Rheumatoid Arthritis

Save to myBoK

by Sue Prophet, RRA, CCS

Rheumatoid arthritis is an autoimmune disease that causes chronic inflammation of the joints, the tissue around the joints, and other organs in the body. An autoimmune disease is one in which the body tissues are mistakenly attacked by the body's own immune system. Patients have antibodies in their blood which target their own body tissues. Because it can affect multiple other organs of the body, rheumatoid arthritis is referred to as a systemic illness and is sometimes called rheumatoid disease. While rheumatoid arthritis is a chronic illness (meaning it can last for years) patients may experience long periods without symptoms. There is significant variability in symptoms from person to person. Although the course of the disease is unpredictable, the vast majority of rheumatoid arthritis patients will experience significant symptoms of the disease that alters their lifestyles. It is associated with a 50 percent increase in the risk of premature death, a percentage similar to that for patients with three-vessel coronary artery disease or stage IV Hodgkin's disease. The median life expectancy for individuals with rheumatoid arthritis is reduced by 10 years for women and by four years for men. There is also a significant impact on quality of life and productivity. One-third of patients stop working within five years of diagnosis and one-half stop working within 10 years of diagnosis.

Although rheumatoid arthritis can develop at any age, the disease usually begins in the young to middle adult years. There is a higher incidence among women than men. In the US, approximately 1 percent of the population (2.5 million people) has rheumatoid arthritis.

Causes

The cause of rheumatoid arthritis is unknown. It is suspected that certain infections or environmental factors might trigger the immune system to attack the body's own tissues, resulting in inflammation in various organs. It is also strongly believed that the tendency to develop the disease may be genetically inherited. The gene that influences the likelihood of developing rheumatoid arthritis is one of the genes that controls the function of the immune system. Not everyone who inherits this gene will develop the disease. More than one gene appears to be involved in determining whether a person develops rheumatoid arthritis and, if so, how severe the disease will become. Some scientists believe that a variety of hormonal factors may be involved in the development of rheumatoid arthritis. These hormones -- or possibly deficiencies or changes in certain hormones -- may promote the development of rheumatoid arthritis in a genetically susceptible person who has been exposed to a triggering agent from the environment. While all the answers regarding the cause of this disease are unknown, it is apparent that it develops as a result of an interaction of many factors.

Symptoms

In rheumatoid arthritis, multiple joints are usually inflamed in a symmetrical pattern (both sides of the body are affected). The proximal interphalangeal joints, metacarpophalangeal joints, and wrists are frequently involved. Other joints that may be affected by rheumatoid arthritis include the elbows, shoulders, neck, jaw, hips, knees, ankles, and feet. Other than the neck, the spine is usually not directly affected by rheumatoid arthritis.

When body tissues are inflamed, the disease is active. When tissue inflammation subsides, the disease is inactive (also known as remission). Remission can occur spontaneously or with treatment, and can last weeks, months, or years. During remission, symptoms of the disease disappear, and patients generally feel well. When the disease becomes active again, symptoms return. The return of disease activity and symptoms is called a "flare." About one in 10 people with rheumatoid arthritis have a single episode of joint inflammation and a spontaneous long-lasting remission.

When the disease is active, symptoms can include fatigue, lack of appetite, weight loss, low-grade fever, muscle and joint aches, and stiffness. Muscle and joint stiffness are most notable in the morning and after long periods of inactivity. During

flares, joints become red, swollen, painful, and tender. In rheumatoid arthritis, the immune system attacks the patient's own cells inside the joint capsule. White blood cells travel to the synovium and cause a reaction. This reaction causes inflammation (synovitis), which results in the warmth, redness, swelling, and pain that are typical symptoms of rheumatoid arthritis. During the inflammation process, the cells of the synovium grow and divide abnormally, thickening the normally thin synovium and resulting in a joint that is swollen and puffy to the touch. Excessive synovial fluid is produced.

