SATURDAY, 17 JUNE 2017

HPR patients' perspectives, functioning and health (descriptive: qualitative or quantitative)

SAT0719-HPR "AND SUDDENLY YOU ARE A PERSON AT RISK OF DEVELOPING RHEUMATOID ARTHRITIS!" DIFFERENT PERSPECTIVES OF INDIVIDUALS ON PREDICTIVE TESTING – RESULTS OF AN INTERNATIONAL QUALITATIVE INTERVIEW STUDY

E. Mosor^{1,2}, M. Stoffer², G. Steiner², K. Raza³, R.J. Stack³, G. Simons³, M. Falahee³, G. Schett⁴, A. Hueber⁴, M. Engelbrecht⁴, J. Smolen², T. Stamm¹. ¹Section for Outcomes Research, CeMSIS - Center for Medical Statistics, Informatics, and Intelligent Systems, Medical University of Vienna; ²Division of Rheumatology, Department of Internal Medicine III, Medical University of Vienna, Vienna, Austria; ³Department of Rheumatology, University of Birmingham and Sandwell & West Birmingham Hospitals NHS Trust, Birmingham, United Kingdom; ⁴Rheumatology and Immunology, Department of Internal Medicine 3, Universitätsklinikum Erlangen, Erlangen, Germany

Background: People at risk of developing rheumatoid arthritis (RA) may be candidates for interventions aimed at preventing RA development [1]. The identification of such "at risk" populations includes testing for genetic and other (e.g. autoantibody) biomarkers. However, little is known about the people's perspectives on these tests, how they react and cope when identified as being a person "at risk" and what their unmet needs are.

Objectives: To explore the perceptions about RA and predictive testing and to understand the various reactions and coping strategies used when identified as being at risk of developing RA from the perspective of those directly concerned.

Methods: As part of the EuroTEAM project, a qualitative interview study with people who were informed of being at risk of developing RA was conducted. An interview schedule was developed and pilot-tested. Interviews were audio-recorded, transcribed verbatim and analyzed using thematic analysis.

Results: A total of 34 individuals (with rheumatoid factor and/or ACPA positive) already informed of being at risk of developing RA participated in the study, from Austria (n=15), Germany (n=15), and the UK (n=4). In Vienna, people who had been tested within an expanded health exam participated in this study. In Birmingham and Erlangen, people with arthralgia were recruited from the outpatient clinics. Analysis of the interview data revealed five overarching themes related to predictive testing in the context of RA (Figure).

There were differences between the perceptions of althralgia patients and asymptomatic individuals. People suffering from pain were much more frightened and worried when informed of being at risk of developing RA. As a consequence, they modified their lives in a larger extent and had greater knowledge about RA than those without any symptoms who were rather surprised, kept calm and hardly changed their lifestyle after being tested positive. Almost all participants in this study would appreciate precise predictive tests in the context of RA. However, more than half of them would refuse synovial biopsy (even if this could help quantify risk more accurately) or preventive medication. Recommendations for an improved procedure of predictive testing in the field of RA were given, which could promote uptake of preventive strategies.

Conclusions: Participants showed large differences in views about predictive testing in the context of RA risk and offered specific suggestions that should be incorporated into service design and delivery in the context of future predictive testing programmes. These findings may also be relevant to prediction and prevention in the context of other diseases where multiple genetic risk factors interact with environmental risk factors to drive disease development.

References:

[1] van Steenbergen, H.W., T.W. Huizinga, and A.H. van der Helm-van Mil, The preclinical phase of rheumatoid arthritis: what is acknowledged and what needs to be assessed? *Arthritis Rheum*, 2013. 65(9): p. 2219–32.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.4705

SATURDAY, 17 JUNE 2017

HPR service developments, innovation and economics in healthcare

SAT0720-HPR LONGITUDINAL ANALYSIS OF RESPONSE, COSTS AND RESOURCE USE OF PATIENTS WITH RHEUMATOID ARTHRITIS INITIATING BIOLOGIC DISEASE-MODIFYING ANTIRHEUMATIC DRUGS (bDMARDs) IN TAIWAN USING THE NATIONAL HEALTH INSURANCE RESEARCH DATABASE

Q. Shi¹, T. Treuer², B.C. Wang³, C.L. Gaich⁴, C.-H. Lee⁵, W.-S. Wu⁵, W. Furnback³, K.-J. Li⁶, C.-H. Tang⁷. ¹Eli Lilly & Co., Shanghai, China; ²Eli Lilly & Co., Budapest, Hungary; ³Elysia Group Ltd., Taipei, Taiwan, Province of China; ⁴Eli Lilly & Co., Indianapolis, United States; ⁵Eli Lilly & Co.; ⁶National Taiwan University; ⁷Taipei Medical University, Taipei, Taiwan, Province of China

Background: Rheumatoid arthritis (RA) is an inflammatory disorder associated with a significant physical and psychological burden. Patients with RA experience a lower quality of life than patients without RA. This study utilizes Taiwan's National Health Insurance Database (NHIRD) which is a claims-based database recording all interactions with the National Health Insurance (NHI) system.

