REVISTA BRASILEIRA DE REUMATOLOGIA

www.reumatologia.com.br

SOCIEDADE BRASILEIRA DE REUMATOLOGIA

Editorial

# Rheumatoid arthritis and metabolic syndrome

## A artrite reumatoide e a síndrome metabólica

Scientific research on rheumatoid arthritis (RA) led to the drafting of recommendations on early diagnosis of articular manifestations, appropriate measurements of inflammatory activity and bone damage, and target-based treatment, which were consolidated in similar guidelines from various organizations such as the Sociedade Brasileira de Reumatologia (SBR), the American College of Rheumatology (ACR) and the European League Against Rheumatism (EULAR).[1–4] To the extent that the treatment strategies of joint manifestations have expanded in terms of options and effectiveness, a greater concern has arisen about associated diseases, particularly cardiovascular disease (CVD), which became the main responsible for the decrease of survival in this population, despite significant advances in drug therapy.[5–7]

Currently, an earlier investigation and monitoring of traditional risk factors for CVD is recommended, since its presence is associated with an increased clinical activity of RA, with a worse prognosis, and with doubling of CVD risk.[8–13]

The chronic inflammatory state, coupled with limited mobility, a sedentary lifestyle and the use of Nonsteroidal anti-inflammatory drugs (NSAIDs) and corticosteroids, determines the activation of several harmful mechanisms for circulation and also increases the predisposition to metabolic syndrome (MS).[7,8,11,14]

RA and MS share pathogenic mechanisms, for example, an increase in free radicals, a deficiency of antioxidant systems, an increase in pro-inflammatory cytokines, endothelial injury, and the formation and destabilization of atherosclerotic plaques.[8,9,15]

The concept of MS arose in the 1980s, encompassing central obesity, dyslipidemia, systemic hypertension and hyperglycemia/insulin resistance as elements that are enhanced and that, together, offer a higher risk of CVD than the sum of individual factors. The literature has evolved with the study of MS in different populations, until the proposition of unified criteria in 2009.[16,17]

Although the identification of MS in patients with RA is very variable, depending on the populations studied and the classification criteria used, its prevalence has increased and determines an additional risk of CVD.[5,15,18] A better knowledge of the prevalence of MS and its associations in different groups of patients results in subsidies to improve preventive strategies.

In this issue, Oliveira et al. evaluated the occurrence of MS in patients with RA followed in a university hospital in northeastern Brazil. In this sample, with large female predominance, more than half of the patients fulfilled different MS criteria. In addition to obesity, present in almost all patients with MS, there was an association with other risk factors, such as age and smoking.[19] These findings point to a high risk of CVD and increased mortality.

The scientific community still discuss whether the assessment for risk of CVD should be carried out by instruments used in the general population, or by tools adapted for RA, to enable a more reliable risk assessment, in order to reduce morbidity and mortality.[20,21]

With this goal, de Campos et al. tested a tool for prediction of cardiovascular events, modified for use in patients with RA – the mSCORE index. The study evaluated 100 female subjects with RA *versus* controls without the disease; it was observed that there was no difference between groups with respect to the results of the original SCORE index. However, with the use of mSCORE version, which includes factors specific to the disease, a 3-fold increase in the number of subjects classified as of high risk was found, thus becoming clear the increased risk of the occurrence of a 10-year fatal cardiovascular event in patients with RA.[22]

This study emphasizes the fact that, during a systematic evaluation of patients with RA, an evaluation of cardiovascular risk must also be carried out. Moreover, this assessment should be performed with valid instruments, allowing the identification of the risk of CVD and pointing to therapeutic targets, in order to perform earlier and more efficient interventions.

In this way, one can make a better use of the acknowledged advances in the treatment of joint disease in these patients, in order to obtain, for them, a better and long-lasting health condition.

## Conflicts of interest

The authors declare no conflicts of interest.