Chronic inflammation can cause damage to body tissues, cartilage, and bone. This leads to a loss of cartilage and erosion and weakness of the bones and the muscles, resulting in joint deformity and destruction. Rheumatoid tissues are very fragile, making the bone more prone to fracture and the muscles and tendons more prone to tear. Because rheumatoid arthritis is an erosive and destructive disease, tissue deficiencies of the bone and rotator cuff are more likely to occur than in degenerative joint disease. Damage to bones begins during the first year or two that a person has the disease.

People with active joint inflammation of rheumatoid arthritis often feel sick or systemically ill. They may lose their appetite, lose weight, run a fever, hurt all over, and have little energy. Since rheumatoid arthritis is a systemic disease, inflammation can affect other organs and areas of the body. Inflammation of the glands of the eyes and mouth can cause dryness of these areas (called sicca) and may be a sign of Sjögren's syndrome. Rheumatoid inflammation of the lung lining (pleuritis) may cause chest pain with deep breathing and coughing. Inflammation around the heart (pericarditis) may cause chest pain, which changes when lying down or leaning forward. The disease can reduce the number of red and white blood cells. Decreased white cells can increase the risk of infection. Firm lumps under the skin (rheumatoid nodules) can occur around the elbows and fingers where there is frequent pressure. Even though these nodules usually do not cause symptoms, they can occasionally become infected. A rare, potentially serious complication, usually with long-standing rheumatoid disease, is blood vessel inflammation (vasculitis). Vasculitis can impair blood supply to tissues and lead to tissue death. This is most often initially visible as tiny black areas around the nailbeds or as leg ulcers.

Rheumatoid arthritis is associated with a number of significant comorbidities, especially hypertension and cardiovascular disease, infections, and pulmonary disease.

Diagnosis

Rheumatoid arthritis can be difficult to diagnose in its early stages for several reasons. First, there is no single test for the disease. Second, symptoms differ from person to person and can be more severe in some patients. Also, symptoms may be similar to those of other types of arthritis and joint conditions. The full range of symptoms develops over time, and only a few symptoms may be present in the early stages.

A blood antibody called the "rheumatoid factor" can be found in 80 percent of patients with rheumatoid arthritis. The antinuclear antibody (ANA) is also often positive in patients with the disease. The erythrocyte sedimentation rate and C-reactive protein are usually elevated during disease flares. Hypergammaglobulinemia may be present during active rheumatoid arthritis. However, rheumatoid arthritis is primarily diagnosed clinically, as the rheumatoid factor, ANA, and sedimentation rate can also be abnormal in other systemic autoimmune diseases. Individuals with certain chronic infections, such as tuberculosis, also have the rheumatoid factor in their blood, which may suggest that an infection plays a role in the development of rheumatoid arthritis.

X-rays of the joints can show bony erosions that are typical of rheumatoid arthritis. The x-rays are also helpful in monitoring the progression of disease and joint damage over time. Bone scans can show inflamed joints.

Joint fluid analysis, obtained through arthrocentesis, can help exclude other causes of arthritis, such as infection and gout. In rheumatoid arthritis, the white blood cells of the immune system move from the bloodstream into the joint tissues. These white blood cells can be found in the fluid that may increase in the joints. The white cells in the joint tissue and fluid produce many substances, including antibodies, that lead to joint damage and a general feeling of malaise.

One important way to distinguish rheumatoid arthritis from other forms of arthritis is by the pattern of joints that are involved. The symmetrical pattern of joint involvement found in rheumatoid arthritis is not typical of other types of arthritis. Rheumatoid arthritis affects the wrist and many of the hand joints but usually not the joints closest to the fingernails (except for the thumbs), whereas osteoarthritis involves the knuckles closest to the fingernails more often than other areas of the hand. It is possible for

someone to have both rheumatoid arthritis and osteoarthritis. The presence of rheumatoid nodules (lumps of tissue that form under the skin, often over bony areas) is a clinical indication of rheumatoid arthritis.

