Prevalence of undiagnosed diabetes in Rheumatoid arthritis: role of drug therapy and perspectives

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Rheumatoid arthritis (RA) is a chronic inflammatory disease characterized by an excess of cardiovascular disease (CVD) risk, estimated to be at least 50% greater when compared to the general population. However, although the widespread diffusion of type 2 diabetis mellitus (T2DM) awareness, there is still a significant proportion of patients with T2DM that remain undiagnosed. Aim of this work was to evaluate the prevalence of undiagnosed diabetes and prediabetes in RA patients studying their relation to current drug therapy and other risk factors such as body mass index.

For the present study 100 consecutive nondiabetic RA patients were recruited. Age- and sex-matched subjects with non-inflammatory diseases (osteoarthritis or fibromyalgia) were used for controls. After overnight fasting, blood samples were obtained for laboratory evaluation including plasma glucose, total cholesterol, HDL-cholesterol, LDL-cholesterol, triglycerides, uric erythrocyte sedimentation rate (ESR), high Sensitivity C-reactive protein (*hs*-CRP), rheumatoid Factor (RF) and anti-Cyclic Citrullinated Peptide Antibodies (ACPA). A standard Oral Glucose Tolerance Test (OGTT) with 75 g of glucose was performed and blood samples were collected at time 0, 30, 60, 90, and 120 minutes, for measurement of plasma glucose concentrations.

The prevalence of impaired fasting glucose (IFG; 9/100 Vs 12/100, p = 0.49), impaired glucose tolerance (IGT; 19/100 Vs 12/100, p = 0.17) and combined IFG/IGT (5/100 Vs 9/100, p = 0.27) was similar between groups, while the prevalence of diabetes was significantly higher in RA patients (10/100 Vs 2/100, p = 0.02). In a logistic regression analysis, increasing age (OR = 1.13, 95% CI 1.028 – 1.245, p = 0.01) and disease duration (OR = 1.90, 95% CI 1.210 – 2.995, p = 0.005), were both associated with an increased likelihood of being classified as prediabetes or T2DM. A ROC curve was built to evaluate the predictivity of disease duration on the likelihood of being diagnosed with T2DM. The area under the ROC curve was 0.67 (95% CI: 0.56 – 0.78), p = 0.004). We identified the best cut-off of 33 months that yielded a sensitivity of 61% and a specificity of 70% for classification of T2DM patients. No drug effect were observed, excluding that the use of corticosteroids might influence the development of T2DM in these RA patients.

According to our data, RA seems to be characterized by an elevated prevalence of undiagnosed diabetes, especially in patients with disease duration > 33 months. This is not related to the type of drug used. Furthermore, CVD risk in this patients might be considered higher than actually considered and it probably needs a re-evaluation in order to assess the possibility of treating such patients in primary prevention.