

## **Autoimmune Diseases**

by Philip R. Hardy, M.D.

The autoimmune diseases now currently recognized number into the hundreds these days, and the extent to which they are responsible for multiple disorders is just beginning to be appreciated.

The classic autoimmune disease that presents with involvement of the musculoskeletal system is Rheumatoid Arthritis. This syndrome has several different manifestations, beginning with Juvenile Rheumatoid Arthritis in the youngest patients, and presenting as “Pauciarticular Rheumatoid Arthritis” in patients in their teens to thirties, and as the more widely recognized variety which occurs commonly in the middle-aged to the elderly.

The one factor that all autoimmune diseases have in common is the body’s own defense mechanism -- its immune system -- which starts to attack the body’s own tissues, beginning with an inflammatory phase, which, if left unchecked, can lead to the overt destruction of joints and other tissues, leaving them mere scarred remnants of their previous forms, often without function. Awareness of autoimmune diseases is critically important because there are disease-modifying agents available today that can alter the course of the maladies and provide the patient with enhanced quality of life to levels that could never have been possible before these agents were discovered.

Two main groups of autoimmune diseases affect the musculoskeletal system. The “seropositive” type, where the test for Rheumatoid Arthritis is positive, and the “seronegative” types, commonly called seronegative spondyloarthropathies. In simple terms, this means that the blood test for Rheumatoid Arthritis is negative, and the areas involved include the spine and the joints. There are some tests, such as the HLA-B27, which, although not diagnostic, show this to be present in a much higher percentage of patients with Ankylosing Spondylitis than in the normal population.

Many well-known diseases, such as the skin disease Psoriasis, have recently been appreciated as being autoimmune. It has been known for many years, however, that patients with Psoriasis can develop joint involvement, often characterized by stiffness and ankylosis, that is, fibrous or bony fusion. Other diseases, such as Inflammatory Bowel Disease, are also associated with arthritis, as are diseases such as Systemic Lupus Erythematosus (Lupus), Sjogren’s disease, Scleroderma, and Reiter’s Disease.

The cause of many of these disorders turns out to be a genetic predisposition, plus other environmental factors. Reiter’s Disease, for example is also called ‘Reactive Arthritis’ and has been shown to be associated with a chronic infection by an organism called Chlamydia. In common with many of these maladies, chronic infections start the immune system along the path toward the production of antibodies, and the genetic predisposition allows these antibodies to attack the patient’s own tissues. Very few other forms of autoimmune arthritis have had the initiating agent determined, but the chances are that at some point in the future, these agents will be discovered.

Once the inflammatory process has started, there are several ways of dealing with it. The typical “non-steroidal anti-inflammatory” agents, of which aspirin was the first, have been used extensively, as have steroid anti-inflammatory agents such as prednisone. Anti-metabolic agents, such as methotrexate are also used, especially in Rheumatoid Arthritis. The new, more specific agents, so called “anti-tumor necrosis factor alpha agents,” such as Enbrel, or Humira, are now being more widely used, and belong to the disease-modifying anti-rheumatic drugs (DMARDs). DMARDs can really enhance the quality of life of patients with these diseases. These agents are really antibodies themselves that target the antibodies produced by the patient, which are the ones causing tissue destruction. The problem of using one set of antibodies to tackle a different set is that, on occasion, the body’s own immune system starts to produce even newer antibodies against the treatment antibodies, and thus the treating agents are unfortunately rendered ineffective. To add even more confusion, there have been cases of patients being treated for Ankylosing Spondylitis with these agents who have developed Psoriasis as a side effect of the treatment.

The bottom line is that if a patient has any autoimmune disease, he or she more likely to get another, and the presence of vague, multi-organ system symptoms characterized by stiffness after periods of inactivity, along with a family history of any autoimmune disease, should immediately alert the physician to the possibility that the patient’s problem could easily be another variety of such a disease.