

Overview of Autoimmune Encephalitis

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INTRODUCTION

Autoimmune encephalitis is a group of cell-mediated disorder that occurs when the body's immune system mistakenly attacks the brain cells. Based on clinical features, it's confirmed by the presence of auto-antibodies that bind to cell surface antigens [1]. The best defined syndrome is anti-NMDA receptor encephalitis which would be clinically suspected in an encephalitic syndrome with psychosis, agitation, movement disorders, autonomic features, sleep disorders and seizures. The severe symptoms may occur like Insomnia, numbness, severe anxiety, seizures, compulsive behavior, hallucination, unconsciousness, facial dyskinesia, impaired memory, behavioral changes such as agitation, fear; altered sexual behavior, difficulty in vision, speaking balance etc. The mild symptoms may include fever, vomiting, stiff neck, muscle pain, nausea etc. There are different types of auto-immune encephalitis such as

- Acute Disseminated Encephalomyelitis (ADEM)
- Anti-NMDAR receptor encephalitis
- Hashimoto's encephalopathy
- LG11/CASPR2-antibody encephalitis
- Limbic encephalitis
- Rasmussen's encephalitis

Encephalitis is commonly two types-Primary and Secondary encephalitis.

Primary: It occurs when the virus is directly infects the brain and spinal cord.

Secondary: It occurs when an infection starts in the body and travels to your brain.

DESCRIPTION

The most common virus that causes encephalitis is herpes simplex. This virus is difficult to travel through a nerve to skin; it causes a cold sore [2]. In the form of encephalitis usually affects the temporal lobe, the part of the brain that controls the memory and speech and also affects the frontal lobe, the part of the brain that controls the emotions and behavior. In very rare cases, the virus travels to the brain. The other common viruses can because encephalitis includes Mumps, HIV, cytomegalovirus

and Epstein-Barr virus. Parvoviruses can be caused by insects. Mostly the risk factors for encephalitis are in older adults, children under age of 1, people with weak immune system. Encephalitis is mostly caused in summer because the mosquitoes and ticks are more active [3].

Encephalitis can be diagnosed by performing the tests are following:

- Lumber puncture-Insert a needle into your lower back to collect the samples of spinal fluid.
- Electroencephalograph-Electrodes are attaches to the scalp to record the brain activity but it does not detect the virus that caused by encephalitis.
- Brain imaging with CT scan or MRI-It helps to detect the changes in brain structure.
- Blood tests-To reveal the signs of virus infection.
- Brain biopsy-It is rarely performed because there's a high risk of complications.

Encephalitis is treated with help of medications such as corticosteroids, pain killers, sedatives, anticonvulsants etc. [4]. Anti-viral medications are help to treat the Herpes encephalitis. People who are diagnosed with severe encephalitis will experience the complications such as loss of memory, physical weakness, fatigue, behavioral changes, epilepsy difficulty in breathing, coma, paralysis etc. Depending on the type and severity of encephalitis, additional therapies are required such as Physical therapy, psychotherapy, speech therapy, occupational therapy [5].

CONCLUSION

Encephalitis isn't always a preventable. Complications at risk factors for encephalitis are decreased by the vaccination of the viruses which relates to this. Information on autoimmune encephalitis with antibodies against cell surface channels/receptors has been increasing with the discovery of new antigens. Anti-NMDA receptor autoimmune encephalitis is the common cause of autoimmune encephalitis. 80% of patients show full recovery with early detection and immunotherapy.

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