

Musculoskeletal Complications of SLE and Its Therapy

Corticosteroids, either taken alone or in combination with cytotoxic agents, are used to control certain manifestations of lupus (e.g., major organ involvement, myositis, severe blood abnormalities). Such therapy, when required in high and sustained doses, can sometimes result in bone damage and muscle weakness. However, such complications are seldom due to the effects of the medications alone, but are often due to a combination of factors. For example, lupus patients may be more susceptible to infections, including joint infections, because of the use of corticosteroids and immunosuppressive medications.

People with SLE who have been taking steroids for prolonged periods of time can develop ischemic necrosis of bone (also called aseptic necrosis or avascular necrosis). This condition is caused by altered blood flow to a portion of bone which results in the death of that area of bone. As the body repairs this area of dead bone, a weakening of the bone occurs and a portion of the bone surface may collapse. The hips, shoulders and knees are the areas that are most commonly affected. The initial symptom of ischemic necrosis is pain when the joints are being moved or bearing weight. As the condition progresses, pain is also felt when the person is at rest, especially at night time. Decreased range of motion in the joint may eventually follow. There is currently no medical treatment for this condition, but needle decompression of the bone surgically appears to retard the process. In some people with lupus, total joint replacement becomes necessary to solve the problem.

Prolonged treatment with corticosteroids may also put a patient at a higher risk for development of osteoporosis. Osteoporosis, a condition in which bone mass is decreased, means that the individual is at higher risk of bone fracture and compression of vertebrae in the spine. Osteoporosis is a common problem, especially for elderly and physically inactive individuals, whether or not they have lupus or have taken steroids. Women are at a much higher risk of developing osteoporosis than men because of their smaller bone mass. The use of calcium and Vitamin D, in addition to regular exercise, may help prevent osteoporosis.

A regular, well-designed exercise program is important to help prevent muscle weakness in people with lupus myositis.



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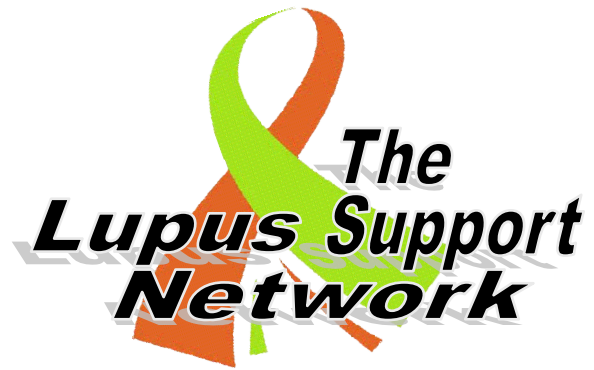
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Joint And Muscle Pain In Lupus



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Joint and muscle pains are very common symptoms of systemic lupus erythematosus (SLE). In fact, ninety percent of people with lupus will experience joint and/or muscle pain at some time during the course of their illness. The problems of patients with the joint and muscle inflammation of SLE are varied. Frequently, the aching pain in joints (arthralgia) and muscles (myalgia) may mimic a viral or flu-like illness. Others may have the characteristic symptoms of arthritis, that is, joints that are not only painful but also swollen, warm and tender. Still others with intense muscle inflammation (myositis) may have progressive weakness and loss of strength in addition to muscle pain.

Joint and/or muscle pain can occur at any time during the course of SLE, or may even precede the other symptoms of the disease by months or years. However, it must be emphasized that although muscle and joint pains are common symptoms of lupus, SLE is an infrequent cause of these symptoms. For example, joint pain is more commonly caused by osteoarthritis or rheumatoid arthritis than by SLE. Therefore, a diagnosis of SLE must be based on a thorough physical examination, a detailed medical history and the results of specialized laboratory tests in addition to symptoms of muscle and joint pain.

Lupus Arthritis

The joint pain of lupus arthritis often comes and goes. Individual attacks may last several days or weeks and then subside, only to recur at a later date. The joints farthest from the trunk of the body (i.e., fingers, wrists, elbows, knees, ankles) are most frequently involved, usually several at a time. Stiffness and pain in the morning, which improves as the day goes on, is characteristic of lupus arthritis. Later in the day, as the individual becomes more tired, the aches may return. Another characteristic of lupus arthritis is that the pain is usually symmetrical, which means that it affects similar joints on both sides of the body. Therefore, a single, chronically painful and swollen joint, even in a person who has been diagnosed with lupus, is most likely due to some other cause. Backaches or neck pains are not caused by lupus arthritis since the spine is not involved in lupus.

