
THU0139
STATINS MODERATE THE EFFECT OF INFLAMMATION ON CORONARY PLAQUE PROGRESSION AND CARDIOVASCULAR DISEASE RISK IN RHEUMATOID ARTHRITIS

G. Karpouzas1, S. Ormseth1, E. Hernandez2, M. Budof1. 1Lundquist Institute at Biomedical Innovation, Torrance, United States of America

Background: Cumulative inflammation correlates with coronary plaque increase and cardiovascular disease (CVD) events in rheumatoid arthritis (RA). Coronary plaque progression predicts CVD risk beyond baseline burden in general patients. Statins inhibit plaque progression and are effective for CVD prevention in general patients. Nevertheless, their impact on coronary plaque trajectory and CVD risk in RA are less clear.

Objectives: To explore if statin treatment may reduce CVD event risk, inhibit new plaque formation or promote the regression or protective calcification of prevalent atherosclerotic lesions in RA. We also evaluated whether statins moderate the effects of inflammation (CRP) on CVD risk and on coronary plaque progression.

Methods: One hundred-fifty patients underwent computed tomography angiography for coronary atherosclerosis evaluation (total, non-calcified, mixed/calcified plaque); 101 had repeat assessments within 6.9±0.3 years to evaluate plaque progression. CVD events were prospectively recorded, including cardiac death, myocardial infarction, unstable angina, revascularization, stroke, claudication, and heart failure hospitalization. Framingham-Dagostino score assessed clinical risk. Plaque burden was measured as segment stenosis score (cumulative stenosis). Robust cox proportional hazards regression model evaluated the effects of time-varying statin use, log-transformed time-varying CRP (mg/dL) and their interaction on CVD risk controlling for coronary plaque progression (years), log-transformed time-varying CRP, and their interaction on likelihood of new plaque formation in segments without plaque, and plaque regression or calcification in segments with non-calcified lesions. Models accounted for clustering of coronary segments within patients and controlled for Framingham-Dagostino score, total prednisone dose, bDMARD use, and time between scans.

Results: Sixteen patients incurred 19 CVD events. There was no main effect of current statin use on CVD risk (adjusted HR 1.10, 95% CI 0.33-3.67). However, there was an interaction between current statin use and time-varying CRP (p-interaction=0.030); higher time-varying CRP predicted greater CVD risk in patients not receiving statins (adjusted HR 2.78, 95% CI 1.07-7.65), but not current statin users (Figure 1A). Likewise, current statin use associated with lower CVD risk when patients had higher time-varying CRP (>0.5mg/dL) but not when CRP was lower (<0.5mg/dL, Figure 1B). Statin duration had no main effect on new plaque formation in segments without plaque at baseline (adjusted OR 1.13, 95% CI 0.95-1.05); however, statin use moderated the effect of time-averaged CRP on new plaque formation (p-interaction=0.030, Figure 2A). Time-averaged CRP associated with a higher likelihood of new plaque in patients receiving statins less than one year (adjusted OR 1.75, 95% CI 1.38-2.20) but not those treated for longer (adjusted OR 1.26, 95% CI 0.78-2.02). In segments with non-calcified plaque, longer statin duration predicted protective calcification (adjusted OR 1.28, 95% CI 1.07-1.53; Figure 2B).

Conclusion: In RA, statins moderated the effect of CRP on CVD event risk and new plaque formation in coronary segments without plaque. Longer statin duration was also associated with an increased likelihood of protective calcification of non-calcified plaque.


THU0140
COMORBIDITIES AMONG KOREAN WOMEN WITH RHEUMATOID ARTHRITIS IN CHILDBEARING YEARS: A NATIONWIDE POPULATION-BASED STUDY

M. K. Chung1, H. S. Lim2, J. S. Park3, C. H. Lee4, J. Lee1. 1Division of Rheumatology, Department of Internal Medicine, Ewha Womans University School of Medicine, Seoul, Korea, Rep. of (South Korea); 2Division of Rheumatology, Department of Internal Medicine, National Health Insurance Service Ilsan Hospital, Goyang, Korea, Rep. of (South Korea)

Background: Rheumatoid arthritis is a chronic systemic inflammatory disease known to be associated with many comorbidities. Many women with rheumatoid arthritis (RA) are diagnosed with the disease before completing childbearing, but the risk of comorbidities associated with RA among women in childbearing years is not known.

