

Thinking, Memory and Lupus: What We Know and What We Can Do

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Introduction

Neuropsychiatric systemic lupus erythematosus (SLE) is the formal term used to define any neurological, psychiatric, or psychological problem that is caused by or associated with lupus. Several generic terms for neuropsychiatric lupus are often used by the medical profession, including central nervous system lupus, neurological lupus, or cerebritis. There are more than 19 different kinds of neuropsychiatric SLE, with symptoms and problems ranging from very mild to very severe.

Neuropsychiatric lupus syndromes include:

- Delirium
- Acute Inflammatory Demyelinating Polyradiculoneuropathy
- Anxiety Disorder
- Aseptic Meningitis
- Cerebrovascular Disease
- Cognitive Dysfunction
- MS-like Syndrome
- Headache
- Mood Disorder
- Movement Disorder
- Myasthenia Gravis
- Mononeuropathy
- Neuropathy, Autonomic
- Neuropathy, Cranial
- Plexopathy
- Polyneuropathy
- Psychosis
- Seizure Disorders
- Transverse Myelopathy

Neuropsychiatric SLE covers a whole spectrum of disease with respect to the type of involvement and manifestation exhibited in the patient. Additional considerations include the way the patient feels, the way the patient presents his or her signs and symptoms, and the severity of the condition. Similar to the notion that no two people have the same lupus, no two people have the same neuropsychiatric lupus.

What is the Nervous System?

The nervous system is a complex system that allows the body to receive, process, and react to information. This system includes the brain, spinal cord, and all the nerves that extend throughout the body. The network of organs and nerves that complete the nervous system control all voluntary (i.e. raising the hand) and involuntary (i.e. beating of the heart) actions of the body. The nervous system allows us to understand and react to the world around us.

What is Cognition?

Cognition is understanding the world around us, taking in information, storing it, processing it, and reacting to it, which can occur through verbal learning, visual learning, calculating, and interpreting. Cognition is the sum of “intellectual” functions that result in thought. It includes the reception of external information, memory and learning, information processing and interpretation, and expression. The reception of external information is how we take in information. For example, when you open your eyes and see something, you recognize it and, once recognized, you have processed the information. When you recognize something after having seen it the first time, memory and learning is occurring. Once that information has been processed and interpreted, you can express that information to someone else as well as react to it.

What is Cognitive Dysfunction?

Cognitive dysfunction, just one of the more than 19 different types of neuropsychiatric lupus, is defined as any difficulty with normal thought functions or processes. Cognitive dysfunction is a common occurrence that happens to everyone at some time, not just lupus patients, and it can affect one single thought process or many thought processes either temporarily or permanently. Like the other types of neuropsychiatric lupus, cognitive dysfunction can range from very mild to very severe. There is no single cause of cognitive dysfunction in people with or without lupus, but anything that disturbs any of the processes that result in normal thought can cause cognitive dysfunction. Some possible causes of cognitive dysfunction include - but are not limited to - stress, anxiety, depression, lack of sleep, illness, pain, medication, and diet.

What are the causes of Cognitive Dysfunction?

The common causes of cognitive dysfunction in the general population occur with greater frequency and sometimes to a greater extent in lupus patients. People with lupus have additional factors specific to lupus that may cause cognitive dysfunction, such as their disease activity and flares, antibodies, neuropsychiatric disease, and lupus medications. Cognitive dysfunction does not occur in all lupus patients, but it does occur in many. Furthermore, cognitive dysfunction in people with lupus is not always stable, not always permanent, not always associated with a major neuropsychiatric condition, and it does not usually progress or result in dementia.

What are the consequences of Cognitive Dysfunction?

Distress and disability are the major concerns and consequences of cognitive dysfunction in patients with lupus. Other common consequences of cognitive dysfunction in people with lupus include:

- Difficulty performing daily activities
- Lowered self-esteem
- Isolation
- Decreased quality of life
- Poor medical compliance

- Worsening of lupus signs and symptoms

What do I do if I think I have Cognitive Dysfunction?

If you believe that you have cognitive dysfunction, tell your doctor and be as specific as possible. Be sure to explain the timing of the onset of your symptoms, what problems you are experiencing in your daily life related to cognition, how often these problems occur and how long they last, if your changes in cognition can be related to any other changes in your life or your lupus, and mention anything you do that makes the symptoms better or worse.

Once symptoms of cognitive dysfunction have been reported to your doctor, you will likely be asked if you have a history of other neurological or neuropsychiatric symptoms and examined for any signs of underlying disease of the neurological system. The doctor will also most likely evaluate you for non-lupus related causes and refer you to a neurologist, psychiatrist, psychologist, neuropsychiatrist, or occupational therapist for further evaluation and a referral for treatment.

Treatment Options

Unless a precise cause of cognitive dysfunction is identified, there are currently no treatments available or recommended for cognitive dysfunction in lupus patients; however, this does not mean that nothing can be done. If a precise cause of cognitive dysfunction is not found, other options for patients include:

- Modifying associated risk factors (i.e. stress, medications and sleeping habits)
- Developing cognitive strategies for addressing specific activities and lifestyle issues
- Developing behavioral strategies for addressing specific activities and lifestyle issues

Unfortunately, the use of Alzheimer's drugs to treat cognitive dysfunction has not been tested in lupus. Additionally, the use of vitamins and supplements, such as vitamins C and E and Fish Oils, have not been proven to help with symptoms of cognitive dysfunction in lupus patients.

Cognitive rehabilitation is a form of neuropsychological or occupational therapy that offers alternative functional coping strategies to compensate for difficulties and improves the quality of daily life of lupus patients with cognitive dysfunction. The goal of cognitive rehabilitation is to reduce activity limitations and enhance participation in the community and social environment, even though it may not be possible to eliminate the impairment caused by cognitive dysfunction.

Examples of cognitive rehabilitation strategies include:

- Repetition
- Associations
- Routines
- List making

Another popular and useful example of cognitive rehabilitation is the use of external aides. External aides include voice recorders and pillboxes that help to organize our medication regimens.

Cognitive dysfunction is just as complex as lupus. However, research efforts have come a long way, and the medical community continues to strive to address issues related to cognitive dysfunction and lupus patients. There is a lot of research currently underway to find the cause of cognitive dysfunction, develop ways to detect cognitive dysfunction early, and establish treatment regimens to reverse or prevent cognitive dysfunction.

A number of clinical trials related to cognitive dysfunction are presently underway at Hospital for Special Surgery. Among them is a study to determine if the drug modafinil can improve lupus-related cognitive dysfunction. Modafinil has been shown to improve attention and concentration in people without lupus. The current research hopes to verify whether modafinil can be used effectively and safely in SLE patients.

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