RHEUMATOID ARTHRITIS

Patient Information Fact Sheet

What is rheumatoid arthritis?

Rheumatoid arthritis is a chronic (long-term) inflammatory disease affecting the joints. It differs from osteoarthritis in which the joints are damaged without an inflammatory process (eg, by aging, being overweight or previous injury).

Rheumatoid arthritis is thought to affect 0.6% or 1.3 million people in the U.S. with two to three times as many women affected as men. It varies greatly in its form and severity from person to person. The most common age for the disease to start is between 40 and 50 years, but it can develop at any age.

What are the symptoms of rheumatoid arthritis?

In some people the symptoms start quite slowly, but in a few people the disease develops rapidly. It is important that rheumatoid arthritis is recognized early so that treatment can be started as soon as possible.

Initially, there is pain and swelling in a few joints, usually in the feet and hands. The affected joints will feel stiff on waking and may feel warm to the touch.

In mild or early forms of the disease, the symptoms may not be severe enough for the sufferer to seek medical help. If the disease develops rapidly, there may be pain and swelling in many joints and severe morning stiffness, which will cause problems in everyday movements and can have a significant negative impact on the sufferer's quality of life.

Rheumatoid arthritis causes inflammation in which the tissues of the joints, including cartilage, and bone are affected. This inflammation causes progressive damage to the joints. Once damaged, the joints are unable to heal properly. Occasionally, other parts of the body may be affected by rheumatoid arthritis, including the eyes, heart, lungs, skin, blood vessels and blood cells.

General symptoms of inflammation, such as fever, sweats, weight loss and fatigue may also be present, even in people with mild forms of the disease.

In most people, rheumatoid arthritis follows a relapsing-remitting course, which means that there are periods where symptoms are worsened (usually referred to as a relapse or flare-up) interspersed with periods of little inflammation. The period of time between flare-ups varies from person to person and can range from months to years.

About a third of people with rheumatoid arthritis will also develop rheumatoid nodules—hard lumps just under the skin. These usually occur on the arms just below the elbows but may also occur on the hands and feet.

What causes rheumatoid arthritis?

Rheumatoid arthritis is a type of disease known as an autoimmune disease where the body's immune system attacks part of the body, in this case the joints.

It is not known what causes rheumatoid arthritis but it is thought that some people may have one or more genes that make them more susceptible to the disease. It is thought that in these people the disease may be triggered by environmental factors, such as infection or hormonal changes.

People with a family member affected by rheumatoid arthritis are more likely to be diagnosed with the disease than those without. Smokers are also more likely than non-smokers to develop rheumatoid arthritis.

What tests confirm a diagnosis of rheumatoid arthritis?

A number of blood tests may be used to help diagnose rheumatoid arthritis, although there is no single test that will give a definitive diagnosis. The inflammation associated with rheumatoid arthritis can cause changes in the blood. Tests for ESR (erythrocyte sedimentation rate) or CRP (C-reactive protein) may show higher levels when inflammation is present.

Around 80% of people with rheumatoid arthritis are anemic, a condition that can be detected with a simple blood test.

In addition, around 60% to 70% of people with rheumatoid arthritis will test positively for a protein called the "rheumatoid factor." However, some people who do not have the disease also test positively for this protein and some of those who do have the disease do not test positively initially. Therefore, although useful, this test does not confirm the presence or absence of the disease.

X-rays of the hands and feet may be helpful in diagnosing rheumatoid arthritis if these joints are affected. Techniques such as ultrasound scanning and magnetic resonance imaging (MRI) are also being evaluated to see if they can be useful in making an early diagnosis.

How is rheumatoid arthritis treated?

There is usually a team of specialists involved in the care of a person with rheumatoid arthritis, including a rheumatologist as well as physical or occupational therapist to keep the person active and ensure that the joints remain as mobile as possible.

The main treatment is drug therapy, which should be started as early as possible to avoid damage to joints. There are five main types of drugs used in the treatment of rheumatoid arthritis: **analgesics** (painkillers); **non-steroidal anti-inflammatory drugs** (NSAIDs); **corticosteroids** (steroids); **disease-modifying anti-rheumatic drugs** (DMARDs) and **biologics**.