Objectives: We aimed to investigate the risk of comorbidities among Korean women with RA in childbearing years.

Methods: From National Health Insurance Service data of 2009-2016, containing inpatient and outpatient claim information for approximately 97% of the Korean population, we identified 20-44 year aged-women with RA and controls without rheumatic diseases such as RA, systemic lupus erythematosus, and ankylosing spondylitis. Prevalence of comorbidities including cancer (Ca), hypertension (HTN), hyperlipidemia (HLD), and diabetes mellitus (DM) were analyzed. The rheumatic diseases and comorbidities were defined by International Classification of Disease (ICD)-10 codes for disease classifications. The comorbidities associated with RA were defined by the ICD-10 codes presented after the RA diagnosis.

Results: Total 23,756 women with RA and 208,941 controls were identified. Women with RA had significantly higher prevalence of all comorbidities analyzed compared with the controls (49.92% vs 25.58%, p<0.001). In women with RA, Ca (OR 1.14), DM (OR 1.22), HTN (OR 1.56), and HLD (OR 2.44) occurred significantly more often compared with the controls (p<0.001).

Conclusion: During childbearing years, women with RA are more susceptible to comorbidities leading to a significant burden in this specific population of Korean women in childbearing years.

References:
RA, rheumatoid arthritis; Ca, cancer; DM, diabetes mellitus; HTN, hypertension; HLD, hyperlipidemia; OR, odds ratio; CI, confidence interval

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.4193

THU0141
A META-ANALYSIS FOR THE PREVALENCE AND RISK FACTORS OF SARCOPENIA IN RHEUMATOID ARTHRITIS

T. H. Li1,2,3, C. C. Chuang1, Y. S. Chang1, C. C. Lai1,2,3, C. F. Su1, C. W. Liu1,2,3, Y. Y. Yang1,2, H. T. Liao1,2,3, C. Y. Tsai1,2,3, Shin Kong Wu Ho-Su Memorial Hospital, Division of Allergy, Immunology, and Rheumatology, Department of Internal Medicine, Taipei, Taiwan, Republic of China; 2Institute of Clinical Medicine, National Yang-Ming University, Taipei, Taiwan, Republic of China; 3Faculty of Medicine, National Yang-Ming University, Taipei, Taiwan, Republic of China; 4Shuang Ho Hospital, Taipei Medical University, Division of Allergy, Immunology, and Rheumatology, Department of Medicine, New Taipei City, Taiwan, Republic of China; 5Taipei Veterans General Hospital, Division of Allergy, Immunology, and Rheumatology, Department of Medicine, Taipei, Taiwan, Republic of China

Background: Sarcopenia is an essential issue in elderly or chronically ill subjects, and a recent surge of research on sarcopenia in patients with rheumatoid arthritis (RA) has emerged; however, the results remains controversial.

Objectives: To assess the prevalence and risk factors of sarcopenia in patients with RA.

Methods: We searched the studies investigating the prevalence and risk factors of sarcopenia in PubMed, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL), AirtiLibrary, Chinese Electronic Periodicals Service (CEPS) and China National Knowledge Infrastructure (CNKI) Database from inception to October 5, 2019. Effects regarding prevalence and the associated risk factors were extracted and evaluated by random-effect model. Sensitivity analysis was performed for the effects.

Results: After searching, twenty studies containing 3,663 RA subjects were included for meta-analysis, yielding age (odds ratio [OR] 1.168, 95% confidence interval [CI] 1.032-1.322, P = 0.014), female (OR 4.438, 95% CI 1.857-10.605, P < 0.001), CRP (OR 1.797, 95% CI 1.422-2.272, P < 0.001), HAQ (OR 1.756, 95% CI 1.235-2.496, P < 0.002) and RF seropositivity (OR 1.935, 95% CI 1.032-1.322, P = 0.014) were significantly associated with sarcopenia in subjects with RA. There was no alteration of the results after removal any of studies in sensitivity analysis.

Conclusion: Our meta-analysis demonstrated the prevalence and associated risk factors of sarcopenia in RA. More research was still warranted to clarify the relationship.

References:


Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.147