AB0240

ALCOHOL CONSUMPTION AND DEVELOPMENT OF ARTHRITIS AMONG PATIENTS WITH ANTI-CITRULLINATED PEPTIDE ANTIBODIES AND MUSCULOSKELETAL PAIN

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Background: Individuals with anti-citrullinated peptide antibodies (ACPA) and arthralgia are at increased risk of developing rheumatoid arthritis (RA). Predictors of disease development are important within this category of patients in order to improve treatment and follow-up decisions. Although excessive use of alcohol is well-known to cause harmful medical and social consequences, an inverse association between alcohol consumption and RA development has been proposed. Phosphatidylethanol (PEth) has shown to be a reliable biomarker to measure recent (up to four weeks) alcohol consumption with high specificity.

Objectives: The aim of this study was to, in relation to other possible clinical and laboratory predictors, pinpoint the association between biochemically determined alcohol consumption and development of arthritis in ACPA-positive individuals with musculoskeletal pain.

Methods: The study was performed as part of an observational prospective cohort (TIRx), including 104 ACPA-positive individuals with musculoskeletal pain and maximally one arthritis upon clinical examination. Exclusion criteria were >1 clinical arthritis, previous inflammatory rheumatic disease, and oral or intraarticular corticosteroid treatment within 6 weeks prior to screening. Participants were enrolled between 2010 and 2013 and were carefully followed during 72 months in median (range 23-91). The primary outcome measure was development of arthritis upon clinical examination. In baseline samples, we assessed ACPA levels in serum (2nd generation cyclic citrullinated peptides (CCP) as antigen), rheumatoid factor (RF), and the presence of shared epitope. PEth 16:0/18:1 was measured by liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS) in whole blood from baseline, and the results were categorized into three groups: no/low, moderate, or high consumption. Cox regression analyses were performed adjusting for smoking, symptom duration, age, sex, shared epitope, RF, and treatment with disease modifying antirheumatic drugs (DMARDs) and oral glucocorticoids.

Results: In TIRx, 82 patients had no swollen joints at inclusion, of whom 39 (48%) developed arthritis during follow-up after median 6 months (range 1-71). Of those, 48 (59%) patients were classified according to PEth values with no/low alcohol consumption, 28 (34%) with moderate consumption and 5 (6%) patients with high alcohol consumption. There was no significant difference in PEth values between patients with one baseline arthritis compared to those without ($p=0.09$). Neither were there any significant differences in arthritis-free survival across PEth categories versus arthritis development ($p=0.64$). Unadjusted hazard ratios (HRs) were numerically, but not significantly, increased among moderate (HR 1.22 95% CI 0.63-2.37, $p=0.56$) and high consumers (HR 1.69 95% CI 0.50-5.68, $p=0.40$) as compared to those classified as no/low consumers. There was an increased risk of arthritis development regarding RF positivity (adjusted HR 3.13, 95% CI 1.36-7.19, $p=0.007$) and higher ACPA levels (adjusted HR 1,001 95% CI 1.000-1.001, $p<0.001$), respectively.

Conclusion: This study does not show a significant association between biochemically assessed recent alcohol consumption and arthritis development in ACPA-positive individuals with musculoskeletal pain. Thus, PEth does not appear to be a clinically useful biomarker to predict disease development in ACPA-positive at-risk populations. Whether it may predict arthritis in a seronegative population remains to be determined. We confirm that RF positivity and ACPA levels associate with arthritis development in an ACPA-positive population.

Disclosure of Interests: Emma Eloff: None declared, Michael Ziegelsch Consultant for: AbbVie, MSD, Pfizer, and BK-Medical, Klara Martinsson: None declared, Jan Cedergren: None declared, Åsa Reckner: None declared, Thomas Skogh: None declared, Louise Karlsson: None declared, Andreas Årlemalm: None declared, Alf Kastbom Consultant for: Roche and Pfizer, Employee of: Sanofi, Speakers bureau: UCB and BMS DOI: 10.1136/annrheumdis-2019-eular.1644

AB0241

DISEASE COURSE AND COSTS OF A COHORT OF RHEUMATOID ARTHRITIS PATIENTS OVER A PERIOD OF 6 YEARS

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Background: A previous multicenter, cross-sectional study showed a substantial economic burden of rheumatoid arthritis (RA) in Turkey with significant positive correlation between disease severity and total costs (1).

Objectives: To calculate the annual costs and to assess disease activity and functional outcome of RA patients from a single center over a period of 6 years.

Methods: The previous study on healthcare costs in RA was performed in the outpatient clinics of 10 university hospitals between May 2011 and August 2012 (1). A total of 689 RA patients (all fulfilling ACR 1987 criteria) were studied of whom 75 (11%) being from our center. In March 2018, we called back our patients to the clinic for re-evaluation by using the questionnaire of the previous study containing questions on demographics, medication use and RA-related direct and indirect costs. We assessed disease activity with the Routine assessment of Patient Index Data 3 (RAPID3), functional status with HAQ-DI and Steinbrocker functional index and quality of life (QoL) with EuroQol Quality of Life Scale (EQ-5D).

Results: We could interview 62 patients (83%) in the clinic. Of the remaining 13 patients, 7(9%) had died, 3 were receiving palliative care following cardio-vascular events, 2 went to other centers and 1 declined to participate. The mean age and mean disease duration of the 62 re-evaluated patients (52 women, 10 men) were 56.8 ± 13.3 SD years and 225 ± 120 SD months, respectively. Forty-nine (79%) had used at least 1 biologic agent during follow-up and 34 (55%) were still on biologics at the time of re-evaluation. Disease activity was lower but was not significantly different from that of the previous study. However, functional status and QoL had improved significantly over time (Table 1). The majority of the patients (89%) were in Steinbrocker Class 1 or 2 with only 7 (11%) being in Steinbrocker Class 3. Of the 7 deceased patients (4 women 3 men; mean age: 68.2 ± 8.12 SD years; mean disease duration: 127.6 ± 73.8 SD months) 3 were on Rituximab, 2 were on synthetic DMARDs (one being biologic naïve) and 2 were free of RA medications (one was biologic naïve) at the time of death. Serious infections were the cause of death in 4 patients followed by hepatic failure due to hepatitis B, abdominal bleeding under anticoagulation and multi organ failure in 3 patients, respectively. Direct costs were higher than indirect costs and made up two thirds of RA related total costs (Table 1).

Conclusion: Disease activity remained stable and functional status and QoL improved among our patients over 6 years. Biologic usage was increased. Cardiovascular events and serious infections were major determinants of morbidity and mortality. Direct costs were the main determinants of RA related cost.

Table 1: RAPID 3, HAQ-DI, EQD5 Scores and annual cost

	Previous study (n=62)	Current study (n=62)	P
Mean (SD) RAPID3 Score	4.85±1.64	4.36±1.54	0.06
Mean (SD) HAQ-DI Score	1.86±0.59	0.69±0.57	0.001
Mean (SD) EQ-5D Score	0.57±0.21	0.68±0.21	0.003
Annual mean (SD) direct costs (€)	NA*	2262±2227	
Annual mean (SD) indirect costs (€)	NA*	1220±2449	

Results: The survey was replied by 41 rheumatologists, representing all regions in the country. Table 1 shows a summary of the results of the second round in terms of m and SD. To summarize, there was an agreement regarding the drugs that might be more adequate for patients with particular prognostic factors, except in the case of pulmonary involvement, in which agreement was only met for T-cell co-stimulation, and for elevated HAQ and acute phase reactants, where the use of B-cell depressant treatments did not reach an 80% of agreement.

NA* = not available