REVISTA BRASILEIRA DE REUMATOLOGIA

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SOCIEDADE BRASILEIRA DE REUMATOLOGIA

Brief communication

Nutritional profile in rheumatoid arthritis

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ARTICLE INFO

Article history:
Received
Accepted

Keywords:
Rheumatoid arthritis
Obesity
Nutrition
Inflammation

ABSTRACT

Background: Atherosclerosis in Rheumatoid Arthritis (RA) patients may be aggravated by obesity.
Objective: To study the nutritional status of patients with RA.
Methods: Observational cross sectional study of 102 RA. Patients were studied for clinical, demographic, serologic, activity and nutritional profile. In the latter we included: measurement of body mass index (BMI), waist-hip ratio; bicipital skinfold (BSF) and their adequacy; triceps skinfold measure (TSF) and its adequacy and arm muscle circumference (AMC) and its adequacy. Association studies of nominal data were done using Fisher and chi-square tests and the Mann Whitney and unpaired Student t tests for numerical data. For correlation calculations the Spearman test was used.
Results: In the sample there were 14/102 men, 88/102 women with mean age of 52.1 ± 11.5 years and mean disease duration of 10.6 ± 7.47 years. The mean waist-hip ratio was 0.92 ± 0.07. According to BMI 30.3% had normal weight and 65.5% a total weight above normal. According to BSF, 74.5% were normal and 25.5% had depletion of muscular mass; according to TSF, 83.3% were normal and 16.7% depleted. Association of nutritional variables with gender, rheumatoid factor, age, nodules, and disease activity showed no differences (p = NS) except for a lower waist/hip ratio in individuals with nodules (p = 0.02) and a modest correlation of TSF with disease duration (p = 0.02; R = 0.22; 95% CI = 0.01 to 0.40).
Conclusion: We found a high prevalence of overweight and obesity in patients with RA and a small frequency of muscle depletion.

Perfil nutricional na artrite reumatoide

Palavras-chave:
Artrite reumatoide
Obesidade
Nutrição
Inflamação

RESUMO

Objetivo: Estudar o perfil nutricional de pacientes com artrite reumatoide (AR).
Métodos: Estudo transversal observacional de 102 pacientes com AR. Os pacientes foram estudados para dados clínicos, demográficos, sorológicos, atividade de doença e perfil nutricional. Neste último incluiu-se a medida do índice de massa corporal (IMC), relação quadril/cintura, pregas cutâneas bicipitais (PCB) e sua adequação; prega cutânea tricipital (PCT) e sua adequação e circunferência muscular do braço (CMB) e sua adequação. Estudos de associação foram feitos usando os testes de Fisher e qui-quadrado para dados nominais

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2255-5021/$ - see front matter.
http://dx.doi.org/10.1016/j.rbre.2014.02.011

e teste t não pareado e Mann Whitney para dados numéricos. Para cálculo de correlação usou-se o teste de Spearman.

Resultado: Na amostra existiam 14/102 homens e 88/102 mulheres com idade média de 52,1 ± 11,5 anos e duração média de doença de 10,6 ± 7,4 anos. A relação cintura/quadril média era de 0,92 ± 0,07. De acordo com IMC, 30,3% tinham peso normal e 65,5% tinham peso acima do normal. De acordo com PCB, 74,5% eram normais e 25,5% tinham depleção; de acordo com a PCT, 83,3% eram normais e 16,7% tinham depleção. Associação de variáveis nutricionais com gênero, fator reumatoide, nódulos e atividade da doença não mostraram diferenças (p = NS) exceto, por uma relação cintura/quadril menor em indivíduos com nódulos (p = 0,02) e uma correlação modesta da PCT com a duração de doença (p = 0,02; R = 0,22; 95% IC = 0,01-0,40).

Conclusão: Existe uma alta prevalência de sobrepeso e obesidade em artrite reumatoide e uma pequena frequência de depleção muscular.

Introduction

Rheumatoid arthritis (RA) is a chronic disease that affects 1% of Brazilian population[1] and causes significant morbidity and mortality.[1] Joint pain and fatigue associated with the inflammatory process, deformities that hinder the performance of daily activities result in work absenteeism, early retirement and economic losses.[1,2,3] Among the causes of increased mortality in these patients, accelerated atherosclerosis by the chronic inflammatory process with subsequent cardiovascular repercussions occupies a prominent role.[2,3,4] It is estimated that a RA patient is 1.5 to 2 times more likely to develop myocardial infarction than the general population. This risk is comparable to that of a patient with diabetes mellitus type 2 and can be increased by the traditional risk factors such as obesity.[5]

RA is an autoimmune disease with genetic and environmental factors.[2] The first explains the familial clustering of the disease and is responsible for the variability of the clinical and auto antibodies profiles.[2] In the latter, smoking plays a major role.[2]

In this context, one can conclude that nutritional factors should be studied and treated in RA, taking into account the genetic load and living habits of the population. In the present work we studied the nutritional status of patients with RA in a population in Southern Brazil.

Methods

This is a cross-sectional study approved by the local Committee on Ethics in Research; all included participants signed consent. The included subjects met at least four of the classification criteria for a diagnosis of RA of the American College of Rheumatology 1987[2] and were between 18 and 80 years. Pregnant patients and those with uncontrolled hypothyroidism were excluded.

The anthropometric measurements were performed by a single dietitian prior to the consultation, who measured body weight, height, waist circumference, hip circumference, arm circumference, biceps and triceps skinfolds. The weight measurement was performed by a digital balance Mars® and the height was measured using a stadiometer Cardiomed®. The body mass index (BMI) was calculated by dividing weight in kilograms by height in squared meters.[6] The circumferences of the hip, arm and waist were made according to the technique described by Cuppari[7] using an inelastic anthropometric tape. Measurements of skinfold thickness of biceps and triceps were made with the aid of a Cescorf® caliper according to standardized technique described by Cuppari.[7] Assessment of skin folds adequacy was described by Frisancho[8] and states that the patient is in severe malnutrition when the adequacy of arm muscle circumference is less than 70%, with moderate malnutrition when it is between 70% and 80%, with mild malnutrition when between 80% to 90% and euthrophic when over 90%.

Medical records of patients were reviewed to obtain demographic and clinical data, duration of disease, autoantibody profile such as rheumatoid factor (RF), disease activity (measured by DAS28 4v.).[9,10]

Data were collected on frequency and contingency tables. For association studies of nominal data we used the Fisher and chi-square tests, and for numerical data the Mann Whitney and unpaired Student t tests. For correlation calculations we used the Spearman test. The calculations were made using the Graph Pad Prism Software®, version 5.0 (San Diego, California). The adopted significance was of 5%.

Results

Descriptive analysis of clinical and laboratory profile of the sample

Of the 102 patients, 14 (13.7%) were men and 88 (86.2%) were women, aged from 23 to 80 years (mean 52.1 ± 11.5 years), with age at diagnosis between 20 and 69 years (mean 41.9 ± 12.0 years) and disease duration between 1 and 38 years (median 9 years; IQI = 5-14,5). Of these, 9.8% had rheumatoid nodules. Rheumatoid factor was positive in 65.6%. The DAS28 ranged from 0.76 to 7.82 (mean 3.54 ± 1.53) and showed that 16.6% of patients had high activity, 33.3% had moderate activity, 21.4% had low activity and 28.6% were in remission of RA.

An analysis of treatments showed that 73.5% were on glucocorticoid (dose from 2.5 mg to 60 mg/prednisone/day; me-