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## Rheumatoid arthritis and cardiovascular events

**Evija Stumbra Stumberga**

Riga Stradins University, Latvia

**Abstract:** Rheumatoid arthritis (RA) is a chronic systemic inflammatory disease affecting ~1% of the general adult population (1). Systemic inflammation associated with risk factors as disease activity and seropositivity could contribute to accelerated atherosclerosis. The latter correlates with a risk of morbidity and mortality due to cardiovascular diseases (CVD). (1)The aim of the study to detect cardiovascular events(CV) and estimate intima-media thickness (IMT) and plaque formation in RA patients with relation to age, RA activity, seropositivity, CV risk factors.

**Methods:** A case-control prospective study was conducted with one hundred twelve RA patients, female 80.4%, aged from 21 to 84 years. Twenty-one of them had their first CV event after RA was diagnosed, and they were considered as a case group. The case and control groups were matched in gender and disease duration. The Das28 score measured disease activity; health status was evaluated by the Health Assessment Questionnaire (HAQ). Brachiocephalic artery hemodynamic parameters, IMT and plaques were assessed using high-resolution B mode and Doppler-mode ultrasound. AP value of less than 0.05 was used as the threshold for statistical significance. Statistical analysis was performed by using IBM SPSS 21.0.

**Results:** Patients with CV events were mostly females (81 %) with a mean age of 68.78 ( $\pm 8.97$ ) years. Fifteen of RA patients developed stroke, while twelve myocardial infarction. The median RA disease duration was nine years (IQR 5.6-15), ( $p = 0.431$ ). CV patients were significantly older compared to control RA patients 56.14( $\pm 14.73$ ), ( $p < 0.001$ ). Only 4,8 % of cases were smokers ( $p = 0.002$ ). Amongst all case group patients, 90.5% were suffering from arterial hypertension ( $p = 0.002$ ), but 4.8% had such comorbidity as diabetes mellitus ( $p = 0.942$ ). Disease activity evaluated by the Das 28 (CRP) score for the case group was 5.19 (IQR 2.83-5.99) ; ( $p = 0.280$ ) ,but assessed by the HAQ-1.75( IQR 1.0-1.75);( $p = 0.140$ ). Seropositivity was found in 85.7% case-patients with CV events ( $p = 0.724$ ). Atherosclerotic plaques in brachiocephalic vessels were found in 66.7% of cases vs control 53.8%, ( $p = 0.336$ ). Atherosclerotic plaques in brachiocephalic, causing  $> 50$  % lumen obstruction had 23.8 % of patients with CV events, ( $p = 0.003$ ).

**Conclusion:** In our case-control study, non-fatal stroke and MI was observed in older individuals (females) being positively associated with systolic arterial hypertension and brachiocephalic atherosclerotic plaques, protruding lumen more than 50%. Seropositivity and disease activity were not good predictors to CV events.

## Biography

Evija Stumbra Stumberga is a consultant rheumatologist, neurosonologist and internal medicine specialist. She has completed her post-doctoral studies in the Riga Stradin's University. She has graduated the residency of internal medicine and rheumatology. She participated in the 'Erasmus Exchange Program' in the Whittenshaw Hospital, Rheumatology Department, Manchester, United Kingdom in 2011. She has got the AAS degree and had courses in Internal Medicine in Salzburg. She has been specialized in neurosonology, worked as a neurosonologist. She has got the DAAD degree in 2013 and has been worked in the Stroke Unit, neurosonology department in the Neurologisches Zentrum der Segeberger Kliniken Gruppe in Bad Segeberg, Germany. She has published clinical and research works concerning rheumatoid arthritis and atherosclerosis in reputed journals and has been served as an editorial board member of repute.

evijastumbra@inbox.lv