

Cardiovascular Implications of Chronic Inflammation in Rheumatoid Arthritis

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RESUMO

Introduction: Rheumatoid arthritis (RA) is a chronic systemic autoimmune disease characterized by persistent synovial inflammation and progressive joint destruction. Beyond musculoskeletal impairment, RA is strongly associated with increased cardiovascular risk, with epidemiological data indicating a 50-70% higher incidence of cardiovascular disease compared to the general population. Chronic systemic inflammation plays a central role in this process, promoting endothelial dysfunction, arterial stiffness, accelerated atherosclerosis, and myocardial remodeling. **Objective:** The objective of this review is to synthesize current evidence on the relationship between RA, systemic inflammation, and cardiovascular risk. **Materials and methodology:** A narrative review was conducted using PubMed. Articles published between 2023 and 2026 in English were included and descriptively analyzed, focusing on inflammatory, vascular, and metabolic mechanisms underlying increased cardiovascular risk in RA. **Discussion:** Rheumatoid arthritis (RA) is consistently associated with increased cardiovascular morbidity and mortality, contributing to a reduction in life expectancy of 5-18 years, primarily due to cardiovascular diseases (CVD). Patients with RA present a markedly elevated risk of cardiovascular events, including myocardial infarction (MI), stroke, and heart failure (HF), with incidence rates up to 48% higher than in the general population and events occurring approximately a decade earlier, reinforcing RA as an independent cardiovascular risk factor. This excess risk is largely driven by persistent systemic inflammation, which plays a central role in vascular dysfunction and atherosclerosis progression. Pro-inflammatory cytokines such as IL-1, IL-6, IL-8, IL-17, and TNF- α contribute to endothelial dysfunction, increased arterial stiffness, and lipid metabolism alterations, while elevated C-reactive protein (CRP) levels reflect the underlying inflammatory burden. Additionally, the interaction between systemic inflammation and traditional cardiovascular risk factors further amplifies atherogenesis and its complications. Although comorbidities such as hypertension, smoking, dyslipidemia, obesity, and diabetes are more prevalent in RA patients and contribute to cardiovascular risk, they do not fully explain its magnitude and are frequently underdiagnosed and suboptimally managed. In this context, controlling inflammatory activity appears to be essential for reducing cardiovascular risk. However, evidence suggests that this alone may be insufficient, highlighting the importance of also addressing comorbidities and modifiable risk factors. **Conclusion:** Chronic systemic inflammation in rheumatoid arthritis is a key determinant of increased cardiovascular risk, contributing to earlier and more severe outcomes. Understanding this relationship supports better disease control and more effective risk reduction. Although inflammation control is essential, reducing cardiovascular morbidity and mortality in RA requires a multidisciplinary approach, including early detection, prevention, and management of cardiovascular conditions, as well as control of modifiable risk factors and lifestyle interventions.

Palavras-chave: Rheumatoid Arthritis; Systemic Inflammation; Cardiovascular Risk; Endothelial Dysfunction; Atherosclerosis.