



Is autism an autoimmune disorder?

Autism Spectrum Disorders

“The evidence that immune dysfunction likely plays a role in the etiology/pathophysiology of ASD (autism spectrum disorder) is becoming substantial.”¹

LEARN ABOUT TESTING

Focus Areas

Autism an autoimmune disorder?

Autism & brain inflammation

Is the test right for you?

Autism, or autism spectrum disorder (ASD), is a complex neurological and developmental condition in which the cause is still unknown. However, environmental and genetic factors are believed to play key roles.¹³ Recent studies have also explored whether autism is an autoimmune disorder. Investigators report, “accumulating evidence indicates that immune [system] dysfunction is associated with autism disorders in a significant subset of children.”³

Autism typically begins in early childhood. It usually appears by age 2 or 3 but can be diagnosed as early as 18 months.² Autism is characterized by impaired communication, difficulty with social interaction and rigid, repetitive patterns of behavior. The range and severity of symptoms can vary widely.

Autism and immune system dysfunction research has shown that immune abnormalities can occur on many levels. For instance, when postmortem brains of autism patients were examined, investigators found chronic brain inflammation, activated microglia, increased inflammatory cytokines, altered blood brain barrier, and autoantibodies targeting the brain and central nervous system (CNS).⁴

Meanwhile, researchers report finding the presence of “cellular features consistent with an immune response targeting specialized brain cells in more than two thirds of autistic brains analyzed postmortem.”⁵

“With this new research, we haven’t proved causality, but this is one clue in support of the idea that autism might be an autoimmune disorder, just like multiple sclerosis is thought to be.”⁵

In recent years, researchers have found evidence that “active neuroinflammation is a significant component of ASD [autism spectrum disorders].”¹

Neuroinflammation can be found in patients with an infection-triggered autoimmune disorder. In response to an infection, the immune system produces antibodies to attack the foreign substance. But, in some cases, these antibodies mistakenly attack healthy tissue in the brain. This can lead to brain inflammation (neuroinflammation) and disrupt normal neuronal cell functioning, resulting in behaviors associated with ASD.

“ 69% of people with autism spectrum disorder have microglial activation or neuroinflammation/encephalitis⁶ ”



Many studies indicate that individuals with autism “have brain pathology suggestive of ongoing neuroinflammation or encephalitis in different regions of their brains.” In fact one study reports, at least 69% of people with autism spectrum disorder have microglial activation or neuroinflammation/encephalitis. ⁶

Neuroinflammation (or encephalitis) can be triggered, in part, by an infection. “It is plausible that systemic inflammation and/or infection could trigger the inflammation or encephalitis seen in the brains of children with an ASD.” ⁶

Therefore, many believe that “addressing inflammatory processes could be the aim of the next pharmacological therapy for [autism spectrum disorder].” ⁴ Clinical trials have already demonstrated the benefits of immunosuppressive treatment for a subset of patients with autism. ¹

“ ***Autoimmune Brain Panel™ predicts response to IVIG treatment for autism patients with encephalitis*** ”

Could autism be due to an immune dysfunction?

Take our quiz and see if your symptoms may be due to an underlying autoimmune dysfunction and if testing may be right for you.



Take Our Quiz

Answer a few questions to find out if you might benefit from testing with the Autoimmune Brain Panel™.



Learn More About

Are you or your child struggling with autism? It may be due to an autoimmune response.



“Several studies that link encephalitis with the onset of autism or an ASD, also report the improvement or amelioration of autism/ASD symptoms when the encephalitis was treated.” ⁷

Autoantibodies specifically targeting cells in the brain have been identified in ASD patients. These autoantibodies have been found in the prefrontal cortex, caudate, putamen, cerebellum and cingulate gyrus regions of the brain ¹⁰ and hypothalamus ¹¹ in children with autism spectrum disorder.

Utilizing the Autoimmune Brain Panel™ (also known as the Cunningham Panel™) one study found that a majority of patients with autism spectrum disorder had elevated levels of autoantibodies directed against brain tissue.

For this group of patients, intravenous immunoglobulin (IVIG) treatments were effective in reducing symptoms. And the Autoimmune Brain Panel™ predicted response to IVIG treatment with an accuracy of 81-88%. ⁸

Other studies have also shown positive results. “Following treatment with IVIG, significant improvement [in autism behaviors] was observed — and significant reductions were seen in the markers of neuroinflammation.” ⁹

+ References



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