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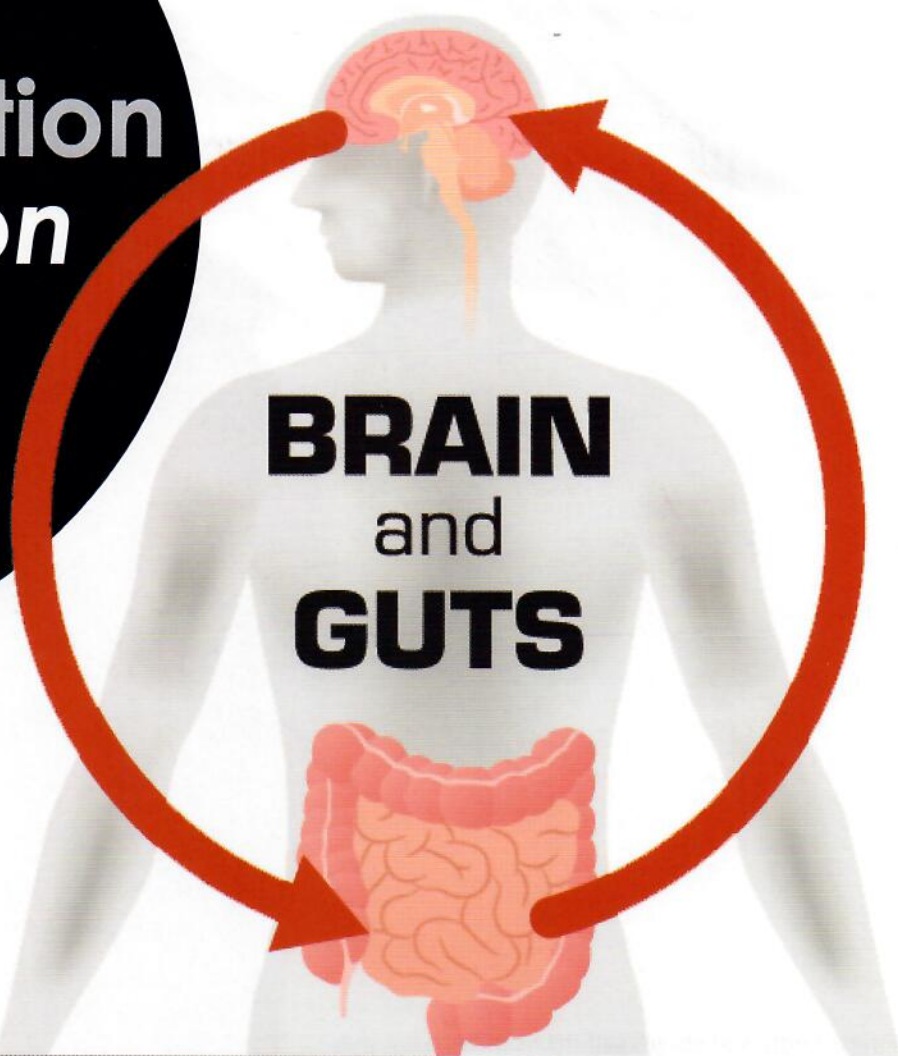
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# Inflammation Connection to Autism

BY KRISTI WEES, M.S.



In almost every medical condition you read about today, you hear the term "inflammation" being thrown around.

## What is Inflammation?

From heart disease, which they say is inflammation of the heart and arteries, to arthritis, which is an inflammatory condition of the joints, hundreds of medical diagnoses involve inflammation. Even a gastrointestinal disorder called GERD, or reflux, once believed to be solely caused by acid, was found last year to have root causes in, you guessed it, inflammation!

Many, if not all, conditions ending in "-itis" signals that inflammation is somehow involved in the pathology of the condition. For example:

- **Bronchitis:** inflammation of the bronchi in the lungs
- **Otitis Media:** (the infamous "ear infection") inflammation of the middle ear
- **Appendicitis:** inflammation of the appendix

Dr. Christian Turbide, one of Canada's leading experts in digestive diseases, put it in simple terms when he said that inflammation is "a defense mechanism that allows the body to either protect itself from attack, such as from infection or a virus, OR repair itself if injured, such as from a broken arm."

