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Letter to the Editor

Celiac disease in rheumatoid arthritis: A cross-sectional study in Iran

Dear Editor,

Rheumatoid arthritis (RA) is a systemic autoimmune disease and it has familial association with other autoimmune diseases.^{1,2} One of the autoimmune disorders that has pathogenesis similar to RA is Celiac disease (CD).² Clinical observations indicated that inflammation of the gut is frequently associated with inflammation of the joints and vice versa, but the nature of this relationship remains unknown. A significant number of RA patients take corticosteroids that reduce inflammatory processes in celiac disease and could hide clinically apparent disease. Immunosuppressive drugs prescribed to RA patient could decrease antibody production, which is required for the diagnosis of asymptomatic seropositive celiac patients. On the other hand, CD as a disease of absorption could interfere with the absorption of drugs prescribed to RA patients. Thus, it may contribute to the activation of the RA. The aim of our study was to determine the prevalence of CD, by using specific autoantibodies, in patients with RA.

In this cross sectional study 156 consecutive patients (19 male and 137 female) referred to Rheumatology clinic in Razi referral hospital of Rasht, Iran, from May 2012 to May 2013, were enrolled. RA patients were previously diagnosed according to the ACR–EULAR Classification Criteria for Rheumatoid Arthritis 2010.³ Diagnosis of celiac disease was based on screening of patients with IgA-TTG, IgG-TTG and serum IgA level by ELISA method and Immunofluorescence. Positive serological tests were confirmed by endoscopic procedure and biopsy from small intestine. (Modified Marsh Classification).

Normality of the variables distribution was tested by using the one sample Kolmogorov–Smirnov test. Analysis was performed by using Fisher Exact, Mann–Whitney U, Student t and Chi square tests. P values less than 0.05 were considered significant.

Out of the 156, only 2 patients or 1.28% (CI 95%, 0–3.04%) had positive serological tests. Both of these positive results were confirmed by endoscopic procedure. There was no significant association between baseline characteristics of patients such as sex, age, marital status, literacy level, disease duration and activity of RA, and underlying diseases in two groups with or without celiac disease ($P > 0.05$). Serum IgA level and positive IgA TTG did not have significant association

with clinically relevant disease but IgG TTG positivity showed a significant association ($P = 0.001$).

In the present study, CD was detected in 1.3% patients with RA that is similar to previous studies.² According to our study and other similar surveys, it does not appear that celiac disease is more frequent in RA patients. However, not many studies have evaluated the prevalence of CD, by screening anti-tissue transglutaminase antibodies, in patients with rheumatoid arthritis.

Both patients with CD were female and there was no relationship between gender and CD. This result is similar to another study.⁴ Similar to other study we did not find any relationship between associated disease and CD in patients with RA.⁵

Many authors have shown that prednisolone and other immunosuppressive drugs, especially in high doses may reduce the production of antibodies,⁶ in this study there was no significant association between administration of corticosteroids and immunosuppressive drugs with CD.

In conclusion, our study has shown that prevalence of CD in patients with RA is low. Despite low prevalence of CD in RA, it is recommended to do celiac screening in patients with RA because they may have reciprocal effects on each other especially the disease course. We suggest a prospective study with a larger sample size and quantitative measurements of antibodies.

Each author's contribution

Conception and design (1,2,3,7); analysis and interpretation of the data (3,4,8); drafting of the article; (1,2,6,7) critical revision of the article for important intellectual content; (2,5,7) final approval of the article (1,2,7).

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