Analgesics are usually given in conjunction with other medications to provide additional pain relief. Examples include acetaminophen or combination products such as acetaminophen and codeine or acetaminophen and hydrocodone.

NSAIDs reduce pain and swelling and may be given on a continual basis to treat the effects of the disease. NSAIDs and analgesics may cause gastric (stomach) side effects. There are also some medications available that contain both an NSAID and a medicine to protect the stomach (misoprostol [Cytotec]).

Corticosteroids suppress inflammation and can greatly help to reduce the effects of this disease. There may be side effects if they are given in high doses for a long period of time, therefore careful monitoring is required. Corticosteroids that may be prescribed include prednisone and prednisolone. Injectable corticosteroids (eg, **methylprednisolone** [Solu-Medrol] or **hydrocortisone**) may also be given if a severe inflammatory episode occurs. Inflammation in a joint can be relieved by an injection of corticosteroid directly into the joint involved (intra-articular injection).

DMARDs can improve the symptoms of rheumatoid arthritis. They are not painkillers but reduce the effect of the disease upon the joints, thereby slowing the damaging effect of the disease over time. They are usually only given under a rheumatologist's supervision. DMARDs need to be taken for 6 to 12 weeks before any effect is noticed and are usually taken on a long-term basis. There are a number of different types that may be prescribed, including **sulfasalazine** (Azulfidine-EN-tabs), **auranofin** (Ridaura), **leflunomide** (Arava), and **hydroxychloroquine** (Plaquenil). **Azathioprine** (Azasan, Imuran), **cyclosporine** (Neoral) and **methotrexate** (Rheumatrex) affect the immune system and may be used in severe rheumatoid arthritis. These drugs can have negative effects on the bone marrow, and regular blood tests are usually carried out during their use.

Tofacitinib (Xeljanz) represents a new class of drugs called Janus kinase inhibitors. It is used as monotherapy or in combination with methotrexate or other nonbiologic DMARDs for the treatment of rheumatoid arthritis.

The newest class of drugs for rheumatoid arthritis is a group known collectively as **biologics** (see below). These drugs work in a number of different ways but all target chemicals within the body that are involved in joint destruction. **Rituximab** (Rituxan) is type of drug known as a monoclonal antibody. It is given by IV infusion and may be used together with methotrexate when other drugs have been ineffective or if other drugs are not appropriate.

Adalimumab (Humira), **certolizumab pegol** (Cimzia), **etanercept** (Enbrel), **golimumab** (Simponi), and **infliximab** (Remicade) all belong to a group of drugs known as tumor necrosis factor (TNF) inhibitors. These may be used when other drugs have been ineffective or if other drugs are not appropriate. These drugs are given by injection under the skin or as an intravenous infusion. **Abatacept** (Orencia) is another drug given by IV infusion that may be used with methotrexate when other drugs, including methotrexate or a TNF inhibitor alone, have been ineffective.

Drugs known as interleukin receptor blockers such as **anakinra** (Kineret) and **tocilizumab** (Actemra) can also be used.

Your doctor will explain more about all of these drugs if needed.

In severe cases of rheumatoid arthritis, the joints may become so deformed and painful that surgery is necessary. This may be fairly minor surgery involving the release of a nerve or tendon, or major surgery such as a full joint replacement.

Self-help measures

- Try to keep your body weight at a healthy level to avoid putting additional stress on joints
- Try to exercise your joints and muscles as much as possible without doing harm. Joints need to be kept moving so that they do not seize up. Avoid violent exercise and contact sports. Walking and swimming are good forms of exercise
- Ease the strain on joints in everyday, repetitive tasks by using alternative methods. This may involve aids and adaptations at home and in the workplace

Further information

Arthritis Foundation: www.arthritis.org

National Institute of Arthritis and Musculoskeletal and Skin Disease: www.niams.nih.gov/Health_Info/Rheumatic_Disease/default.asp

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