

Rheumatoid Arthritis: An Autoimmune Disorder

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Brief Report

Arthritis is a broad term that refers to any condition that affects the joints. Joint pain and stiffness are common symptoms. Other symptoms include redness, warmth, swelling, and a reduction in the range of motion of the afflicted joints. Other organs are also affected by some kinds of arthritis. The onset can be gradual or abrupt. There are about 100 different forms of arthritis [1]. Osteoarthritis (degenerative joint disease) and rheumatoid arthritis are the most frequent types. Osteoarthritis is a type of arthritis that affects the fingers, knees, and hips. Rheumatoid arthritis is an autoimmune disease that most commonly affects the hands and feet. Gout, lupus, fibromyalgia, and septic arthritis are some of the other forms. In the United States, arthritis is the leading cause of disability. More than 20 million people in the United States suffer from severe functional restrictions on a daily basis due to arthritis [2]. Individuals with arthritis are prone to absenteeism and frequent doctor visits.

Arthritis can make it difficult for people to remain physically active, and some become housebound as a result. Rheumatoid arthritis (RA) is a chronic autoimmune condition that mostly affects the joints. It usually causes heated, swelling, and painful joints [3]. Pain and stiffness frequently intensify after rest. The goals of treatment are to alleviate pain, reduce inflammation, and enhance general functionality. Balanced rest and exercise, the use of splints and braces, or the use of assistive gadgets may all help. To alleviate symptoms, pain relievers, steroids, and nonsteroidal anti-inflammatory drugs (NSAIDs) are widely utilised. To try to reduce the progression of disease, disease-modifying antirheumatic medications (DMARDs) such as hydroxychloroquine and methotrexate may be utilised. When other therapies have failed, biological DMARDs may be utilised. Joint arthritis is characterised by inflammation of the synovial membrane. Joints swell, become sore and heated, and stiffness hinders movement [4]. Multiple joints are impacted over time (polyarthritis). The small joints of the hands, foot, and cervical spine are the most typically implicated, but larger joints such as the shoulder and knee can also be involved.

Synovitis can cause tissue tethering, loss of movement, and erosion of the joint surface, resulting in deformity and loss of function. RA often appears as inflammation, with the affected

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joints swollen, heated, painful, and stiff, especially first thing in the morning or after a period of inactivity. Increased stiffness in the morning is a common symptom of the disease and usually lasts for more than an hour. The most prevalent non-joint characteristic of RA is the rheumatoid nodule, which can be found in the skin. It occurs in 30% of people with RA. Pathologists call it a "necrotizing granuloma," which is a form of inflammatory reaction [5]. The early pathologic mechanism in nodule formation is unknown, however it may be related to synovitis because both have similar anatomical features. The fibrinoid necrosis in the nodule's centre, which may be fissured, correlates to the fibrin-rich necrotic material found in and around an afflicted synovial region. A layer of palisading macrophages and fibroblasts surrounds the necrosis, corresponding to the intimal layer in synovium, and a cuff of connective tissue containing clusters of lymphocytes and plasma cells, corresponding to the peritoneum. Several types of vasculitis can occur in RA, although they are most common in patients who have had the disease for a long time and are untreated. The involvement of tiny and medium-sized vessels is the most typical cause of presentation. Rheumatoid vasculitis is usually associated with skin ulceration and vasculitic nerve infarction, a condition known as mononeuritis multiplex. Lung fibrosis is a well-known rheumatoid arthritis consequence. It is also a rare but well-known side effect of therapy (for example with methotrexate and leflunomide). Caplan's syndrome is characterised by lung nodules in those who have RA and have been exposed to coal dust. Exudative pleural effusions have also been linked to RA.

People with RA are more likely to develop atherosclerosis, and their risk of myocardial infarction (heart attack) and stroke is significantly enhanced. Pericarditis, endocarditis, left ventricular

failure, valvulitis, and fibrosis are all possible consequences. Many people with RA do not experience the same chest pain that others do when they suffer angina or a heart attack. To lower cardiovascular risk, it is critical to maintain optimal control of the inflammation induced by RA (which may be involved in producing the cardiovascular risk), as well as to employ exercise and drugs to reduce other cardiovascular risk factors such as blood lipids

and blood pressure. There is no cure for RA, however therapies can alleviate symptoms and decrease the disease's progression. Disease-modifying therapy works best when it is initiated early and vigorously. A recent systematic analysis indicated that combining tumour necrosis factor (TNF) and non-TNF biologics with methotrexate (MTX) resulted in better disease management, Disease Activity Score (DAS)-defined remission, and functional capability than either methotrexate or a biologic alone.

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