The American College of Rheumatology has developed the following classification criteria to assist in the diagnosis of rheumatoid arthritis. At least four of these criteria are needed in order to establish this diagnosis. However, it is important to note that the presence of criteria is not conclusive evidence for a diagnosis of rheumatoid arthritis, nor is the absence of criteria conclusive evidence that the patient does not have this diagnosis. These general criteria include:

- morning stiffness or inactivity in and around joints for at least one hour before maximal improvement
- soft tissue swelling or fluid (not bony overgrowth alone) of three or more joint areas (consisting of the right or left proximal interphalangeal, metacarpophalangeal, wrist, elbow, knee, ankle, or metatarsophalangeal joints)
- swelling of at least one proximal interphalangeal, metacarpophalangeal, or wrist joint
- symmetric arthritis -- simultaneous bilateral involvement of same joint areas as in second criteria above (absolute symmetry of proximal interphalangeal, metacarpophalangeal, or metatarsophalangeal joints is not necessary)
- rheumatoid nodules
- presence of abnormal amounts of serum rheumatoid factor
- characteristic radiographic erosions and/or unequivocal bony decalcification in, or adjacent to, hand and/or wrist joints

Treatment

Since there is no known cure for rheumatoid arthritis -- or means of preventing it-optimal management of the disease requires early diagnosis and timely introduction of agents that reduce the probability of irreversible joint damage. Treatment is aimed at reducing joint inflammation and pain, maximizing joint function, and preventing joint destruction and deformity. Treatment involves a combination of medications, rest, joint strengthening exercises, joint protection, and patient education. Treatment is customized according to factors such as disease activity, types of joints involved, general health, age, and patient occupation. Complete remission of rheumatoid arthritis is very rare.

There are two classes of medications used in treating rheumatoid arthritis: first-line drugs and slow-acting (second-line) drugs. The first-line drugs are used to reduce pain and inflammation. The slow-acting drugs promote disease remission and prevent progressive joint destruction. The degree of destructiveness of rheumatoid arthritis varies from patient to patient. Patients with less destructive forms of the disease can be successfully managed with rest and anti-inflammatory agents only. Patients with more aggressive rheumatoid arthritis require second-line drugs in addition to anti-inflammatory agents.

First-line drugs include nonsteroidal anti-inflammatory drugs, such as acetylsalicylate, naproxen, ibuprofen, and etodolac. The most common side effects of nonsteroidal anti-inflammatory drugs are stomach upset, abdominal pain, ulcers, and gastrointestinal bleeding. Additional medications, such as antacids, sucralfate, and misoprostol, are often prescribed to protect the stomach from the ulcer effects of nonsteroidal anti-inflammatory drugs.

Corticosteroids are another type of first-line drug. They can be administered orally or injected directly into tissues and joints. They are more potent than nonsteroidal anti-inflammatory drugs in reducing inflammation and in restoring joint mobility and function. However, corticosteroids can have serious side effects, especially when given in high doses for long periods of time. These side effects include weight gain, facial puffiness, thinning of the skin and bone, easy bruising, cataracts, risk of infection, muscle wasting, osteoporosis, and destruction of large joints, such as the hips. Corticosteroids are particularly useful for short periods during severe flares of rheumatoid arthritis or when the disease is not responding to nonsteroidal anti-inflammatory drugs. The risk of developing the side effects of corticosteroids can be reduced by gradually tapering the doses of corticosteroids after the patient has achieved a disease remission. Abruptly discontinuing corticosteroids can lead to flares of the disease or other symptoms of corticosteroid withdrawal. Thinning of the bones due to osteoporosis may be prevented by calcium and vitamin D supplements.

While first-line medications can relieve joint inflammation and pain, they do not prevent joint destruction or deformity. For patients with an aggressively destructive form of rheumatoid arthritis, second-line drugs are needed. These slow-acting medications, which may take weeks or months to become effective, are used for long periods of time -- even years -- at varying doses. If effective, they can promote remission, thereby retarding the progression of joint destruction and deformity.