Objectives: The objective of this study was to use the NHIRD to estimate the percentage of newly treated patients with inadequate response (IR) to biologic disease-modifying antirheumatic drugs (bDMARDs) as well as the costs and resources.

Methods: Data were from the catastrophic illness file within the NHIRD from 1/1/2009 to 12/31/2013. The index period spanned 2010 with a pre-index period consisting of the index date – 365 days, and patient follow-up was index date to 365 days post-index. Patients with a catastrophic illness card for RA were included in the study. Biologically-naïve patients included those who did not have a claim for a bDMARD or exclusion diagnoses in the pre-index period. Biologically-naïve patients with a bDMARD claim were indexed upon their first claim for a bDMARD during the index year. A validated algorithm was used to examine the rate of inadequate response in the biologically-naïve cohort of patients. Inadequate responders met one or more of the following criteria during their year of follow-up: low adherence (proportion of days covered <0.80); switched to or added a second bDMARD; added a new conventional synthetic DMARD (csDMARD); received ≥1 glucocorticoid injection; or increased oral glucocorticoid dosing. All-cause mean annual direct costs and resource use were measured in the year of follow-up. Costs were converted from NT\$ to EUR using 1 NT\$ = 0.03 EUR.

Results: A total of 818 biologically-naïve patients initiated a bDMARD and were included in the study. At 1 year of follow-up, 66.01% (n=540) were classified as bDMARD-IR, 31.54% (n=258) were classified as confirmed stable, and 2.44% (n=20) were of unknown response status. Mean annual total direct costs in the follow-up year were €14,669 and €12,867 for the confirmed stable and inadequate responder cohorts, respectively. Mean annual non-medication costs were 40.4% (€578) higher for the IR cohort, and mean annual medication costs were 17.2% (€2,379) higher for the confirmed stable cohort. IR patients had higher mean annual resource utilization in the follow-up year with increases in hospital admissions (0.46 vs. 0.1), hospital days (3.4 vs. 0.49), outpatient visits (42.50 vs. 37.66), and emergency department visits (0.51 vs. 0.3).

Conclusions: A significant proportion of patients with RA initiating a bDMARD for the first time showed an IR to their treatment within a year. Patients with an IR had increased resource utilization and higher non-medication costs than those with stable disease. This level of IR suggests an unmet need in the RA treatment paradigm.

Disclosure of Interest: Q. Shi Employee of: Eli Lilly & Co., T. Treuer Employee of: Eli Lilly & Co., B. Wang Consultant for: Eli Lilly & Co., C. Gaich Employee of: Eli Lilly & Co., C.-H. Lee Employee of: Eli Lilly & Co., W.-S. Wu Employee of: Eli Lilly & Co., W. Furnback Consultant for: Eli Lilly & Co., K.-J. Li: None declared, C.-H. Tang: None declared

DOI: 10.1136/annrheumdis-2017-eular.5315

SATURDAY, 17 JUNE 2017

HPR epidemiology and public health (including prevention)

SAT0721-HPR EXPOSURE TO PASSIVE SMOKING AND RA RISK; RESULTS FROM THE SWEDISH EIRA STUDY

A.K. Hedström¹, L. Klareskog², L. Alfredsson¹. ¹Institute of Environmental Medicine; ²Department of Medicine, Karolinska Institutet, Stockholm, Sweden

Background: Smoking has consistently been associated with increased risk of developing rheumatoid arthritis (RA). However, no studies have been performed investigating the effect of exposure to environmental tobacco smoke (i.e. passive smoking) on RA risk.

Objectives: The aim of this study was to estimate the influence of passive smoking on the risk of developing the two major subsets of RA, defined by anti-citrullinated protein antibodies (ACPA) status.

Methods: A population-based case-control study using incident cases of RA was performed in Sweden, and the study population in this report was restricted to include never smokers (589 cases, 1764 controls). The incidence of RA among never smokers who had been exposed to passive smoking was compared with that of never smokers who had never been exposed, by calculating the odds ratio with a 95% confidence interval employing logistic regression.

Results: No association was observed between exposure to passive smoking and RA risk (OR 1.0, 95% CI 0.8–1.2 for ACPA positive RA, and OR 0.9, 95% CI 0.7–1.2 for ACPA negative RA). No suggestion of a trend between duration of passive smoking and RA risk was observed.

