

Rheumatoid Arthritis

Overview:

Rheumatoid arthritis is a chronic, autoimmune, inflammatory disorder that can affect mainly synovial joints when the immune system mistakenly attacks its own body's tissues. In some people, the condition also can damage a wide variety of body systems, including the skin, eyes, lungs, heart and blood vessels, it characterized by periods of remissions and relapses.

Clinical features:

Signs and symptoms of rheumatoid arthritis may include:

- Tender, warm, swollen joints.
- Joint stiffness that is usually worse in the mornings and after inactivity
- Fatigue, fever and weight loss

Early rheumatoid arthritis tends to affect smaller joints first — particularly the metacarpo-phalangeal joints of the hands and metatarso-phalangeal joints of the feet as well as interphalangeal joints. As the disease progresses, symptoms often spread to the wrists, knees, ankles, elbows, hips and shoulders. In most cases, symptoms occur in the same joints on both sides of the body.

About 40 percent of the people who have rheumatoid arthritis also experience signs and symptoms that don't involve the joints, it cans affect many extra articular structures, including:

- Skin
- Eyes
- Lungs
- Heart
- Kidneys
- Salivary glands
- Nerve tissue
- Bone marrow
- Blood vessels

Rheumatoid arthritis signs and symptoms may vary in severity and may even come and go. Periods of increased disease activity, called flares, alternate with periods of relative remission, when the swelling and pain fade or disappear. Over time, rheumatoid arthritis can cause joint deformity and instability.

Causes:

It occurs when the immune system attacks the synovium - the lining of the membranes that surround joints. The resulting inflammation thickens the synovium, which can eventually destroy the cartilage and bone within the joint.

The tendons and ligaments that hold the joint together weaken and stretch. Gradually, the joint loses its shape and alignment.

Till now noboys know what starts this process, although a genetic component appears likely. While the genes don't actually cause rheumatoid arthritis, they can make the body more susceptible to environmental factors - such as infection with certain viruses and bacteria - that may trigger the disease.

Risk factors:

Factors that may increase the risk of rheumatoid arthritis include:

- **Sex.** Women are more likely than men to develop rheumatoid arthritis.
- **Age.** Rheumatoid arthritis can occur at any age, but it most commonly begins between the ages of 40 and 60.
- **Family history.** If a member of the family has rheumatoid arthritis, this will increase the risk of the disease.
- **Smoking.** Cigarette smoking increases the risk of developing rheumatoid arthritis, particularly if you have a genetic predisposition for developing the disease. Smoking also appears to be associated with greater disease severity.
- **Environmental exposures.** Although uncertain and poorly understood, some exposures such as asbestos or silica may increase the risk for developing rheumatoid arthritis.
- **Obesity.** People who are overweight or obese appear to be at somewhat higher risk of developing rheumatoid arthritis.

Diagnosis:

Rheumatoid arthritis can be difficult to diagnose in its early stages because the early signs and symptoms mimic those of many other diseases. There is no one blood test or physical finding to confirm the diagnosis.

- ***Blood tests***

People with rheumatoid arthritis often have an elevated erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP), which may indicate the presence of an inflammatory process in the body. Other common blood tests look for rheumatoid factor and anti-cyclic citrullinated peptide (anti-CCP) antibodies.

- ***Imaging tests***

X-rays of the affected joints may be normal in early stages and it can help to track the progression of rheumatoid arthritis in over time.

Treatment

There is no cure for rheumatoid arthritis. But recent discoveries indicate that remission of symptoms is more likely when treatment begins early with strong

medications known as disease-modifying antirheumatic drugs (DMARDs).

Medications

The types of medications recommended will depend on the severity of the symptoms and how long the patient had rheumatoid arthritis.

- **NSAIDs.** Nonsteroidal anti-inflammatory drugs (NSAIDs) can relieve pain and reduce inflammation. Over-the-counter NSAIDs include ibuprofen (Advil) and naproxen for example.
- **Steroids.** Corticosteroid medications, such as prednisolone, reduce inflammation and pain and slow joint damage. Side effects may include osteoporosis, avascular necrosis, weight gain and diabetes, often prescribed to relieve acute symptoms, with the goal of gradually tapering off the medication.
- **Disease-modifying antirheumatic drugs (DMARDs).** These drugs can slow the progression of rheumatoid arthritis and save the joints and other tissues from permanent damage. Common DMARDs include methotrexate, leflunomide, hydroxychloroquine and sulfasalazine.

Side effects vary but may include liver damage, bone marrow suppression and severe lung infections.

- **Biologic agents.** Also known as biologic response modifiers, this newer class of DMARDs includes abatacept (Orencia), adalimumab (Humira), anakinra (Kineret), certolizumab (Cimzia), etanercept (Enbrel), golimumab (Simponi), infliximab (Remicade), rituximab (Rituxan), tocilizumab (Actemra) and tofacitinib (Xeljanz).

These drugs can target parts of the immune system that trigger inflammation that causes joint and tissue damage. These types of drugs also increase the risk of infections.

Biologic DMARDs are usually most effective when paired with a nonbiologic DMARD, such as methotrexate.

Physical therapy

Physical or occupational therapist can teach exercises to help keeping the joints flexible and decreases contracture and joints stiffness.

Surgery

If medications fail to prevent or slow joint damage, then surgery may be advised to repair damaged joints and may help to restore the ability to use the affected joint. It can also reduce pain and correct deformities.

Rheumatoid arthritis surgery may involve one or more of the following procedures:

- **Synovectomy.** Surgery to remove the inflamed synovium. Synovectomy can be performed on knees, elbows, wrists, fingers and hips.
- **Tendon repair.** Inflammation and joint damage may cause tendons around the joint to loosen or rupture.
- **Joint fusion.** Surgically fusing a joint may be recommended to stabilize or

realign a joint and for pain relief when a joint replacement isn't an option.

- **Total joint replacement.** Include removal of the damaged parts of the joint and inserts a prosthesis made of metal and plastic.

Complications

Rheumatoid arthritis increases your risk of developing:

- **Osteoporosis.** Rheumatoid arthritis itself, along with some medications used for treating rheumatoid arthritis, can increase your risk of osteoporosis.
- **Rheumatoid nodules.** These firm bumps of tissue most commonly form around pressure points, such as the elbows. However, these nodules can form anywhere in the body, including the lungs.
- **Dry eyes and mouth.** People who have rheumatoid arthritis are much more likely to experience Sjogren's syndrome, a disorder that decreases the amount of moisture in the eyes and mouth.
- **Infections.** The disease itself and many of the medications used to combat rheumatoid arthritis can impair the immune system, leading to increased infections.
- **Abnormal body composition.** The proportion of fat compared to lean mass is often higher in people who have rheumatoid arthritis, even in people who have a normal body mass index (BMI).
- **Carpal tunnel syndrome.** If rheumatoid arthritis affects wrists, the inflammation can compress the median nerve.
- **Heart problems.** Rheumatoid arthritis can increase the risk of hardened and blocked arteries, as well as inflammation of the pericardium causing pericarditis.
- **Lung disease.** People with rheumatoid arthritis have an increased risk of inflammation and scarring of the lung tissues, which can lead to progressive shortness of breath.
- **Lymphoma.** Rheumatoid arthritis increases the risk of lymphoma.