## The Inflammation Connection

Recent clinical and research studies have shown that many individuals with autism have simultaneous medical conditions, such as encephalitis (acute inflammation of the brain) and encephalopathy (broader term for a brain disease that alters brain function) and gastroenteritis (inflammation of the digestive tract). The scientific question that remains to be definitively answered is: Does this inflammation have a causative role in the manifestation of an autism diagnosis and, if the inflammation is reduced, are symptoms of autism impacted positively or negatively?

**LET'S DIG INTO THE BELLY AND BRAIN, AND THE INFLAMMATION THAT OCCURS IN THOSE PARTS OF THE BODY WITH RESPECT TO AUTISM.**

## The Gut (Belly)

It is estimated that the prevalence of gastrointestinal (digestive) symptoms in children with autism spectrum disorders (ASD) ranges from 9% to 70%, or higher. These can appear as colic, reflux, constipation, diarrhea and cyclic vomiting to severe abdominal pain or inflammation of the esophagus (esophagitis).

In 2010 the American Academy of Pediatrics published a consensus paper on gastrointestinal complications and children with ASD, stating:

"Expert clinicians have observed that aggressive and self-injurious behavior may be the primary clinical manifestation of GERD (gastroesophageal reflux disease) in individuals with ASDs, but these symptoms are frequently attributed to non-medical causes. As a result, manifestations may go unrecognized as signs and symptoms of GERD and, importantly, may go untreated." The article concludes, "Care providers should be aware that problem behavior in patients with ASDs may be the primary or sole symptom of the underlying medical condition, including some gastrointestinal disorders."

For children who are suffering with ANY gastrointestinal or digestive issue, it is important for parents to advocate for medical care to treat the symptoms. Even if the doctor claims the diarrhea or constipation is "part of their autism diagnosis", it is not.

## The Brain

Those who have ever suffered from hay fever or seasonal allergies are familiar with the inflammation that allergies can cause (eyes, nose, throat, skin). Now imagine a similar response in the brain.

In a 2013 paper, Dr. Theoharis Theoharides, professor of Internal Medicine at Tufts in Boston, described neuroinflammation found in ASD as a type of "brain allergy". He believes that this type of inflammation is stimulated by a hormone (CRH). In particular, the inflammation that he is referring to are allergic cell types and microglia (immune cells that act as the first line of defense in the brain).

A 2016 study found similar "microglial (immune cell) activation" in the brains of individuals with autism. The researchers concluded:

"A conservative estimate based on the research suggests that at least 69% of individuals with an ASD diagnosis have microglial activation or neuroinflammation... children with an ASD diagnosis are not generally assessed for a possible medical diagnosis of encephalitis. This is unfortunate because if a child with ASD has neuroinflammation, then treating the underlying brain inflammation could lead to improved outcomes."

## Calming Inflammation

The allopathic medicine world has not reached a consensus about the role of inflammation in autism, however, many autism medical specialists will consider this as they work through the medical aspects of an individual. That being said, there are some options for parents to consider:

- Investigate anti-inflammatory diets such as gluten free, casein free, soy free and/or dye free
- Consider how food allergies and sensitivities play a role in inflammation and eliminate the culprit to support the additional inflammatory response. If you are attempting a food elimination diet, a strategy is to remove one food at a time and watch for physical responses. Keep a food and behavior diary
- Speak to a medical or healthcare professional about anti-inflammatory supplementation or medications

Until "scientific" consensus is reached about how inflammation plays a role in overall health, little research will be done on treatments. This leaves parents and caregivers to do their own research and observation to try to relieve the possible gut and brain discomfort felt by their child.

It is important to remember that inflammation happens on a cellular, microscopic level, and you cannot tell by looking at a person if they have "inflammation" without digging deeper through laboratory testing or medical work-ups. If you are a parent of a child with autism, it is important to advocate for your child's medical, mental and behavioral health. Hippocrates is quoted as saying, "All disease begins in the gut", so that may be the best place for a parent to start.

Every child and adult on the spectrum responds differently to treatment options; therefore, it's helpful to seek professional guidance and support when considering a plan of care. Physicians who specialize in integrative or functional medicine or those who are with the Medical Academy of Pediatric Special Needs organization are great resources that can help set a parent on a course towards positive health outcomes for their child.

*Kristi Wees holds an MS in Chemistry and is a patient advocate with EmpoweredAdvocacy.com. She has a passion for helping families find the root cause of their child's struggles in order to find an improved quality of life for the child and their entire family.*

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