

Psychosis, Schizophrenia, or Autoimmune Brain Inflammation—New Hope for Some

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One of the most distressing things a person can go through is a break in their touch with reality—psychosis—whether in themselves or in a loved one. Psychosis is a term for no longer being able to tell what is real from what is not. The various types of psychotic symptoms include:

- **Hallucinations:** These are disturbances in perception—perceiving sensory signals that are not coming from the world around us. The most common is auditory hallucination, hearing things without actual sound waves impacting the ear drums, but people can also see, smell, feel, and taste things that are not coming from their environment.
- **Delusions:** These are fixed false beliefs—believing things that are objectively contrary to reality; delusional beliefs are not amenable to being changed with evidence and facts.
- **Disorganization of thought and speech:** The inability to maintain a clear train of thought; jumping from topic to topic in a nonsensical way.
- **Disorganization of behavior:** Gross irrational and chaotic behavior.
- **Catatonia:** A severe and abnormal response to people and the environment, such as mutism, echoing sounds repeatedly, copying other's movements constantly, rigidly holding positions for long periods of time, failure to respond to environmental stimuli, and other symptoms.
- **Severe loss of normal emotional connection:** Severe emotional flatness; loss of motivation,

disengagement, and isolation.

It has been long understood that psychotic problems are a result of something going wrong with normal brain function. The only exception are shared delusions, when people come to believe something that is false and are resistant to evidence that would expose the falsehood. Shared or group delusions come from social and relational pressures and not brain dysfunction. So, delusions can occur from both brain dysfunction and from social and relational pressures and stresses.

Historically, when a person presented with the various symptoms listed above, they were recognized as having a break from reality and diagnosed with psychosis. If the symptoms persisted over time, they were often diagnosed with schizophrenia.

The exact causes of schizophrenia are still poorly understood, but it is believed to have multiple causes related to brain development, structure, and function. Genetics play a role, increasing vulnerability, but genes do not tell the entire story. Intrauterine environment, toxic exposures, infections, nutritional deficiencies, and environmental stressors all impact the developing brain and can alter normal cellular development, support systems, and connectivity and, thereby, contribute to the development of psychosis later in life. The point is that every person diagnosed with schizophrenia does not have the exact same brain problem; they share a cluster of symptoms that are used to diagnose schizophrenia. But it is currently believed that there are many different underlying contributing factors and brain changes that lead to these symptoms.

New Discoveries

What is interesting is that recently, a condition has been discovered that shares the symptoms of schizophrenia and historically would have been diagnosed as schizophrenia but, in fact, is an autoimmune inflammation of the brain. In other words, the body has made antibodies that are acting inappropriately upon certain brain receptors (NMDA) and causing the symptoms of psychosis.

Recently I read an article entitled "[Is it psychosis, or an autoimmune encephalitis?](#)" in which the differences between psychosis and this brain inflammatory condition were described. This is important and exciting because the presentations of both these conditions are nearly identical while the underlying causes are quite distinct and the treatments are necessarily different, with the autoimmune condition having a higher likelihood of resolution with appropriate treatment.

The symptoms of the autoimmune brain condition are some combination of the symptoms of psychosis listed above. A person with the autoimmune encephalitis may become disorganized, stop going to classes or work, socially isolate, stop attending to personal hygiene, talk to self, accuse people of being against them, believe others are out to get them, may become catatonic and withdrawn and become mute, or posture in strange ways. Their thoughts may be disorganized; they may be animated or agitated. The point is, there is a marked dysfunctional change from their normal behavior that is recognized by family and friends.

Clues that this may be autoimmune rather than schizophrenia include:

- Quick onset in less than three months. If such changes have occurred gradually over years in a person who was odd, socially withdrawn, and peculiar since childhood, then it is more likely

schizophrenia. But if the person experiences a fairly sudden and acute change in function, then the possibility of autoimmune encephalitis must be considered.

- Recent history of infection, especially viral infection, prior to the onset of the dysfunction is a red flag warranting workup for autoimmune encephalitis. The underlying problem is that something (in this case, the viral infection) triggers the body's immune system to make antibodies that attack the NMDA receptors in the brain, thereby causing the psychosis. Thus, a history of fever, malaise, headache, nausea, diarrhea, etc., prior to the onset of symptoms is a signal warranting investigation for an autoimmune cause.
- Seizures within one year of the onset of the psychotic symptoms. These seizures are usually not the full-body seizures with loss of consciousness, but deep brain seizures that cause moments of confusion, staring off into space, or no symptoms at all and only show electrical slowing on an electroencephalogram (EEG). But seizures of any kind during the first year suggests an autoimmune problem.
- A recent history of cancer or any abnormality of the ovaries suggests autoimmune encephalitis rather than schizophrenia. The cancer or ovarian problem, in this case, trigger the immune system to make the antibodies that attack the NMDA receptors.
- A prior history of herpes simplex virus (HSV) encephalitis increases the risk of autoimmune encephalitis and, thus, any person presenting with psychosis who has a history of prior HSV encephalitis should be evaluated for an autoimmune cause of their psychosis. Again, the connection is that the prior herpes viral infection triggered the body to make antibodies that are now attacking the brain.
- Any symptoms suggestive of a neurological problem, such as a stiff neck, severe headache, neck pain, etc., should raise concerns and justify an autoimmune workup.
- Presenting with short-term memory loss may indicate an autoimmune cause to the new psychosis.
- Changes and instability in normal vital signs, such as a racing heart, blood pressure that changes rapidly, and light headedness when standing, are indicators of an underlying autoimmune problem.

If someone you know is suffering with such symptoms, please bring up this possibility to their doctor as autoimmune encephalitis presenting as a psychotic disorder is a newly discovered insight and may not be considered by your loved-one's doctor. The treatment for autoimmune encephalitis is quite different than that for schizophrenia, with a much higher likelihood of a good outcome.