Second-line drugs include hydroxychloroquine, sulfasalazine, gold salts, D-penicillamine, and immunosuppressive medications. Hydroxychloroquine is related to quinine and is also used in the treatment of malaria. Side effects include upset stomach, skin rashes, muscle weakness, and vision changes. Sulfasalazine, traditionally used to treat mild to moderately severe inflammatory bowel diseases, such as ulcerative colitis and Crohn's colitis, may cause rash and upset stomach. Gold salts include gold thioglucose and gold thiomalate, both of which are given by injection, and auranofin, which is given orally. Gold injections are given weekly for six months or longer. In patients who respond well to treatment, the medication can usually be tapered to once every three to four weeks. Side effects of both oral and injectable gold include skin rash, mouth sores, kidney damage with leakage of protein in the urine, bone marrow damage with anemia, and low white blood cell count. Oral gold can cause diarrhea. Side effects of this medication include fever, chills, mouth sores, metallic taste in the mouth, skin rash, kidney and bone marrow damage, upset stomach, and easy bruising.

Immunosuppressive medications include methotrexate, azathioprine, cyclophosphamide, chlorambucil, and cyclosporin. Because of potentially serious side effects, immunosuppressive medications are generally reserved for patients with very aggressive disease or with serious complications of rheumatoid inflammation, such as vasculitis. Methotrexate has become popular as an initial second-line drug because of its effectiveness and relatively infrequent side effects. It works more quickly than gold and maintains control of the disease in a larger proportion of people over periods of five years or longer. Methotrexate works by inhibiting the production of the enzyme dihydrofolate reductase, which is necessary for the metabolism of actively dividing cells, such as those involved in inflammation and the immune response. The exact mechanism of methotrexate in rheumatoid arthritis is not clear. Methotrexate is given once a week via pills or injection. Unlike gold, it cannot be taken less frequently after the first six to 12 months, but must be continued every week.

Immunosuppressive medications can depress bone marrow function and cause anemia, low white blood cell count, and low platelet count. A low white count can increase the risk of infections and a low platelet count can increase the risk of bleeding. In addition to anemia and low platelet and white blood cell counts, the most common side effects of methotrexate include loss of appetite, nausea, diarrhea, sores, or ulcers in the mouth. Methotrexate can also lead to liver cirrhosis and allergic reactions in the lungs.

Cyclophosphamide has frequent and sometimes life-threatening side effects, so it is only given to individuals with very severe arthritis who are unresponsive to other treatments or have serious complications outside the joint, such as vasculitis. Cyclosporin can cause kidney damage and high blood pressure. Because of the potentially serious side effects, immunosuppressive medications are used in low doses, usually in combination with anti-inflammatory agents.

Combination therapy (more than one drug) has become important in the treatment of rheumatoid arthritis because certain components of the immune system appear to exert deleterious effects at different points in the disease process, which creates multiple therapeutic targets. Early in the disease process, T-cells and macrophages appear to be involved and later on there is involvement of macrophages and fibroblasts.

Patients on medications that can cause serious side effects are closely monitored for the potential development of these effects. The incidence, severity, and unfavorable outcomes of drug toxicities can be reduced by performing assessments to identify patients with risk factors for toxicity, educating patients and physicians about safe dosages (including the signs and symptoms of toxicity), and appropriately monitoring physician follow-up and periodic laboratory tests.

Rheumatoid arthritis patients also need a balance between rest and exercise. More rest is needed when the disease is active, and more exercise is needed when it is not. Rest helps reduce active joint inflammation and pain and fight fatigue. Exercise is important for maintaining healthy and strong muscles, preserving joint mobility, and maintaining flexibility. Exercise also can help patients sleep well, reduce pain, maintain a positive attitude, and lose weight. Swimming is helpful for patients with rheumatoid arthritis because it allows exercise with minimal stress on the joints. Wrist and finger splints can be helpful in reducing inflammation and maintaining joint alignment. Devices such as canes, toilet seat raisers, and jar grippers can assist activities of daily living. Heat and cold applications can ease symptoms before and after exercise. Surgery, including joint replacements, may be recommended to restore joint mobility or repair damaged joints.

