



HOW THE EPSTEIN-BARR VIRUS (EBV) TURNS A SPINE INJURY INTO CHRONIC ADHESIVE ARACHNOIDITIS (AA)

There has been natural shock and skepticism with the discovery that EBV reactivation, autoimmunity, and tissue infestation is associated with systemic lupus, multiple sclerosis, and AA. The pathologic mechanism of how EBV can turn a spinal canal injury into chronic, severe AA has been clarified.

THE INJURY: Any trauma to the arachnoid membrane, cauda equina nerve roots, intervertebral discs, or dural covering of the spinal canal in the lumbar-sacral spine is at risk to develop AA. The trauma may be an epidural injection, surgery, spinal tap, or accident.

THE PATHOLOGIC STEPS TO CHRONIC AA:

1. Trauma causes acute inflammation, pain, and the initiation of AA.
2. Acute inflammation and damaged spine tissues allows EBV to invade and infest the injured tissue.
3. EBV infestation in the damaged spine tissue creates autoimmunity, develops chronic inflammation and adhesions, and prevents normal healing.
4. EBV turns AA into a chronic, progressive disease.

WEAK TISSUE IS A FACTOR: Persons with a genetic connective tissue disease such as Ehlers-Danlos Syndrome, metabolic disease (especially diabetes), or hormonal/nutritional deficiency may have weakened tissue due to a collagen defect or other factor. Weak tissue encourages EBV infestation.

OTHER VIRUSES: Once EBV infests damaged tissues, other viruses such as cytomegalovirus and herpes 6 may invade.

CONFIRMATORY BLOOD TESTS: EBV blood panels have been developed that help confirm EBV autoimmunity and infestation. The two major antibodies will be at least two times normal (VCA and EBNA). If the virus is currently replicating, the early EBNA or polymer chain reaction-DNA (PCR-DNA) tests may be positive. Cytokines and other inflammatory markers, white blood cell counts, and antinuclear autoantibody (ANA) may be elevated.

MAJOR MESSAGE: A spinal tissue injury may initially cause AA to develop and give EBV an opportunity to infest spinal tissues and initiate an autoimmune-inflammatory process that propagates chronic AA.

VCA is viral capsid antigen antibody. EBNA is nuclear antigen antibody.

“Injury initiates AA; EBV propagates it.”