

Associations between viral infection history symptoms, granulocyte reactive oxygen species activity, and active rheumatoid arthritis disease in untreated women at Onset: Results from a longitudinal cohort study of tatarstan women

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Abstract

© 2017 Arleevskaya, Shafigullina, Filina, Lemerle and Renaudineau. To evaluate the effects of infectious episodes at early stages of rheumatoid arthritis (eRA) development, 59 untreated eRA patients, 77 first-degree relatives, from a longitudinal Tatarstan women cohort, were included, and compared to 67 healthy women without rheumatoid arthritis (RA) in their family history. At inclusion, informations were collected regarding both the type and incidence of infectious symptom episodes in the preceding year, and granulocyte reactive oxygen species (ROS) we re studied at the basal level and after stimulation with serum-treated zymosan (STZ). In the eRA group, clinical [disease activity score (DAS28), health assessment questionnaire] and biological parameters associated with inflammation (erythrocyte sedimentation rate, C-reactive protein) or with RA [rheumatoid factor, anticyclic citrullinated peptide (anti-CCP2) antibodies] were evaluated. An elevated incidence of infection events in the previous year characterized the eRA and relative groups. In addition, a history of herpes simplex virus (HSV) episodes was associated with disease activity, while an elevated incidence of anti-CCP2 autoantibody characterized eRA patients with a history of viral upper respiratory tract infection symptoms (V-URI). Granulocyte ROS activity in eRA patients was quantitatively [STZ peak and its area under the curve (AUC)] and qualitatively (STZ time of peak) altered, positively correlated with disease activity, and parameters were associated with viral symptoms including HSV exacerbation/recurrence, and V-URI. In conclusion, our study provides arguments to consider a history of increased viral infection symptoms in RA at the early stage and such involvement needs to be studied further.

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Keywords

Infection symptoms, Reactive oxygen species, Rheumatoid arthritis, Viruses, Women

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