



## **WHERE DOES AA INFLAMMATION COME FROM?**

Adhesive arachnoiditis (AA) is an inflammatory disease in which cauda equina nerve roots are attached by adhesions to the arachnoid membrane which is the inner lining of the spinal canal cover. “It is” means inflammation. Arachnoiditis was named in 1873.

**BASIC FACT AND QUESTION:** To get AA, one has to have inflammation in both the cauda equina nerve roots and arachnoid membrane. The basic question is what causes chronic inflammation to simultaneously occur in two different tissues.

**HISTORY OF CAUSES:** Between about 1850 and 1950 the major causes of AA were bacterial infections of gonorrhea, tuberculosis, and syphilis. In the last half of the 20<sup>th</sup> century, the major cause was insoluble oil dyes (i.e., pantopaque, myodil) used for spinal x-rays.

**THE 21<sup>st</sup> CENTURY:** Cases of AA began to reappear rather consistently in pain clinics beginning about 2005. Except in some cases of Lyme disease and accidental spine trauma, AA seemed to be related to invasive medical spine procedures including epidural injections, spinal taps, and surgery. The notion that invasive medical procedures can cause chronic (lifetime) inflammation in both the cauda equina, and arachnoid has basically been rejected so, some invasive spinal procedures continue as standard medical care.

**THE ENLIGHTENING DISCOVERY-VIRAL REACTIVATION:** Abundant research has now clearly shown that some viruses, especially Epstein-Barr, are normal parasites in human lymphocytes that may reactivate in times of stress to invade tissue and/or produce autoantibodies (autoimmunity) which attack tissue and create chronic inflammation. Our studies show that essentially all persons with AA have had reactivation of Epstein-Barr (EBV) or another virus. This includes both patients who have had invasive spinal medical procedures and those who have not had them.

**RESEARCH CONCLUSION:** Our studies compel us to believe that the stress of invasive spine procedures can reactivate EBV to produce chronic inflammation and adhesions in the spinal canal. Invasive spine procedures may also have unknowingly been done for a legitimate medical reason in a person who has existing EBV reactivation. In summary, an invasive spine procedure plus EBV reactivation may produce AA.

**CLINICAL RECOMMENDATIONS:** Any person who develops back pain and other AA symptoms like water dripping sensations on the skin or burning feet after an invasive spinal procedure needs the full EBV blood panel (not an infectious mononucleosis) test.