

In setting out to determine how chronic inflammation affects the brain, researchers have recently found a mechanism that directly links inflammation to mental illness.

As many as 75 percent of the 1.5 million Americans afflicted with systemic lupus erythematosus (SLE) are plagued with psychiatric and neurological symptoms such as anxiety, depression, psychosis and seizure the nature of which, until recently, hasn't been elucidated. Lupus is an autoimmune disease wherein the immune system attacks the body's tissues and organs. While there is no cure for it, it can go into remission with the proper medical and nutritional support.

Researchers sought to determine if these immune responses in lupus are responsible for the myriad of neuropsychiatric symptoms experienced by so many patients. Using a mouse model with lupus, they observed that type 1 interferon-alpha—an inflammatory cytokine—set off a cascade of immune activity resulting in cytokines crossing the *very selective* blood-brain barrier.

Once the blood-brain barrier was crossed, the central nervous system's immune cells—microglia—were activated, attacking neuronal synapses in the brain causing them to be lost within the frontal cortex. The researchers concluded this mechanism directly connects inflammation to mental illness.

While human trials would still need to be conducted, the implications of this research are far-reaching in that so many chronic diseases are caused by inflammation. Indeed, this may explain the increasing prevalence/incidence of mental illness concurrent with increases in autoimmune diseases and other chronic neurodegenerative diseases such as Parkinson's, ALS and Alzheimer's.

To your health!

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