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Original article

Metabolic syndrome in patients with rheumatoid arthritis followed at a University Hospital in Northeastern Brazil



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ABSTRACT

Introduction: Patients with rheumatoid arthritis (RA) are 30–60% more likely to develop cardiovascular disease (CV) than the general population. Metabolic syndrome (MS), defined by a number of cardiovascular risk factors, confers a greater risk of CV disease and diabetes. The association of MS with RA is not yet fully understood and its prevalence varies from 19 to 63% across studies.

Objectives: To assess the prevalence of MS in a population of RA patients followed in a hospital in Northeastern Brazil and analyze associations of demographic and clinical factors with MS.

Methods: Outpatients with RA were evaluated in a cross-sectional study regarding demographic, clinical, laboratory and anthropometric data. The criteria for defining MS were those adopted by NCEP/III (2005) and IDF (2006).

Results: 110 patients with RA were studied; 97.3% were female, with a mean age of 55.5 years (SD = 12.9) and duration of illness of 11.2 years (SD = 7.3). The MS prevalence from NCEP/III (2005) and IDF (2005) were, respectively, 50% and 53.4%. Advanced age (57.9 ± 11.9 versus 52.9 ± 13.5 ; $p = 0.04$) and smoking load >20 packs/year (29% versus 9%, $p = 0.008$) were associated with MS. The major components of the metabolic syndrome were abdominal obesity (98.1%), hypertension (80%) and low HDL cholesterol (72.2%).

Conclusions: RA patients in a tertiary center in Northeastern Brazil showed high prevalence of MS. It is worth noting that almost all patients had MS and abdominal obesity, which has important practical implications. In addition to the components of MS, age and smoking were associated with this syndrome.

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Síndrome metabólica em pacientes com diagnóstico de artrite reumatoide acompanhados em um Hospital Universitário do Nordeste brasileiro

R E S U M O

Palavras-chave:

Síndrome metabólica
Artrite reumatoide
Doenças cardiovasculares

Introdução: Pacientes com artrite reumatoide (AR) têm 30 a 60% mais chances de desenvolver doenças cardiovasculares (DCV) do que a população geral. A síndrome metabólica (SM), definida por um conjunto de fatores de risco cardiovasculares, confere maior risco de DCV e diabete. A associação da SM com AR ainda não está totalmente esclarecida e sua prevalência varia de 19 a 63% entre os estudos.

Objetivos: Avaliar a prevalência de SM numa população de pacientes com AR acompanhada num hospital do Nordeste brasileiro e analisar associações de fatores demográficos e clínicos com SM.

Métodos: Pacientes ambulatoriais com AR foram transversalmente avaliados com relação a dados demográficos, clínicos, laboratoriais e antropométricos. Os critérios para definir SM foram os adotados pelo NCEPIII (2005) e IDF (2006).

Resultados: Foram estudados 110 pacientes com AR, 97,3% mulheres com média de 55,5 anos (DP=12,9) e duração da doença de 11,2 anos (DP=7,3). As prevalências de SM do NCEPIII (2005) e IDF (2005) foram, respectivamente, 50% e 53,4%. Idade avançada ($57,9 \pm 11,9$ versus $52,9 \pm 13,5$; $p=0,04$) e carga tabágica > 20 maços ano (29% versus 9%; $p=0,008$) estiveram associadas com SM. Os principais componentes da SM foram obesidade abdominal (98,1%), hipertensão arterial (80%) e HDL baixo (72,2%).

Conclusões: Pacientes com AR de um serviço terciário do Nordeste brasileiro apresentaram alta prevalência de SM. Chama atenção a quase totalidade dos pacientes com SM e obesidade abdominal, o que traz implicações práticas importantes. Além dos componentes de SM, idade e tabagismo se mostrarem associados com SM.

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Introduction

Rheumatoid arthritis (RA) is a systemic inflammatory, autoimmune, chronic disease which mainly affects peripheral joints. Recent epidemiological studies have suggested that RA is an independent risk factor for cardiovascular (CV) diseases, and RA patients are 30–60% more likely to develop (CV) diseases, that are characterized as the most important cause of morbidity and mortality in patients with RA.^{1,2} The most likely explanation for this is the process of endothelial dysfunction and accelerated atherosclerosis that occur in these patients secondary to chronic inflammation and also to a higher prevalence of traditional cardiovascular risk factors. The presence of metabolic syndrome (MS), also known as insulin resistance syndrome, characterized by the combination of cardiovascular risk factors such as hypertension, obesity, high blood glucose, insulin resistance (IR) and dyslipidemia, confers a greater cardiovascular morbidity than the sum of the risks associated with each individual component.³

Its etiology remains elusive, but studies point to IR as the main mediator in the pathophysiology of MS. Multiple metabolic pathways have been proposed to connect IR and compensatory hyperinsulinemia to other metabolic risk factors.^{4,5} Although the role of MS as a predictor of cardiovascular risk has been hotly debated, a meta-analysis of

2010 involving more than 950,000 patients concluded that MS increases twice the risk of (CV) diseases and 1.5 times the overall mortality, as well as an increase of five times for risk of occurrence of type 2 diabetes mellitus.⁶ MS and IR have also been associated with several other diseases, such as hepatic steatosis, fibrosis and cirrhosis,⁷ polycystic ovary syndrome,⁸ cholelithiasis,⁹ sleep apnea,¹⁰ chronic kidney disease,¹¹ and gout.¹²

The prevalence of MS in patients with RA varies from 14% to 63%.^{13–29} Some controlled cross-sectional studies have shown a higher prevalence in patients than in controls,^{16,22,25,26,28} but other studies found no differences.^{14,15,20,24,27} Epidemiological and methodological factors may justify such different results, for instance, the characteristics of the study population, origin of the patients, criteria used to define MS, and study design. However, evidence of accelerated atherosclerosis in patients with RA related to systemic inflammatory activity, together with the high prevalence of traditional cardiovascular risk factors in these patients, favor the increased risk of MS in patients with RA.^{1,3,6,13–16} The approach to cardiovascular risk factors and MS in patients with RA is so important that in 2012 the Brazilian Society of Rheumatology proposed a consensus on the management of comorbidities in patients with RA, including an early identification and appropriate treatment of MS, besides other cardiovascular risk factors in all patients diagnosed with RA.³⁰

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