Unlike osteoarthritis, lupus arthritis does not usually cause deformities or destruction of the joints. This lack of damage to the joints is observed both clinically and by x-ray, even after months of joint symptoms.

Diagnosis. The pattern of joint pain and the setting in which it occurs are the best clues in determining if the pain is caused by SLE or not. X-rays of the painful joints are usually normal in people with lupus arthritis. An examination of the synovial fluid within a swollen joint may be performed to determine if there is a low grade inflammatory reaction. However, these studies are used to rule out other possible causes for the joint pain, and not to establish a diagnosis of SLE. In fact, when arthritis is the only symptom of lupus, diagnosis can be very difficult, if not impossible. In these cases, careful observation and re-evaluation by a physician as other symptoms of SLE evolve is essential in making a diagnosis of lupus.

Laboratory tests such as the anti-nuclear antibody (ANA) test and the test for rheumatoid factor can sometimes be helpful. At least 67 percent of persons with rheumatoid arthritis will have an antibody (rheumatoid factor) in their blood. At least 95 percent of persons with SLE will have various forms of another antibody (anti-nuclear antibody) in their blood. However, it must be emphasized that neither of these antibodies is specific for rheumatoid arthritis or SLE. Each occurs in about 25 percent of patients with either disease, and in a large number of other conditions.

Treatment. One of the most common misconceptions about arthritis is that there is no satisfactory treatment currently available. On the contrary, proper and early treatment for most forms of arthritis does exist, and can significantly retard joint damage and lessen the pain of arthritis.

Lupus arthritis is usually treated with non-steroidal, anti-inflammatory medications (e.g., aspirin, ibuprofen, naproxen). These medications are effective in the majority of cases and are usually well tolerated. However, when this line of therapy is not effective, antimalarial drugs such as hydroxychloroquine (Plaquenil) may be added. Corticosteroids (Prednisone) are used rarely and only when the joints remain swollen and painful despite other treatment. Cytotoxic medications should not be used to treat only lupus arthritis. It is also important that a person learn joint protection procedures to be able to rest his or her joints during flares of lupus arthritis.

Lupus Myositis

Unlike the joints, the muscles can be seriously damaged by SLE. This damage may result in muscle weakness and loss of strength unless early, appropriate treatment is given.

Inflamed muscles may not only be painful, but may also be tender to the touch. Muscle weakness is the most common symptom of lupus myositis.

Characteristically, the muscles of the trunk of the body are affected (i.e., neck, pelvic girdle and thighs, shoulder girdle and upper arms). Pain in the small muscles of the hand or weakness of the grip are not symptoms of SLE myositis. However, nerves as well as muscle fibers can be caught up in the inflammatory process and, occasionally, weakness of the wrists and hands or the ankles and feet may occur as a result of nerve damage.

Diagnosis. The diagnosis of SLE myositis is relatively straightforward. There are chemical enzymes (e.g., CPK, SGOT, SGPT, aldolase) which are normally concentrated within muscle fibers and which escape into the blood circulation when muscle fibers are being damaged by inflammation. Thus, tests for these chemicals in the blood are abnormal in SLE myositis. These tests can also be used to determine the severity of muscle involvement: more severe myositis results in a higher level of these enzymes in the blood. Such tests are therefore useful in the diagnosis of SLE myositis, and in following the course of the disease and its response to therapy.

Just as the electrocardiogram (EKG) reflects damage to heart muscle, the electromyogram (EMG) can be used to determine the character of muscle damage in lupus myositis. When inflammation is present, the EMG shows a characteristic pattern of electrical response. A microscopic examination of a sample of muscle tissue (a biopsy) may also be taken from a painful muscle to confirm the presence of inflammation and to help identify the severity of the inflammation.

Treatment. Corticosteroids (Prednisone) are necessarily prescribed for the treatment of SLE myositis. High doses (50 mg. per day or more of Prednisone or equivalent) are initially given for prompt suppression and control of the inflammation. The steroid dose is gradually reduced as the inflammation subsides, as determined by the patient's symptoms and enzyme levels in the blood. The vast majority of people with lupus respond promptly and well to corticosteroids. It is seldom necessary to augment treatment with cytotoxic or immunosuppressive medications.

Once the acute, inflammatory phase is past, a well directed exercise program should be started to help the patient regain normal muscle strength and function.