REFERENCES


1. da Mota LMH, Cruz BA, Brenol CV, Pereira IA, Rezende-Fronza LS, Bertolo MB, et al. Consenso da Sociedade Brasileira de Reumatologia 2011 para o diagnóstico e avaliação inicial da artrite reumatoide. Rev Bras Reumatol. 2011;51: 207–19.
2. da Mota LMH, Cruz BA, Brenol CV, Pereira IA, Rezende-Fronza LS, Bertolo MB, et al. Consenso 2012 da Sociedade Brasileira de Reumatologia para o tratamento da artrite reumatoide. Rev Bras Reumatol. 2012;52:135–74.
3. Smolen JS, Landewé R, Breedveld FC, Dougados M, Emery P, Gaujoux-Viala C, et al. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2013 update. Ann Rheum Dis. 2013, http://dx.doi.org/10.1136/annrheumdis-2013-204573.
4. Singh JA, Saag KG, Bridges SL Jr, Akl EA, Bannuru RR, Sullivan MC, et al. 2015 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis. Arthritis Care Res. 2015, http://dx.doi.org/10.1002/acr.22783.
5. Solomon DH, Karlson EW, Rimm EB, Cannuscio CC, Mandl LA, Manson JE, et al. Cardiovascular morbidity and mortality in women diagnosed with rheumatoid arthritis. Circulation. 2003;107:1303–7.
6. Gonzalez A, Maradit Kremers H, Crowson CS, Nicola PJ, Davis JM 3rd, Therneau TM, et al. The widening mortality gap between rheumatoid arthritis patients and the general population. Arthritis Rheum. 2007;56:3583–7.
7. Michaud K, Wolfe F. Comorbidities in rheumatoid arthritis. Best Pract Res Clin Rheumatol. 2007;21:885–906.
8. Chung CP, Oeser A, Solus JF, Avalos I, Gebretsadik T, Shintani A, et al. Prevalence of the metabolic syndrome is increased in rheumatoid arthritis and is associated with coronary atherosclerosis. Atherosclerosis. 2008;196:756–63.
9. Giles JT, Allison M, Blumenthal RS, Post W, Gelber AC, Petri M, et al. Abdominal adiposity in rheumatoid arthritis: association with cardiometabolic risk factors and disease characteristics. Arthritis Rheum. 2010;62:3173–82.
10. Peters MJ. EULAR evidence-based recommendations for cardiovascular risk management in patients with rheumatoid arthritis and other forms of inflammatory arthritis. Ann Rheum Dis. 2010;69:325–31.
11. Cunha VR, Brenol CV, Brenol JC, Xavier RM. Artrite reumatóide e síndrome metabólica. Rev Bras Reumatol. 2011;51:260–8.
12. Pereira IA, da Mota LM, Cruz BA, Brenol CV, Rezende-Fronza LS, Bertolo MB, et al. Consenso 2012 da Sociedade Brasileira de Reumatologia sobre o manejo de comorbidades em pacientes com o diagnóstico de Artrite Reumatoide. Rev Bras Reumatol. 2012;52:474–95.
13. Choy E, Ganeshalingam K, Semb AG, Szekanecz Z, Nurmohamed M. Cardiovascular risk in rheumatoid arthritis: recent advances in the understanding of the pivotal role of inflammation, risk predictors and the impact of treatment. Rheumatology. 2014;53:2143–54.
14. Dessein PH, Joffe BI, Stanwix AE, Christian BF, Veller M. Glucocorticoids and insulin sensitivity in rheumatoid arthritis. J Rheumatol. 2004;31:867–74.
15. del Rincón ID, Williams K, Stern MP, Freeman GL, Escalante A. High incidence of cardiovascular events in a rheumatoid arthritis cohort not explained by traditional cardiac risk factors. Arthritis Rheum. 2001;44:2737–45.
16. Reaven GM. Banting lecture 1988. Role of insulin resistence in human disease. Diabetes. 1988;37:1595–607.
17. Alberti KG, Eckel RH, Grundy SM, Zimmet PZ, Cleeman JI, Donato KA, et al. Harmonizing the metabolic syndrome. A joint interim statement of the International Diabetes Federation Task Force on Epidemiology and Prevention; National Heart, Lung and Blood Institute; American Heart Association; World Heart Federation; International Atherosclerosis Society; and International Association for the Study of Obesity. Circulation. 2009:1640–5.
18. Zhang J, Fu L, Shi J, Chen X, Li Y, Ma B, et al. The risk of metabolic syndrome in patients with rheumatoid arthritis: a meta-analysis of observational studies. PLOS ONE. 2013;8:e78151.
19. Oliveira BMGB, Medeiros MM, Cerqueira JV, Quixadá RT, Oliveira ÍM. Metabolic syndrome in patients with rheumatoid arthritis followed at a university hospital in Northeastern Brazil. Rev Bras Reumatol. 2016;56:117–25.
20. Symmons DP. Do we need a disease-specific cardiovascular risk calculator for patients with rheumatoid arthritis? Arthritis Rheumatol. 2015;67:1990–4.
21. Hollan I, Dessein PH, Ronda N, Wasko MC, Svenungsson E, Agewall S, et al. Prevention of cardiovascular disease in rheumatoid arthritis. Autoimmun Rev. 2015;14:952–69.
22. de Campos OAM, Nazário NO, de Magalhães Souza Fialho SC, Fialho GL, de Oliveira FJS, de Castro GRW, et al. Assessment of cardiovascular risk in patients with rheumatoid arthritis using the SCORE risk index. Rev Bras Reumatol. 2016;56:138–44.


Marcos Renato de Assis[a,b,*], Patrícia Amanda Serafim[a]
[a] *Faculdade de Medicina de Marília (Famema), Marília, SP, Brazil*
[b] *Editor-in-Chief, Revista Brasileira de Reumatologia, Brazil*

[*] *Corresponding author.*
E-mail: a.assismr@gmail.com (M.R. Assis).

http://dx.doi.org/10.1016/j.rbre.2016.02.015