Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.1646

SAT0109 SMOKING CESSATION IN PATIENTS WITH RA IS ASSOCIATED WITH REDUCED CVD EVENT RATES AND IMPROVED LIPID PROFILES AND PREDICTS LOWER RA DISEASE ACTIVITY

Ida Kristiane Roelsgaard¹, Eirik Ikdahl², Silvia Rollefstad², Grunde Wibetoe², Bente Appel Esbensen¹, George D. Kitas^{3,4}, Piet van Riel⁵, Sherine Gabriel⁶, Tore K. Kvien⁷, Karen Douglas⁸, Solveig Wallberg Jonsson⁹, Solbritt Rantapaa Dahlqvist⁹, George Karpouzas¹⁰, Patrick Dessein^{11,12}, Linda Tsang¹², Hani El-Gabalawy¹³, Carol Hitchon¹³, Virginia Dr. Pascual¹⁴, Irazu Contreras-Yáñez¹⁴, Petros Sfikakis¹⁵, Miguel A. González-Gay¹⁶, Cynthia S. Crowson⁶, Anne Grete Semb². ¹Rigshospitalet, Center for Rheumatology and Spine Diseases, Copenhagen Center for Arthritis Research (COPE CARE), Glostrup, Denmark; ²Diakonhjemmet Hospital, Preventive Cardio-Rheuma Clinic, Department of Rheumatology, Oslo, Norway; ³Dudley Group NHS Foundation Trust, West Midlands, United Kingdom; ⁴University of Birmingham, School of Sport, Exercise and Rehabilitation, Birmingham, United Kingdom; ⁵Radboud University Medical Center, Radboud Institute for Health Sciences, IQ healthcare, Nijmegen, Netherlands; ⁶Mayo Clinic, Department of Medicine, Division of Rheumatology, Rochester, MN, United States of America; ⁷Diakonhjemmet Hospital, Department of Rheumatology, Oslo, Norway; ⁸Dudley Group NHS Foundation Trust, West Midlands, United Kingdom; ⁹Umeå University, Department of Public Health and Clinical Medicine, Rheumatology, Umeå, Sweden; ¹⁰Division of Rheumatology, Harbor-UCLA Medical Center, Torrance, CA, United States of America; ¹¹Vrije Universiteit Brussel, Brussel, Belgium; ¹²Universitair Ziekenhuis Brussel, Brussel, Belgium; ¹³University of Manitoba, Winnipeg, MB, Canada; ¹⁴Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, México City, Mexico; ¹⁵National and Kapodistrian University of Athens, First Department of Propedeutic Internal Medicine, Athens, Greece; ¹⁶Rheumatology, Hospital Universitario Marqués de Valdecilla, IDIVAL, Universidad de Cantabria, Santander, Spain

Background: Smoking is a major risk factor for development of both cardiovascular disease (CVD) and rheumatoid arthritis (RA) and causes an attenuated response to antirheumatic treatment.

Objectives: The aim of this study was to compare disease activity and CVD risk factors across smoking status in RA patients. Further to evaluate the impact of smoking cessation on risk of future CVD events in these patients.

Methods: RA disease characteristics, CVD risk factors and relevant medication were recorded in patients from 10 countries (Norway, UK,

Netherlands, USA, Sweden, Greece, South Africa, Spain, Canada and Mexico). Information on CVD events were collected after a median follow-up of 3.54 years (inter-quartile range 2.51 – 6.06). Adjusted analysis of variance, logistic regression and COX proportional hazards analyses with time to event as response variable were applied to compare RA disease activity (measured by DAS28), CVD risk factors and CVD event rates across current, former and never smokers.

Results: Among the 3311 included RA patients (1012 former, 887 current and 1412 never smokers), 235 experienced a CVD event(s) during follow-up. At enrollment into the study current smokers were more likely to have moderate/high disease activity compared to former and never smokers ($p < 0.001$ for both) (Figure 1). There was a gradient of worsening CVD risk factor profiles (lipoproteins and blood pressure) from never smokers, via former smokers, to current smokers. Furthermore, after 3.54 years of follow up former and never smokers had significantly lower CVD event rates compared to current smokers (hazard ratio (95% confidence interval): 0.70 (0.51, 0.95), $p = 0.02$ and 0.48, (0.34, 0.69), $p < 0.001$, respectively) (figure 2). The CVD event rates for former and never smokers were comparable.

Conclusion: We show for the first time that smoking cessation in RA patients was associated with lower disease activity, improved lipid profiles and was a predictor of reduced rates of CVD events.

Figure 1. Disease activity across smoking status

Figure 2. Risk of future CVD event across smoking status in RA patients

COX proportional hazards regression model adjusted for age, sex, statin and antihypertensive use. HR; hazard ratio, 95% CI: 95% confidence interval.

Disclosure of Interests: Ida Kristiane Roelsgaard: None declared, Eirik Ikdahl: None declared, Silvia Rollefstad: None declared, Grunde Wibetoe: None declared, Bente Appel Esbensen Speakers bureau: For Pfizer, George D Kitas Speakers bureau: GDK has received honoraria for lectures, participation in advisory boards and/or hospitality by Roche, Abbvie, Pfizer, Novartis, UCB, BMS, GSK and received grant support from Lilly., Piet van Riel: None declared, Sherine Gabriel: None declared, Tore K. Kvien Grant/research support from: AbbVie, BMS, MSD, Pfizer, Roche and UCB., Consultant for: AbbVie, Biogen, BMS, Boehringer Ingelheim, Celgene, Celltrion, Eli Lilly, Hospira, Merck-Serono, MSD, Novartis, Oktal, Orion Pharma, Pfizer, Roche, Sandoz, Sanofi, Mylan and UCB, Speakers bureau: AbbVie, Biogen, BMS, Boehringer Ingelheim, Celgene, Celltrion, Eli Lilly, Hospira, Merck-Serono, MSD, Novartis, Oktal, Orion Pharma, Pfizer, Roche, Sandoz, Sanofi and UCB, Karen Douglas: None declared,