AUTOIMMUNE PSYCHIATRIC DISORDERS

For years, researchers have suspected that many psychiatric disorders, particularly schizophrenia and obsessive-compulsive disorders (OCDs), have an autoimmune origin. The high incidence of bipolar disorders in patients with autoimmune thyroiditis is also suggestive of an autoimmune connection. Numerous studies have confirmed this autoimmune link.

Autoantibodies to Neurotransmitters

One of the most convincing findings for the autoimmune connection is the frequent finding of autoantibodies that target neurotransmitters, neurotransmitter receptors, hormones and brain cell components in people with certain psychiatric disorders. Another strong link is the development of pediatric autoimmune neuropsychiatric disorders (PANDA syndrome), particularly movement disorders and OCDs in children following streptococcal infection.

Environmental Triggers

Most researchers state that several different environmental triggers, including certain drugs, such as heroin and cocaine, long-term stress exposure, and infections can all trigger autoimmune psychiatric disorders. In regard to infections, the immune system's reaction to the infection, rather than the particularly infectious microorganism, leads to confusion and the development of autoantibodies that target the central nervous system.

Long-term stress is suspected of disrupting neurotransmission, which leads to anxiety and panic disorders. Studies also show that the prevalence of illicit drug abuse in persons with schizophrenia is greater than that seen in the general population. Some researchers theorize that drug abuse may be a form of self-medication for persons with psychiatric symptoms and others feel that immune system changes caused by drug abuse, particularly intravenous drug abuse, lead to the production of autoantibodies that contribute to psychiatric disturbances.

Neuroleptic Syndrome and Schizophrenia

In persons with malignant neuroleptic syndrome, a psychiatric disorder triggered by the use of neuroleptic medications, autoantibodies to the cell receptors for neurotransmitters CHRM1, OPRM1 and/or HTR1A are commonly seen. These autoantibodies have also been seen in some patients with schizophrenia and are thought to induce psychiatric symptoms.

The general consensus is that there are probably several different subtypes of schizophrenia with various causes. For instance, a subgroup of patients with schizophrenia has been found to have changes in T-lymphocyte cell activity that cause increased TH2 activity, which promotes autoantibody formation. In addition, high levels
of interleukin-6 (IL-6) and increased monocytes are seen in some patients with schizophrenia.

In the Knight model of autoimmune psychiatric disorders, the development of forbidden clones of B-lymphocytes contributes to schizophrenia. The studies of JG Knight at the University of Otago, Dunedin, New Zealand, show a favorable response to corticosteroids, used to suppress the immune system in patients with schizophrenia. Schizophrenia has also been linked to celiac disease, and in some studies patients with schizophrenia following a gluten-free diet showed improvement.

**Gluten Sensitivity**

However, these studies could not be confirmed with tests for endomysial antibodies, which again suggests that there are subgroups in schizophrenia and only some patients have coexisting gluten sensitivity. Some of these patients may not yet have true celiac disease but have gluten sensitivity.

Autism has also been linked to gluten sensitivity, and in some psychiatric circles, autism is considered an autoimmune disorder (Margutti, P, Autoantibodies associated with psychiatric disorders in Curr Neurovasc Res 2006, May).

In addition, a large Danish study showed that schizophrenia was more common in patients and in their family members with Graves' disease, celiac disease, acquired hemolytic anemia, interstitial cystitis and Sjogren's disease. In this study a history of autoimmune disease was associated with a 45 percent higher incidence of schizophrenia (Eaton, WW, Byrne, M, et al., Association of schizophrenia and autoimmune diseases: linkage of Danish national registers, Am J Psychiatry, 2006, March). In a similar study in Denmark, patients with rheumatoid arthritis had a lower incidence of schizophrenia.

**Meningoencephalitis**

Also, some forms of inflammatory meningoencephalitis that are not caused by vasculitis are considered autoimmune. These disorders are known to cause symptoms similar to those seen in Cruetzfeldt-Jakob disease. However, in inflammatory meningoencephalitis, patients show a good response to high-dose corticosteroid treatment. Similarly, a treatable form of dementia known as Hashimoto's encephalopathy, which is characterized by thyroid antibodies as well as specific antineural antibodies and/or antibodies to human alpha-enolase, occurs in patients with both Hashimoto's thyroiditis and Graves' disease. Hashimoto's encephalopathy may also cause fluctuating confusional states, depressed levels of consciousness, seizures, tremor and hallucinations. Treatable forms of dementia are also known to occur in multiple sclerosis, systemic lupus erythematosus, Behcet's disease and Sjogren's syndrome.

Overall, researchers state that an autoimmune connection should be investigated in patients with newly diagnosed psychiatric disorders. Many of these autoimmune psychiatric disorders respond to therapies that target the autoimmune response.