority of children who initially present in an early intervention program do so because of speech delay. These children also often suffer from chronic ear infections, and initially the parents and clinicians blame the chronic ear infections for the speech delay. The speech delay in these children is often accompanied with a lack of eye contact and problems with receptive speech. These symptoms, when found together can appear similar to a lack of hearing.

The ear infections are blamed because with the fluid or infection in the middle ear, the tympanic membrane (ear drum) is distorted, thereby distorting the sounds re-

ceived by the child. Since early speech relies heavily on the mimicking of sounds, the presence of distorted sound reception is less likely to produce intelligible speech.

There are usually, however, other signs beyond the lack of speech which indicate that the child may have specific PDD type of delay. These include:

- 1) inability to meet motor developmental milestones
- 2) lack of eye contact
- 3) presence of obsessive or compulsive behaviors, such as lining up toys
- 4) lack of speech development

Why then do children with PDD have chronic ear infections? It is important to examine the history of ear infection development, as well as the anatomy and physiology involved in the formation of ear infections.

Otitis media accounts for over 35% of all pediatrician office visits. Traditional medical approaches have been rather unsuccessful in treating otitis media especially those which become chronic in children.

Some of the most common risk factors associated with an increased incidence of ear infections include:

- sibling history of OM
- male
- non breast-fed
- exposure of second hand smoke
- group day care
- early onset of OM
- seasonal effects
- allergy
- prior antibiotic use
- immunocompromise

Ear infections generally occur in the following manner: An event (upper respiratory infection/cold) results in congestion throughout the respiratory tract including the middle ear. The congestion in the eustachian tube, which also is lined with mucous membrane, results in partial or full obstruction. This can be further affected by an immature eustachian tube as seen in very small children. The fluid that builds up in the middle ear continues to increase in volume.

Once the bacterial infection has occurred, the most common initial intervention is vigorous antibiotic therapy for 7-10 days, at which time the child is considered to be generally free from infection. The use of these antibiotics in an aggressive way often brings about an imbalance in the intestinal flora, by "killing off" the friendly bacteria in the intestines as well as the bacteria causing the infection in the middle ear.

The "friendly" bacteria of the intestines is essential and keeps the proliferation of yeast in the intestines. An overgrowth of yeast can in and of itself produce problems for the child which range from malabsorption of food to thrush.

As the child recovers from the ear infection and from the antibiotic therapy, his body becomes vulnerable again for a repeat ear infection approximately 7-10 days after the cessation of antibiotic therapy. This cycle continues with the child recovering from one ear infection only to have yet another 7-10 days after the cessation of antibiotic therapy. Until an event which could be as simple as a change in season comes along to alter the body's susceptibility for infection, the child will continually have ear infections. It is not unusual for the child to receive 4-6 separate courses of antibiotics over a period of 12 weeks. Some children, after repeated infection, never get rid of the fluid. The fluid remains which again makes the

child susceptible to infection.

The child who has been exposed to prolonged levels of antibiotic therapy is placed at risk with respect to their immune status. The child's immunity becomes impaired for the following reasons:

- alteration of intestinal mucosa
- usurps the body's ability to fight for itself
- potentially alters intestinal antibody markers
- side effects produce diarrhea altering electrolyte balance
- others considerations

Often parents complain that their child is "just not the same" while on antibiotic therapy. They will tell you that their appetite is decreased, their behaviors change, their bowel habits change (prone to diarrhea) and their irritability is increased dramatically.

Another theory has to do with damage to the secretory cells of the small intestines from repeated antibiotic use. The damaged secretory cells are either kept from releasing or producing the hormone secretin. This hormone which was the first hormone discovered, is responsible to a large degree for the protein and fat digestion in the small intestines. The original work was done by Horvath at the University of Maryland. He published a case study where two pediatric patients in his practice who had an endoscopy had a significant reduction in autistic behaviors after the procedure. Horvath theorized that it was the hormone secretin (Ferring-secretin) which was responsible for the change.