Areas of the body (other than the joints) that are affected by rheumatoid inflammation are treated according to the specific condition that has developed. For example, symptoms of Sjögren's syndrome can be alleviated by artificial tears and humidifying rooms of the home or office. Tendinitis, bursitis, and rheumatoid nodules can be injected with cortisone. Inflammation of the lining of the heart and/or lungs may require high doses of oral cortisone.

Juvenile Rheumatoid Arthritis

Juvenile rheumatoid arthritis is the most prevalent form of arthritis in children. It has been arbitrarily defined as beginning before the age of 16. Approximately 20 percent of children with juvenile rheumatoid arthritis have acute systemic juvenile rheumatoid arthritis. The other patients with juvenile rheumatoid arthritis primarily have arthritis that is present at the onset of illness. In 50 percent of patients, multiple joints are involved. In 30 percent of patients, only a single joint (usually the knee) is involved.

Common features of juvenile rheumatoid arthritis include:

- joint inflammation that causes, heat, pain, swelling and stiffness in the synovium of the joint's lining. This, in turn, can cause limitation of the range of motion, joint tenderness on palpation, pain on joint movement, or increased heat over the affected joint
- joint contracture resulting from holding a painful joint in a flexed position for a long time. This causes tendons to tighten and shorten
- joint damage caused by long-lasting inflammation that erodes joint surfaces
- altered growth may result from joint inflammation that either speeds up or slows down the growth centers in bones. The altered growth can cause affected bones to become longer, shorter, or bigger than usual

There is no single test available to diagnose juvenile rheumatoid arthritis. Rheumatoid factor is rarely positive in juvenile rheumatoid arthritis patients, except in the pauciarticular form of the disease, where it may be positive in up to 15 percent of patients. Antinuclear antibody (ANA) may be positive. A positive ANA is found in young females with pauciarticular juvenile arthritis who are at risk for developing iridocyclitis. The diagnosis may take an extended period of time to confirm because arthritis must be present consistently for six or more consecutive weeks. The diagnosis is determined by the presence of active arthritis in two or more joints for at least six weeks after the exclusion of other forms of arthritis.

Three Main Types of Juvenile Rheumatoid Arthritis

Polyarticular Juvenile Rheumatoid Arthritis

Polyarticular juvenile rheumatoid arthritis affects five or more joints. This type affects girls more frequently than boys. Onset of polyarticular juvenile rheumatoid arthritis in teenage girls often resembles adult rheumatoid arthritis.

Polyarticular juvenile rheumatoid arthritis usually affects the small joints of the fingers and hands. It can also affect weight-bearing and other joints, especially the knees, hips, ankles, feet, neck, and jaw. Often, the same joint on both sides of the body is affected. Other possible features include a low-grade fever and the presence of rheumatoid nodules. The rheumatoid factor may be positive.

Pauciarticular Juvenile Rheumatoid Arthritis

Pauciarticular juvenile rheumatoid arthritis affects four or fewer joints. Pauciarticular juvenile arthritis often affects a particular joint on only one side of the body. This type of juvenile rheumatoid arthritis falls into two distinct categories. In one group, consisting of girls between the ages of one and four, onset of the joint involvement occurs in the knees, ankles, or elbows, sparing the small joints of the hands. Painless swelling of the affected joint is common, and the ANA is frequently positive. Although fatigue and low-grade fevers may occasionally occur, the only significant systemic manifestation is iridocyclitis, which may occur in 25 percent of patients. Eye disease can be present without eye pain, redness, or other clinical signs. A chronic, non-granulomatous inflammation of the uveal tract involves predominantly the anterior segments of the eye, iris, and ciliary

body. The earliest signs of uveitis are those of cellular exudate and an increased number of inflammatory cells in the anterior chamber of the eye. Inadequately controlled inflammation will lead to progressive damage, with the development of posterior synechiae that arise from adherence of the iris to the anterior surface of the lens and result in an irregular or poorly reactive pupil.

