

Rheumatoid Arthritis

What is rheumatoid arthritis (RA)?

RA is one of the most common forms of autoimmune disease and affects over 21 million people worldwide.¹ It is a progressive, systemic autoimmune disease characterized by chronic inflammation of multiple joints with associated systemic symptoms such as fatigue. This inflammation causes joint pain, stiffness and swelling, resulting in loss of joint function due to destruction of the bone and cartilage, often leading to progressive disability. Patients with RA also have an increased likelihood of developing other systemic complications such as osteoporosis, anaemia, and others affecting the lungs and skin.²

RA and osteoarthritis

RA and osteoarthritis are two distinct conditions, although both lead to joint inflammation. RA is an autoimmune disease, in which the body's own immune system attacks healthy tissue, resulting in joint damage and chronic inflammation. In contrast, osteoarthritis tends to affect older individuals and involves deterioration of tissue through wear and tear.

Systemic impact of RA

Anaemia and heart disease are two of the more common systemic complications that affect patients suffering from rheumatoid arthritis. Up to 30% of RA patients suffer from anaemia that can result in tiredness and fatigue.³ In addition to daily stiffness and pain, daily fatigue was the most common problem for RA patients.⁴ An increased risk of cardiovascular disease has also been shown when inflammation occurs due to a rise in a plasma protein, C reactive protein (CRP).^{5,6}

Impact of RA on quality of life

The impact of RA is wide-ranging, causing not only physical problems but also significant negative impact on quality of life. Twice as many women are generally affected by RA than men,⁷ and the disease also impacts on the average life expectancy, shortening it by three to seven years.⁷ After 10 years, less than 50% of patients with RA can work or function normally on a day-to-day basis.¹

The Arthritis Foundation in the US commissioned a survey of 500 RA patients, which found that despite recent medical advances, there are many patients whose quality of life is reduced as a result of RA symptoms such as pain and fatigue.⁵ A third of respondents stated that RA decreases their level of control over their future and almost half of the respondents were worried that they would be unable to care for their family⁴. Most patients with RA stated that they continue to experience symptoms on a daily basis that can restrict physical activity, with two-thirds rating their quality of life as moderate to poor.⁴

Economic burden of RA

As well as the significant impact on the individual, RA is also a financial burden on national economies due to hospital admissions, health care costs and lost productivity. RA first appears in the most productive stage of people's lives: between 35 and 50 years of age. The earlier the disease starts, the more likely it is that patients will become severely disabled.⁷ Within 5 years of diagnosis, 40% of patients living in developed countries are unable to work full time (reducing to 50% at 10 years).^{7,8}

RA is the cause of over nine million primary care physician visits in the UK annually, representing £833 million in lost production. It is also estimated to have cost the UK economy £5.5 billion in 2000.⁸ In the US, experts have estimated that RA costs more to business and industry than any other disease, with 500,000 hospitalisations per year⁹ and the burden of illness on the economy for arthritis (as a whole) to be estimated at \$128 billion.¹⁰

Treating RA

There are a number of treatments available to manage RA. Some address the signs and symptoms of RA, others aim to modify the course of the disease and positively impact the systemic effects of RA, such as fatigue and anaemia.

Current treatments include:

- **Biologics:** These are genetically-engineered drugs that target specific cell surface markers or messenger substances in the immune system called cytokines, which are produced by cells in order to regulate other cells during an inflammatory response. An example of a specific cytokine targeted by biologics is tumour necrosis factor alpha (TNF α).
- **Traditional disease-modifying anti-rheumatic drugs (DMARDs):** These are non-specific immunosuppressive drugs, which are intended to combat the signs and symptoms of RA as well as

slowing down progressive joint destruction. These treatments are often used in combination with one another, or in combination with a biologic agent, to improve patient response

- Glucocorticoids (corticosteroids): These are anti-inflammatory drugs related to cortisol - a steroid produced naturally in the body - that work by countering inflammation. However, the side-effects of glucocorticoids, which include hyperglycaemia, osteoporosis, hypertension, weight gain, cataracts, sleep problems, muscle loss, and susceptibility to infections, limits their use
- Non-steroidal anti-inflammatory drugs (NSAIDs): These manage the signs and symptoms of RA, such as reducing pain, swelling, and inflammation, but do not alter the course of the disease or slow the progression of joint destruction

There are also a number of new therapies that use novel approaches to treat RA. These include biologic treatments targeting alternative cytokines such as interleukin-6 (IL-6) that help to reduce inflammation and the progression of RA in the joints and throughout the body.

Remission is the ultimate goal of RA treatment

The exact cause of RA is unknown and, as yet, there is no cure. However, it is now known that the destruction of joints in people with RA begins early on in the disease, often short after the first onset of symptoms such as joint swelling and pain. Within the first two years, up to 70% of people with RA have X-ray evidence of bone damage, therefore a major goal of disease management is to begin treatment early with effective drugs to slow disease progression and prevent joint damage.

The ultimate goal of treatment is to achieve remission and most clinicians use the DAS28 scoring system which takes into account several measures including tender and swollen joints, ESR (erythrocyte sedimentation rate) and the patient's assessment of general health. Remission is defined as a score of DAS28 \leq 2.6.¹¹

References

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