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RHEUMATOID ARTHRITIS

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ABSTRACT

Rheumatoid arthritis is an autoimmune disorder and till now it has no cure it is only managed by medication and lifestyle changes. It occurs in both sides of the joints which differentiates it from other arthritis. RA is also caused by defective peptides. Painful joints make it hard to exercise which leads to being overweight which in turn puts a load on joints. RA may be more likely to affect women who have never given birth. Some childhood exposures may make it more likely for an adult to acquire RA. For example, one study found that children whose mothers smoked had double the risk of developing RA as adults. Children of lower-income parents are more likely to grow up with RA. RA patients.

KEYWORDS

rheumatoid arthritis, inflammation, pain, swelling, self-care, NSAIDs, DMARDs.

INTRODUCTION

An autoimmune condition is known as rheumatoid arthritis results in chronic joint inflammation. Autoimmune disorders occur when the body's immune system attacks its tissues. The body's immune system attacks the body's tissues and is attacked by its immune system and autoimmune disorders occur. Antibodies that target the tissues of their bodies and cause inflammation are present in the blood of patients with autoimmune disorders.^[1] Small joints are initially affected, then larger joints, and finally the skin, eyes, heart, kidneys, and lungs. Joint bone and cartilage are frequently damaged, and tendons and ligaments become more fragile.^[2] All of this joint degeneration results in deformities and bone erosion, which is typically extremely painful for the patient. This disease typically begins between the ages of 35 and 60, with periods of remission and exacerbation. Juvenile RA (JRA), a condition that affects young children even before age 16, is like RA but does not have the rheumatoid factor. It is estimated that 1-2% of people in the West have RA, and 1% of people worldwide.^[3,4,5,6,7,8] Osteoarthritis (OA) primarily affects the distal interphalangeal (DIP) joint; the proximal interphalangeal (PIP) and metacarpophalangeal (MP) joints are impacted in RA, which can be distinguished clinically from OA. The most prevalent kind of arthritis, OA, is brought on by wear and tear rather than an autoimmune disorder. RA is symmetrical, whereas OA often only affects one side of the body. Another distinguishing characteristic of RA patients is that they have morning stiffness that lasts for at least one hour. Morning stiffness is common in OA patients, although it usually goes away within 20 to 30 minutes. The objectives of RA treatment are to lessen joint discomfort and inflammation, increase joint functionality, and stop joint degeneration and deformity. Combinations of medications, weight-bearing exercise, patient education about the illness, and rest make up treatment plans. Treatments are typically tailored to the needs of the patient and are based on their general health.^[9,10,11]



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SYMPTOMS

Rheumatoid arthritis symptoms include morning stiffness, polyarticular pain, and swelling. Patients frequently complain of stiffness from the disease's beginning and struggle to move their fingers when they wake up, which is frequently described as having trouble making a fist. The joints of the fingers and toes, knees, foot, hands, elbows, and cervical spine are likely to experience these symptoms. Patients frequently complain having nonspecific symptoms like a cold, weariness, fever, or dry eyes. Simple daily tasks like turning doorknobs and opening jars can be difficult as a result of hand symptoms. The small joints in the feet are frequently affected, which can make walking unpleasant, especially when getting out of bed in the morning.^[12]

RISK FACTORS

- **SEX AND AGE**

Rheumatoid arthritis is twice as common in women as it is in males. Although RA can be identified at any age, the majority of cases occur in patients between the ages of 40 and 60.^[13]

- **GENES**

HLA-DR4, a particular gene linked to rheumatoid arthritis, is present in 60% to 70% of Caucasians with the condition. In comparison, only 30% of the overall population have it.^[14] Rheumatoid arthritis is not only brought on by genes. For instance, research on identical twins, who have the exact same genes, has indicated that there is only a 12% to 15% probability that the other twin will also have RA.^[13]

- **SMOKING**

Exposure to nicotine, especially smoking, is the biggest environmental risk factor for rheumatoid arthritis that is currently understood. Although the direct effects of smoking are not entirely understood, it is thought that continued smoking contributes to an increase in the blood levels of rheumatoid factor, an antibody (a type of protein molecule). One indication of RA is a high level of rheumatoid factor in the blood.^[13]

- **EXPOSURE TO TOXINS**

Poor air quality in the surroundings, at work, or at home may also have an effect on the onset of rheumatoid arthritis.^[15,16] Heavy metal exposure could also be a factor.^[17,18]

