



## COVID, AUTOIMMUNITY, AND ADHESIVE ARACHNOIDITIS (AA)

AA can only occur when inflammation is in both the cauda equina nerve roots and arachnoid membrane. If inflammation develops and forms adhesions, the two tissues will fuse together. This process forms an inflamed mass that entraps nerve roots producing multiple neurologic impairments and intractable pain.

### **Clarification – Acute Versus Chronic AA:**

In last week's bulletin we informed the public for the first time that AA is an autoimmune disease. This caused upset with many persons as they assumed their AA was caused by a singular event such as trauma, infection, or epidural injection. We apologize for not being clear that AA caused by autoimmunity is the chronic form and not acute AA. Indeed, singular events such as an epidural injection may initiate acute inflammation in tissues just as a cut or abrasion on the skin will form acute inflammation (red, hot, painful skin). Inflammation is always time limited and resolved by the body's natural healing system within a few days to weeks unless an autoimmune process takes over to generate ongoing chronic inflammation. The usual focus in our study and education project is almost always on chronic AA and not acute AA. Consequently, we overlooked a key point in declaring chronic AA an autoimmune disease.

### **Simple Definition of Autoimmunity:**

A process in the body in which autoantibodies or a cellular element perceives normal tissue to be pathologic or diseased and erroneously attacks it producing inflammation and tissue destruction.

### **Common Cause of Autoimmunity:**

A major cause of chronic AA and some other autoimmune diseases such as systemic lupus, multiple sclerosis, and some cancers is reactivation of the Epstein-Barr Virus (EBV). Once reactivated, EBV may not only produce tissue infiltration by the virus but initiate ongoing autoimmunity. Acute AA, caused by trauma, including medical procedures such as an epidural injection or an infection such as Lyme, may reactivate EBV which converts acute AA to chronic AA.

### **Covid Enters the Picture:**

We began to review chronic AA cases about two years ago that followed either covid infection or one of its vaccines. These reports have progressively increased. Some research institutions have recently documented that covid and/or its vaccines may reactivate EBV which develops an autoimmune process. "Long" covid and its vaccines may be a factor in the development or worsening of chronic AA.

**Summary:** There is both acute and chronic AA. Acute AA may be caused by a singular event such as an epidural injection that causes inflammation in the cauda equina and arachnoid. Acute AA can convert to chronic AA as an ongoing autoimmune disease. Covid infection and vaccines may promote AA by reactivating EBV.