

## The Role of Chiropractic Care in the Treatment of Autoimmune-Related Vasculitis

Autoimmune diseases are the third largest category of illness in America. There are in excess of 80 known autoimmune conditions, with women 75 percent more likely to be affected.<sup>1</sup> They represent diseases ranging from rheumatoid arthritis, allergic asthma, chronic fatigue syndrome and fibromyalgia - to very rare diseases such as Goodpasture's syndrome and Wegener's granulomatosis. The onset of these conditions is usually insidious, and the manifestations can be life-threatening. The presenting symptoms can mimic many other conditions, including the common cold or flu, therefore many conditions go undiagnosed.

Many autoimmune diseases result in systemic vasculitis, an inflammation of the small and medium-sized blood vessels. Vasculitis may be a complication of an autoimmune disease or occur as a singular disease. The mechanism of systemic vasculitis involves chronic inflammation of the blood vessel walls.<sup>2</sup> Chronic vasculitis causes the inside of the vessels to narrow, and the obstruction of blood flow may lead to tissue ischemia, which can result in necrosis, thrombosis, or a weakening of the blood vessel walls and aneurysm.

The medical treatment for vasculitis remains controversial, and until the early 1980s, the prognosis was poor.<sup>3</sup> Therapy can include plasmapheresis, or drug therapy, including cyclophosphamide (oral or IV chemotherapy) and corticosteroid regimes. The side effects of cyclophosphamide and corticosteroids can be severe and include bladder cancer and leukemia in the former, or osteoporosis, hypertension, liver damage and embolism in the latter. According to statistics from Johns Hopkins University, patients who undergo the drug therapy have an 85 percent survival rate, and those patients who refuse drug therapy are purported to have only a 50 percent survival rate.<sup>4</sup> This statistical information leaves the patient feeling helpless as the options for treatment are limited and the outcomes varied.

Goodpasture's syndrome and Wegener's granulomatosis are two related forms of autoimmune diseases that may result in systemic vasculitis. These diseases frequently manifest themselves in the middle years of life. Goodpasture's syndrome more commonly affects men; Wegener's granulomatosis appears to affect men and women equally. As in other autoimmune conditions, the body is producing antibodies that attack its own tissues. Typically in Wegener's, skin lesions are common. In both Goodpasture's syndrome and Wegener's granulomatosis, systemic vasculitis can affect the lung and renal tissue, attacking and potentially destroying these organs.<sup>5</sup>

### Etiology

The etiology for vasculitis, as in other autoimmune diseases, is unknown. Some indicators point to the possibility of a genetic susceptibility, or an invasive bacteria or virus which causes the immune system to lose its ability to differentiate between the invader and the body's own cells.<sup>6</sup> It is also possible that as we age, the T-cell immune system declines in function faster than the B-cells. The most affected are the suppressor T-cells, which inhibit self-damage to the body's tissues. The

decline of T-suppressor cells with age is credited in rheumatoid arthritis, and the tendency toward allergies and asthma is greater with age.

Since these diseases are on the rise, it is imperative that the doctor of chiropractic be familiar with the presenting symptoms, and of the types of laboratory tests available in establishing the diagnosis. The patient may present with mild to severe fatigue; fever; joint pain and stiffness; conjunctivitis; cranial nerve abnormalities; changes in frequency or color of urine; and "flu-like" symptoms. These symptoms are in part related to the circulating immune complexes, which tend to accumulate in the tissues causing pain and injury.<sup>7</sup> Chest x-rays are helpful in assessing the presence of lung infiltrates. Kidney function may be assessed through serum creatinine levels and a 24-hour urine to evaluate creatinine clearance and protein loss. A CBC and chemistry panel may reveal low hemoglobin, hematocrit, and a decrease in WBC count. An ESR is a helpful indicator of the level of inflammation.

It is difficult to obtain a firm diagnosis for vasculitis, but there are strong indicators of circulating ANCA (antineutrophil cytoplasmic antibodies) present in the blood. A C-ANCA antibody test is 90-percent sensitive to Wegener's granulomatosis, and increased antibody titers often correlate with disease activity. P-ANCA antibody patterns may be seen in Goodpasture's syndrome but are also commonly seen in necrotizing and crescentic glomerulonephritis, ulcerative colitis, lupus nephritis and hemorrhagic pulmonary disorders. Occasionally a P-ANCA pattern is also present in Wegener's granulomatosis. Anti-GBM (glomerular basement membrane) antibodies may also be used to evaluate the presence of Goodpasture's syndrome. Both diseases may demonstrate elevated serum immunoglobulins, particularly IGA and IGE. However, these tests have a low level of sensitivity, ranging from 28-33 percent in those with active disease. Therefore, a lung biopsy is often performed to obtain histopathologic evidence of vasculitis and granulomatous inflammation. In addition, kidney biopsy is often used to help confirm the diagnosis.