The second form of pauciarticular juvenile arthritis occurs predominantly in boys 8 years or older. Family histories are often positive for Reiter reactive arthritis or ankylosing spondylitis. Large joints, particularly those of the lower extremity, are involved. Pelvic girdle involvement often occurs at the onset of the disease and with time, sacroiliitis may develop. Tests for rheumatoid factor and ANA are negative.

Systemic Onset Juvenile Rheumatoid Arthritis

Systemic onset juvenile rheumatoid arthritis is characterized by febrile onset, variable joint manifestations, rash, generalized lymphadenopathy, splenomegaly, liver, and rarely, gastrointestinal disease. It is the least common form of juvenile rheumatoid arthritis. The systemic symptoms of juvenile rheumatoid arthritis may precede the onset of overt arthritis for a variable period of time, ranging from months to years. The most characteristic features of systemic juvenile rheumatoid arthritis are a high spiking fever and a rheumatoid rash. The temperature peaks once or twice daily, often in the late afternoon or evening, to a level of 39 degrees Celsius or higher, with a rapid return to baseline, which might be a subnormal temperature. Patients often appear quite ill while febrile, but surprisingly well during the rest of the day. These fevers may respond poorly to anti-pyretics, including aspirin. Classic rheumatoid rash generally accompanies the fever. This rash consists of 2-5 mm pale red spots most commonly seen on the trunk and proximal extremities, though it may occur on the face, palms of the hands, or soles of the feet. The rash is non-pruritic in nature. The most characteristic feature of this rash is its transient and migratory nature. A single lesion rarely persists for more than an hour. The rash can be elicited by rubbing or scratching the skin, or it may be elicited during a hot bath or by psychological stress. Joint inflammation may accompany the fever or may not start for weeks or months later. For some patients with this type of juvenile rheumatoid arthritis, the systemic symptoms of the disease may disappear, although the joint-related symptoms may remain.

As in adult rheumatoid arthritis, the etiology of juvenile rheumatoid arthritis remains unclear. Much evidence points to a major role for immunologic reactivity in perpetuating rheumatoid inflammation.

Treatment for Juvenile Rheumatoid Arthritis

There is no cure for juvenile rheumatoid arthritis. The treatment plan generally includes a combination of medications, exercise, eye care, and good nutrition. The immediate goal of drug therapy is to reduce inflammation, relieve pain and swelling, and maximize functional abilities. Long-range goals are to alter the progress of the disease and the destruction of bone, cartilage, and soft tissues, such as muscles, tendons, and joint capsules. Many of the same medications that are used to treat adult rheumatoid arthritis are also used to treat juvenile rheumatoid arthritis. Patients receiving these medications must be monitored for the same side effects discussed above for adult rheumatoid arthritis.

Physical therapy helps prevent long-term disability. While medications reduce pain and inflammation, only therapeutic exercise can restore lost motion in a joint. In addition to restoring lost motion in a joint, a good exercise program can help keep joints mobile, maintain or regain muscle strength, make everyday activities easier, and improve general fitness and endurance. Range-of-motion exercises keep joints flexible and will be important for children who have lost motion in a joint or whose joints have become fixed in a bent position.