- **DIET**

Consuming beverages and packaged meals that are heavy in sugar and trans fats cause inflammation.^[19]

- **OVERWEIGHT**

People who carry excess weight have a greater risk of developing rheumatoid arthritis.^[20,21,22]

- **HORMONE IMBALANCE**

An increased risk of seronegative RA may exist in women who experience menopause early (40 years of age).^[23]

NSAIDS

Nonsteroidal anti-inflammatory drugs (NSAIDs), which include acetylsalicylate (Aspirin), naproxen, ibuprofen, and etodolac, are medications that are considered as fast-acting. Due to the reduction of prostaglandins, aspirin is an effective anti-inflammatory for RA when given at high doses. One of the first NSAIDs for joint pain was this. Tinnitus, hearing loss, and gastrointestinal intolerance are side effects of aspirin at high doses. Aspirin is not the only NSAID on the market that is more recent and as effective. These medications also need fewer doses each day. In order to stop the synthesis of prostaglandins, prostacyclin, and thromboxane, NSAIDs inhibit the enzyme cyclo-oxygenase. Nausea, stomach pain, ulcers, and gastrointestinal bleeding are common adverse effects. If taken with meals, antacids, proton pump inhibitors, or misoprostol, these symptoms can be reduced. A more recent NSAID called celecoxib is a selective Cox-2 inhibitor with a lower risk of GI side effects.^[24]

DMARDS

Disease-modifying antirheumatic medications (DMARDs) can also lower the possibility of getting lymphoma, which is cancer that can be connected to RA. The first medication in the second line is methotrexate (MTX). It is a folic acid analog that competitively prevents dihydrofolic acid from attaching to the enzyme that converts FH2 to folinic acid. Purine and pyrimidine metabolism is compromised, and the production of amino acids and polyamines is impeded, without FH4. Due to the immunosuppressive medicine MTX's negative effects, which include liver issues, cirrhosis, and bone marrow decline, regular blood tests are necessary. Taking supplements with folic acid can lower the likelihood of adverse effects. It is an efficient DMARD, has fewer adverse effects than other DMARDs, and allows for flexible doses. means the dosage can be adjusted.^[25]

SURGERY

In the 1990s, joint surgery for RA patients peaked. However, a 2010 study found that RA patients aged 40 to 59 had lower rates of joint surgery. Patients over 60 years old, too, underwent surgery at higher rates. The last resort for the treatment of RA is surgery. When all nonsurgical options have failed, the indications include intractable joint pain or functional decline brought on by joint damage. The illness is considered as being at its "end-stage" at this point. The purpose of surgical management is to reduce the patient's pain and bring back the joints' function. Given the variety of surgeries available, a patient who needs one should be assessed based on their individual needs.^[26]

TENOSYNOVECTOMY

A tenosynovectomy includes removing inflammatory tendon sheaths or patching up a recently damaged tendon, most commonly in the hand.^[27]

RADIOSYNOVECTOMY

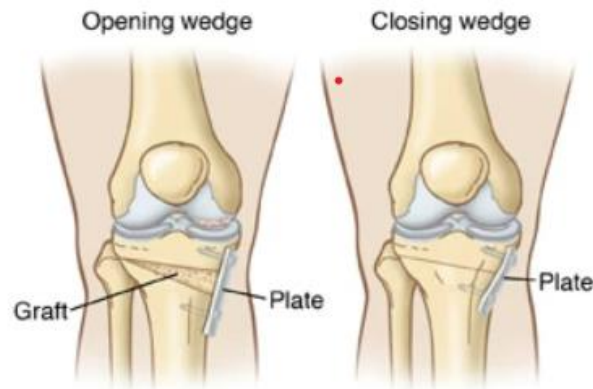
Using small radioactive particles injected directly into the joints, radiosynovectomy is a less aggressive alternative to surgical synovectomy that can simultaneously treat multiple joints.^[28]

ARTHROSCOPY

Arthroscopy can also be used to repair torn tendons, most frequently in the shoulder's rotator cuff. Due to the development of more efficient alternatives, arthroscopy or open synovectomy for the excision of inflammatory synovium are no longer frequently used.

OSTEOTOMY

Weight-bearing bones are corrected during this surgery to treat valgus or varus deformity, which most frequently affects the knee.^[29]



CONCLUSION

Rheumatoid arthritis is an autoimmune condition that primarily affects adults. It affects the joints. Although there is currently no cure for arthritis, it can be treated with anti-inflammatory drugs and lifestyle modification.

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