Secretin is a neuropeptide responsible for the release of bicarbonate ions (baking soda) from the pancreas. It does this in response to a low pH of the bolus of food which newly enters the small intestines from the stomach. The bicarbonate ions neutralize the food which then aids (catalyzes) the digestive enzymes to break down the bolus of food further. The absence of protein and fat breakdown products in the body of a young child could present an enormous problem in so far as the child will lack the basic building block for growth, especially growth of the nervous system. The fact the secretin itself is a neuropeptide, or more simply put, a NERVE (neuro) + PROTEIN (peptide), means that it can have a direct effect on the nervous system as well, even though these direct effects are not well-known or well understood.

If this theory proves to be true, then the implications for the interaction between the nervous system and the gastrointestinal system is without bounds. While it is likely that the various manifestations of PDD spectrum disorder have various etiologies, this theory of intestinal damage appears increasingly plausible due to the fact that there are innumerable opportunities for the damage to occur, and the non-neuronal symptoms that these children exhibit are gastrointestinal in nature.

So while antibiotics play a role in controlling the most severe ear infections, they may prove to have a significant negative side which is contributing to illness in the children. It is important therefore to see if there are any alternatives which can be employed to help the child's ear infections without the use of antibiotic therapy. Dr. Michael Schmidt, one of my favorite people, has written two books which address the issue of ear infections and one which addresses the use of antibiotics: *Healing Childhood Ear Infections and Beyond Antibiotics*. These books should be essential reading for all parents who have young children. Dr. Schmidt clearly and

concisely outlines the alternatives for treating ear infections, and the importance of monitoring the necessity for antibiotics!

### Strategies for helping children with PDD spectrum disorders

There are presently many mechanisms and strategies employed when dealing with PDD spectrum disorders. There are however no known cures, and no known ways.

### Sensory integration

As we noted earlier, so many of the traits associated with PDD spectrum disorders come under the heading of sensory integration. The children who fall into the PDD spectrum have trouble with their senses. These children have difficulties being touched, or they have trouble with loud sounds, or they have fine and/or gross motor skill issues. These problems are often attributed to the idiosyncrasies of the child, but it is important that they are addressed early. The earlier they are addressed, the more likely they are to have an impact.

### Chiropractic

Chiropractic care should be the cornerstone of the sensory integration treatment plan for the PDD child. While chiropractic care is often associated with back pain, headache, or pain, it fits into the scheme of sensory integration work, very well.

The chiropractic theory of disease and wellness has centered for more than 100 years on the notion that ALL disease states in the body are a result of one or all of three things:

- Trauma
- Toxins
- Thought

While this may appear to be somewhat simplistic and naive, when examined carefully, it clearly fits into the model of health care which has become quite popular today. Its view is a holistic one, and its concepts embrace everything from outward physical trauma to the body, to the alteration of genetic code through insult of a physical, chemical, or psychoneuroimmunological pathway. For example, in the child with cerebral palsy, it is easy to see that the physical trauma that occurred in the child's life can, in so many ways, account for his/her infirmity.

In the case of childhood lead poisoning, it too can account for the toxin that the child ingested which causes the infirmity. How then does this account for the autistic child, or for the child who has a PDD spectrum disorder?

This can be explained as the lack of homeostasis in the body. When the homeostasis of the child's body is disrupted, either in utero or in the world, the child has a much greater chance of being ill, or lacking homeostasis.

In looking at the 3 T's for autism, one can see how the theory can be applied.

### Toxins

The role of toxicity in general is something that has just begun to be examined in the autistic child. In approximately 50% of the autistic children we saw in the last year in our practice, the parents reported that they had a completely normal child until the age of 14-18 months. Somewhere in the period after that the child began to lose speech and eye contact. In addition, the other notable factor in 78% of the children seen (>300), there was a history of protracted periods of chronic ear infection where the children took no fewer than eight courses of antibiotics in