Rheumatoid Arthritis Research and Implications for New Treatments

A great deal of research is being done to develop new treatments for rheumatoid arthritis. Scientists are making progress in understanding how white blood cells move from the bloodstream into the joint tissues. This process involves cells sticking to the inside of the blood vessel walls and then moving through the walls of blood vessels and out into the tissues. One promising new area of treatment is monoclonal antibody therapy that is directed against a special inflammation factor called the tumor necrosis factor and against certain critical white blood cells involved in rheumatoid inflammation. Immunotoxins and interleukin inhibitors are also being tested as new treatments. Antigen-specific immunotherapy treats the disease by administering an antigen, which becomes the target of the autoimmune disease. Inhibition of certain proteases is also an area under investigation. The proteases, especially the metalloproteases, are most responsible for tissue injury, but metalloprotease

inhibitors have so far been ineffective as treatment for rheumatoid arthritis because the molecules are too large to penetrate into the joint space. And new nonsteroidal anti-inflammatory drugs, which have different mechanisms of action than current drugs, are being developed. Hope for a cure for rheumatoid arthritis rests on a better understanding of genetic susceptibility, the immune system, and mechanisms of inflammation.

Code Assignments

Adult rheumatoid arthritis, excluding the spine and without involvement of other organs, is assigned code 714.0. Additional codes should be assigned to identify any manifestations, such as myopathy (359.6) or polyneuropathy (357.1). Juvenile rheumatoid arthritis is classified to subcategory 714.3, with a further breakdown according to the number of joints involved and whether it is a acute or chronic. Chronic or unspecified polyarticular juvenile rheumatoid arthritis is assigned code 714.30. Acute polyarticular juvenile rheumatoid arthritis is assigned code 714.31. Pauciarticular juvenile rheumatoid arthritis is assigned code 714.32. Monoarticular juvenile rheumatoid arthritis is assigned code 714.33.

Rheumatoid arthritis with splenoadenomegaly and leukopenia (also known as Felty's syndrome) is assigned code 714.1.

Rheumatoid arthritis with visceral or systemic involvement, including rheumatoid carditis, is assigned code 714.2.

Pulmonary disorders associated with rheumatoid arthritis is assigned code 714.81, Rheumatoid lung.

When the rheumatoid inflammatory process involves other organs than the ones included in codes 714.1, 714.2, and 714.81 (such as blood vessels or glands of the eye), assign code 714.89, Other specified inflammatory polyarthropathies.

Rheumatoid arthritis of the spine is assigned code 720.0.

Any comorbidities the patient has in conjunction with rheumatoid arthritis, such as hypertension or an infection, should be assigned additional codes.

For adverse effects of rheumatoid arthritis drugs, assign code(s) for the nature of the adverse effect(s), followed by an E code for the responsible drug from the "Therapeutic Use" column of the Table of Drugs and Chemicals.

When the purpose of a healthcare encounter is to monitor patients on high-risk rheumatoid arthritis medications for the possible development of a known side effect, and the patient does not actually have this side effect, assign code V58.69, Long-term (current) use of other medications, followed by the appropriate code for rheumatoid arthritis. For example, liver function tests may be performed on a regular basis when the patient is receiving methotrexate because liver disease is a known side effect of this drug.

Note: This article is intended to provide clinical information to help coding professionals understand the disease process of rheumatoid arthritis. Proper code assignment always depends on physician documentation in the medical record. If the medical record documentation is unclear, the physician should be queried.

References

Arthritis Foundation. Available online at http://www.arthritis.org.

"Early, Aggressive Therapy for Rheumatoid Arthritis?" *Drugs & Therapy Perspectives* 11, no. 1 (1998): 5-8.

Fox, David. "Rheumatoid Arthritis." Available online at http://www.medscape.com.

National Institutes of Health. Handout on Health: Rheumatoid Arthritis. Bethesda, MD: National Institute of Arthritis and Musculoskeletal and Skin Disorders. Available online at http://www.mc.vanderbilt.edu/peds/pidl/rheum/jra.htm.

Pagano, Michael P. "Rheumatoid Arthritis: An Update." *Clinician Reviews* 6, no. 8 (1996): 65-78.

Sue Prophet *is AHIMA's director of Classification and Coding.*

Article citation:
Prophet, Sue. "Rheumatoid Arthritis." *Journal of AHIMA* 69, no.10 (1998): 79-86.