### Nutritional Considerations

Dietary and nutritional supplements, along with medical intervention, can play a major role in healing tissues and in controlling immune system dysfunction. Herbs such as curcuma longa (turmeric), quercetin, and garlic may help to balance out immune system function. Colostrum derived from bovine whey has been shown in studies to boost immune function.<sup>8</sup> However, it is not recommended that these patients be given echinacea, as it may intensify the disease.<sup>9</sup> Additionally, essential fatty acids such as borage oil, flax seed oil, and evening primrose oil help to reduce the level of prostaglandin E2, and thereby help reduce the inflammatory response.<sup>10</sup> Omega 3 oils (DHA/EPA) may play a critical role in modulating immune response and have been used in studies to treat rheumatoid arthritis, ulcerative colitis and kidney transplantation.<sup>11</sup> Supplements rich in antioxidants such as vitamin A, E, C, SOD, glutathione, N-acetylcystine, silymarin (milk thistle), and grape seed extract are important to deactivate free radicals, including those acquired through the breakdown of peroxidized fats helping to prevent damage to DNA, RNA, lipids, the synovial fluid, membranes, and other tissue compartments.

Recent studies from Japan, in treating lupus patients, have found that they have low levels of interleukin-2 and DHEA.<sup>12</sup> Since interleukin is a cytokine, its function is to stimulate the production of T-cells. A study in the *Journal of Rheumatology* in 1998 describes a treatment by Dr. Vollenhoven of Stanford University Medical Center in which 50 women with lupus were given 50-200 mg of DHEA for 6-12 months. He reports significant improvement in the patient's physical symptoms and a reduction in corticosteroid drugs by half.<sup>9</sup>

Attention to diet is critical when an autoimmune condition is present.<sup>13</sup> Caffeine, alcohol, and sugar should be eliminated, and raw fruits and vegetables should be consumed in ample quantities. Fresh juices should be prepared daily and consumed immediately. Juices containing fresh carrots, cabbage or broccoli, celery, apples and beets are important to increase vitamin and mineral intake while reducing the effects of free radical damage in the body.<sup>13</sup> When renal damage is present, indicated by elevated creatinine levels, blood pressure may increase. Garlic and fresh juices, including wheat grass, may have vasodilating properties that can lower blood pressure levels.<sup>14</sup>

### Musculoskeletal Considerations

Patients suffering from systemic vasculitis often have complaints of moderate to severe joint pain and stiffness in the extremities and spine. Joint mobilization, soft tissue manipulation, the application of heat, and chiropractic manipulative therapy can be an aid to improve motor performance and decrease pain and stiffness in joints. Additionally, spinal manipulation may help increase blood flow critical to such organs as the kidney and lung. Therefore, special consideration should be given to manipulating the spine at T10, T11 (kidney) and T3 (lung). Many of the patients have difficulty in performing activities of daily living. Walking may be difficult, especially using stairways, pulling clothing over the head, and performing some simple fine motor tasks. It is very important that the patient have a specially designed exercise program to help increase joint mobility, muscle strength, and flexibility.<sup>15</sup> Yoga-type exercises or dance warm-ups are a good place to start because they increase mobility, provide flexibility, and oxygenate the tissues.<sup>16</sup>

The program should start with activities the patient is able to perform. For example, lying in bed, the hips can be raised and lowered, and the knees can be bent and brought into the chest. The patient should be encouraged to walk short distances, or stand and hold onto a wall, lifting one leg at a time. Other simple activities can be designed from 10-15 minutes per day to aid in rehabilitation.<sup>17</sup> Additionally, breathing exercises are very important, since patients with vasculitis often have respiratory problems. Simple breathing exercises like inhaling and lifting the arms while reaching upward, then exhaling and slowly lower arms can be beneficial.<sup>18</sup>

### Summary

Autoimmune diseases afflict an estimated 50 million Americans. They have a profound effect on the society and the health care system in general. A lack of general education is responsible for many autoimmune conditions going undiagnosed each year, and countless thousands dying from these diseases. As a doctor of chiropractic, you can do your part by recognizing the early signs and symptoms. Those patients who seem to be suffering from vague symptoms and have gone undiagnosed by their medical practitioners, or who have been told that the symptoms are psychogenic, particularly need a detailed exam and laboratory analysis. The responsibility of the chiropractor is to refer the patient with prolonged "vague" symptoms including fatigue, malaise, flu-like symptoms, urinary tract problems, or respiratory tract problems for comprehensive metabolic blood panel, CBC and chest x-rays. Additionally, these patients should have specific ANCA antibody testing including P ANCA and C ANCA, and anti-GBM antibody testing, as well as IGG, IGM, IGE, and IGA. Referrals to discuss medical options may be made to a medical doctor specializing in internal medicine.

The doctor of chiropractic should continue to treat the patient after diagnosis to help relieve periarticular joint pain and stiffness as well as muscle spasms and to reduce subluxations associated with organ dysfunction. It is imperative that the nutritional component be addressed, as

this is critical to immune system support. The chiropractic profession has a great deal to offer the critically ill patient, by helping to restore and normalize nerve function and thereby facilitating the healing process.

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OCTOBER 2000