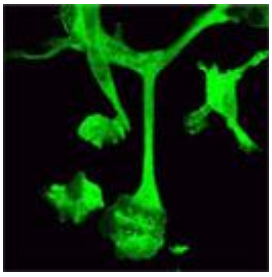
PO Box 155728, Fort Worth, Texas 76155
fax: 1(888)724-2123
email: scia@stopcallingitautism.org
web: www.stopcallingitautism.org

Autism According To SCIA

Notes: The electronic version of this document is available at the SCIA website. The underlined text are hyperlinks.

Autism is a medical disorder in which the activation of the brain's immune system may be involved. The brain's immune system cells involved are named microglia and are derived from the bone marrow. Microglial activation may be involved in destroying synapses in the brain through the elimination of the dendritic spines. The destruction of the synapses affects the neuronal intercellular signaling which leads to reduced brain function as seen in children with autism. The reduction in the brain function affects regions that control social interaction, communication and reasoning as well as many other areas in the brain.

Microglia & Autism



The brain's immune system cell behind autism.

A recent study published by the Nobel Prize-winning University of Utah geneticist Dr. Mario Capecchi showed a direct relationship between psychiatric disorders and microglial activation. Microglial activation is also known to be involved in other psychiatric disorders like Alzheimer's and Parkinson's Disease. Two of the symptoms that Alzheimer's Disease, Parkinson's Disease and Autism have in common are microglial activation and decreased motor skills. Alzheimer's Disease and autism also have many other symptoms in common.

Microglial cells during activation can produce large quantities of nitric oxide. The production of nitric oxide following microglial activation may reduce and impair natural killer (NK) cell function resulting in primary immunodeficiency disease. NK cells are a very important component of the innate immune system. They are able to recognize infected cells, cancer cells, and stressed cells and kill them. Studies have shown that a large percentage of children with autism suffer from decreased NK cell activity. NK Cells modulate the development of the adaptive immune response. A large number of children with autism show abnormal adaptive immunity response through laboratory evaluation. NK Cells are also involved in allergic immune responses like food, environmental allergies and some types of asthma which many children with autism suffer from. Innate immune system defects are also strongly associated with atopic dermatitis (eczema) which is common in autism.

Excessive levels of nitric oxide are also associated with immunosuppression, inflammatory bowel syndrome and inflammatory bowel disease. A large number of children with autism suffer many signs of immunodeficiency including diarrhea, constipation, loose stools, bowel inflammation, yeast infections, recurrent and chronic viral and bacterial infections.

Children with autism may suffer from Cell-Mediated Immunity defects. It has been very well documented in immunology literature that one of the functions of Cell-Mediated Immunity involves the activation of natural killer(NK) cells. Also, it is well known that a large number of children with autism suffer T helper (Th) cell defects. T helper (Th) cells are recognized to be at the center of the cell-mediated immunity.

The Center for Disease Control and Prevention (CDC) has published a vaccine contraindications guide which is of common knowledge for all the pediatricians in which they clearly specify that cell-mediated immune defects is a contraindication for vaccines containing live viral vaccines. Live viral vaccines include: MMR, MMRV, OPV, LAIV, yellow fever, varicella, zoster, rotavirus, and smallpox.

In another version of the Guide to Vaccine Contraindications and Precautions it says that the "Varicella vaccine should not be administered to a person with a family history of congenital or hereditary immunodeficiency in parents or siblings unless that person's immune competence has been clinically substantiated or verified by a laboratory. "

Individuals with autism often suffer from Primary Immunodeficiency caused by Natural Killer Cell Deficiency associated with microglial activation. Natural Killer Cell Deficiency is a disorder characterized by recurrent herpes virus infection and a selective deficiency of natural killer (NK) cells. Natural killer cells are lymphocytes (about 10 percent of the circulating lymphocytes) that are neither T- nor B-cells. Natural killer cells kill tumors and viral-infected cells and represent an early defense against cancer and viral infection. These patients may have recurrent or chronic herpes infections such as cold sores, severe Epstein-Barr virus infection, or varicella (chickenpox). Many of the patients require continuous anti-viral medicines.

Diagnosis

Based on the neurological and medical symptoms that children with autism suffer from and the similarity to other primary immunodeficiency diseases it is imperative to verify the person's immune competency clinically. SCIA strongly recommends testing individuals with autism for Natural Killer Cell Deficiency, Cell-Mediate Immunity Defects, Immune Disorders and Chronic Infections. The lab tests that SCIA recommends includes CBC With Differential, T- and B-Lymphocyte/NK Cell Profile, Natural Killer Cell Functional Assay, Cell-Mediated Immunity Screen, Sedimentation Rate-Westergren, C-Reactive Protein, Immunoglobulins A/E/G/M, Human Herpesvirus 6 Antibodies and Rubella Antibodies.

Treatment

Treatments for primary immunodeficiency caused by Natural Killer Cell Deficiency and Microglial Activation involve preventing and treating infections, restoring proper immune system function and inhibiting Microglial Activation. Treatment should be continued until proper immune system function is restored.

Treatments include:
1. Antiviral medications
2. Antifungal medications
3. Antibiotics
4. Medications and supplements to increase natural killer cell activity
5. Immunoglobulin Therapy
6. Medications to inhibit microglial activation and to reduce nitric oxide levels