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Nervous System Involvement in Lupus

The nervous system consists of the brain, spinal cord and peripheral nerves (all those other than the brain and spinal cord). Damage, for whatever reason, to any part of the nervous system can impact on thought processes, movement and/or sensation. Often the results of this are minimal, with obvious damage unnoticeable. Sometimes however, damage to the nervous system can have a dramatic effect on how we function.

Some degree of “slowing” or “clouding” of thinking, sometimes with reduced clarity and word-finding ability is described at some time by most people with systemic lupus erythematosus (SLE). Optimal treatment of lupus tends to improve this problem. Like many chronic conditions, lupus is associated with an increased risk of secondary depression.

Although uncommon, SLE can directly affect the nervous system. These effects can manifest in several ways. Symptoms of nervous system involvement include:

- Depression
- Headaches
- Anxiety
- Cognitive function abnormalities
- Peripheral neuropathy – reduced function of nerves transmitting sensation of power – approximately 10% of SLE sufferers affected
- Transverse myelitis – spinal cord injury with sensory and motor effects – 1% affected
- Seizures
- Psychosis
- Cerebral vascular accident (CVA) or stroke – secondary to vasculitis

Possible causes of nervous system involvement in SLE can include:

Vasculopathy – vessel disease due to inflammation, clotting or atherosclerosis. With better management of lupus, the greatest priority in managing SLE is to reduce the risk of atherosclerosis through attention to exercise, sensible diet, smoking cessation, steroid management, and control of systemic blood pressure, cholesterol, and glucose.

Platelet aggregation – The lupus anticoagulant can, contrary to its name, be a pro-coagulant that can cause clotting, as can antiphospholipid antibodies and cardiolipin antibodies.

Antineuronal antibodies – Although rarely, antibodies to nerve pathways have been identified.

Treatments used for nervous system involvement can include:

- Anticoagulation therapy (aspirin or warfarin) with or without hydroxychloroquine (Plaquenil), which has anti-platelet and anti clotting affects for phospholipid antibody related clotting events.
 - Antidepressant medications
 - Anticonvulsants
 - Antipsychotic medications
 - Methyprednisolone infusions
 - Cyclophosphamide
 - Plasmapheresis
- } Rarely, immunosuppression is used
for direct lupus involvement of
the nervous system.

There is no specific tests that can be undertaken specifically designed to detect cerebral lupus. Electroencephalography (EEG) or magnetic resonance imaging (MRI) are sometimes used for diagnosis of cerebral lupus. Occasionally a spinal tap may also be required.

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