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Original article

Prevalence of ischemic heart disease and associated factors in patients with rheumatoid arthritis in Southern Brazil

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ABSTRACT

Objective: To estimate the prevalence of ischemic heart disease and associated factors in patients with rheumatoid arthritis.

Methods: A cross-sectional study using the American College of Rheumatology diagnostic criteria in order to select patients seen at primary or secondary health care units in Blumenau, Santa Catarina, Southern Brazil, in 2014. The presence of ischemic heart disease was defined as an acute myocardial infarction with percutaneous coronary intervention or coronary artery bypass graft surgery that has occurred after diagnosis. Fischer's exact test, Wald's linear trend test, and multivariate logistic regression analysis were used to test the associations.

Results: Among 296 patients (83.1% female) with a mean age of 56.6 years and a mean rheumatoid arthritis duration of 11.3 years, 13 reported having acute myocardial infarction requiring a percutaneous or surgical reperfusion procedure, a prevalence of 4.4% (95% CI 2.0–6.7). Diabetes Mellitus (odds ratio [OR] 4.9 [95% CI 1.6–13.8]) and disease duration >10 years (OR 8.2 [95% CI 1.8–39.7]) were the only factors associated with an ischemic disease that remained in the final model, after the multivariate analysis.

Conclusion: The prevalence of acute myocardial infarction was similar to that observed in other studies. Among the traditional risk factors, Diabetes Mellitus, and among the factors related to rheumatoid arthritis, disease duration, were the variables associated with comorbidity.

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Prevalência de doença isquêmica cardíaca e fatores associados em pacientes com artrite reumatoide no Sul do Brasil

R E S U M O

Palavras-chave:

Artrite reumatoide
Doença cardiovascular
Infarto agudo do miocárdio
Prevalência

Objetivo: Estimar a prevalência da doença isquêmica cardíaca e os fatores associados em pacientes com artrite reumatoide.

Métodos: Estudo transversal que usou o critério diagnóstico do Colégio Americano de Reumatologia para selecionar pacientes atendidos nas unidades de saúde da atenção primária ou secundária em Blumenau, Santa Catarina, sul do Brasil, em 2014. A presença de doença cardíaca isquêmica foi definida com infarto agudo do miocárdio com intervenção coronariana percutânea ou cirurgia de revascularização do miocárdio que tenha ocorrido depois do diagnóstico. Para testar as associações usou-se o teste exato de Fischer, o teste de tendência linear de Wald e a análise de regressão logística multivariada.

Resultados: Entre 296 pacientes, 83,1% de mulheres, com média de 56,6 anos, tempo médio de artrite reumatoide de 11,3 anos, 13 relatam ter tido infarto agudo do miocárdio que necessitou de procedimento de reperfusão percutânea ou cirúrgica, prevalência de 4,4% (IC 95% 2,0-6,7). O *diabetes mellitus* (razão de chance de 4,9 [IC 95% 1,6-13,8]) e o tempo de doença maior do que 10 anos (razão de chance de 8,2 [IC 95% 1,8-39,7]) foram os únicos fatores associados com a doença isquêmica que permaneceram no modelo final após análise multivariada.

Conclusão: A prevalência de infarto agudo do miocárdio foi semelhante com a observada em outros estudos. Entre os fatores de risco tradicionais e entre os fatores relacionados à artrite reumatoide, o *diabetes mellitus* e o tempo de doença foram as variáveis associadas à comorbidade.

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Introduction

Rheumatoid arthritis (RA) is a systemic inflammatory autoimmune disease characterized by the involvement of the synovial membrane of peripheral joints leading to destruction and functional limitation.¹ The prevalence of RA varies from 0.24 to 1% of the adult population, with a predominance of women and a higher incidence in the 30–50-year age group.^{2–4} In Brazil, two studies were published. The first study shows a variation from 0.2 to 1%, depending on the region of this country,⁵ and the other establishes a prevalence of 0.46%.⁶

Studies point to an increased risk of cardiovascular disease (CVD) in patients with RA compared to the general population.^{7–9} CVD exerts a great impact and represents an important morbidity in patients with RA, and acute myocardial infarction (MI) is considered to be the most common event.^{9,10} Studies conducted in different countries indicate that the prevalence can vary from 1 to 17%.^{10–12}

The greatest number of cardiac ischemic events in RA patients is not entirely explained by the presence of traditional risk factors alone.¹⁰ A study in Sweden with two cohorts of RA patients demonstrated that there is no increase in the occurrence of ischemic heart disease prior to the rheumatologic diagnosis.¹³ On the other hand, soon after the onset of the disease¹⁴ and along its course,¹⁵ RA plays an important role in the onset of MI, above all in patients with an accumulation of severity markers.¹⁰ Thus, RA was considered as an independent risk factor for the occurrence of coronary artery disease.^{16,17}

Despite the important advances in diagnosis and available treatments, there remains a high CVD morbidity.¹⁰ This is due to the combination of the characteristics of a chronic inflammatory disease, which are predisposing factors to the development of comorbidities; of the drugs used in treatment, for example, glucocorticoids¹¹; to an increased prevalence of traditional risk factors over the duration of disease^{18,19}; and to the persistent activity of the disease in its most aggressive periods.⁷

The present study aimed to estimate the self-reported prevalence of coronary ischemic events and to identify the possible associated factors in patients with RA in Blumenau, Santa Catarina, Southern Brazil, in 2014.

Materials and methods

This is a cross-sectional, population-based study conducted between July 2014 and January 2015 with men and women aged 20 years and older with rheumatoid arthritis according to the American College of Rheumatology (1987) criteria, residents in the municipality of Blumenau, Southern Brazil. In 2010, Blumenau had a municipal human development index (IDH-M) = 0.806, ranking 25th among all Brazilian municipalities.²⁰ According to the national census conducted also in the year of 2010, the number of people pertaining to the age group of this study corresponded to 221,839 inhabitants, equivalent to 71.7% of the total population of the municipality.²¹

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