Conclusions: No association was observed between exposure to passive smoking and RA risk, which may be explained by a threshold below which no association between smoke exposure and RA occurs.

Acknowledgements: The EIRA study was supported by grants from the Swedish Medical Research Council, the Swedish Council for Health, Working Life and Welfare, King Gustaf V's 80-year foundation, the Swedish Rheumatism Foundation, Stockholm County Council, the insurance company AFA, the EU-supported AutoCure and BeTheCure projects, and from the COMBINE (Controlling chronic inflammatory diseases with combined efforts) project.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.3389

SAT0722-HPR FAMILIAL RISKS OF RHEUMATOID ARTHRITIS: EVIDENCE FROM THE MALAYSIAN EPIDEMIOLOGICAL INVESTIGATION OF RHEUMATOID ARTHRITIS CASE-CONTROL STUDY

C.L. Too^{1,2}, L.K. Tan³, A.F. Nurul Ain³, S. Salsabil³, H. Heselynn⁴, S. Wahinuddin⁵, I.S. Lau⁶, S.C. Gun⁷, S. Nor-Shuhaila⁴, M. Eashwary⁴, M.S. Mohd-Shahrir⁸, M.-M. Aionon⁹, R. Azmillah⁶, O. Muhaini¹⁰, C. Bengtsson¹¹, L. Padyukov², L. Alfredsson¹¹, L. Klareskog², M. Shahnaz¹².
¹Allergy and Immunology Research Center, Institute for Medical Research, Kuala Lumpur, Malaysia; ²Department of Medicine, Rheumatology Unit, Karolinska Institutet and Karolinska University Hospital, Stockholm, Sweden; ³Institute for Medical Research, Kuala Lumpur; ⁴Department of Medicine, Putrajaya Hospital, Putrajaya; ⁵Faculty of Medicine, Universiti Kuala Lumpur Royal College of Medicine Perak, Ipoh; ⁶Department of Medicine, Selayang Hospital, Selayang; ⁷Department of Medicine, Hospital Tunku Ja'afar Seremban, Seremban; ⁸Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Center, Kuala Lumpur; ⁹Department of Medicine, Tengku Ampuan Afzan Hospital, Kuantan, Pahang; ¹⁰Department of Medicine, Hospital Raja Perempuan Bainun, Ipoh, Perak, Malaysia; ¹¹Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden; ¹²Ministry of Health, Level 12th, Block E7, Parcel E, Federal Government Administrative Center, Putrajaya, Malaysia

Background: Family history of rheumatoid arthritis (RA) is a surrogate for an individual's genetic and partly environmental risk of developing RA. It is assessed daily in clinical practice and its magnitude and pattern of distribution may provide information on the RA etiology.

Objectives: We investigated the association between family history of RA and the risk of anti-citrullinated peptide antibody (ACPA)-positive and ACPA-negative RA in the Malaysian population.

Methods: Data from the Malaysian Epidemiological Investigation of Rheumatoid Arthritis (MyEIRA) population-based case-control study involving 1,055 early RA cases and 1,055 age, sex and residential area-matched controls were analyzed. Information from interview-reported family history of RA or rheumatic stiff back among first degree relatives was used to estimate the risk of developing ACPA-positive and ACPA negative RA. The odds ratio (OR) with 95% confidence interval (CI) was calculated.

Results: In this study, 64% of the RA patients were ACPA-positive and 40% of the overall RA carried HLA-DRB1 shared epitope (SE) alleles. Family history of RA was significantly associated with an increased risk of developing RA in the Malaysian population (RA versus controls, 17.0% vs. 7.7%, OR 2.4, 95% CI 1.8–3.2, $p < 0.0001$). The association between positive family history and risk of RA was uniformly observed for the ACPA-positive RA (OR 2.5, 95% CI 1.8–3.3, $p < 0.0001$) and ACPA-negative RA (OR 2.3, 95% CI 1.6–3.2, $p < 0.0001$) subsets, respectively. A dramatically increased risk for ACPA-positive RA was seen in individuals who both were having positive family history of RA and carried HLA-DRB1 SE alleles (OR 14.7, 95% CI 7.7–27.8). We also observed a lesser risk magnitude in the ACPA-negative RA patients (OR 5.7, 95% CI 2.7–11.9).

Conclusions: Our data demonstrate that family history of RA remains an important clinical risk factor for RA. In addition, positive family history of RA was associated with an increased risk of developing both the ACPA-positive and ACPA-negative RA in the Malaysian population, suggesting that the two RA subsets are similar in genetic risk factors that overlap with these diseases.

References:

- [1] Frisell T, Saevardsdottir S, Asklung J. Family history of rheumatoid arthritis: an old concept with new developments. *Nat Rev Rheumatol*. 2016 Jun;12(6):335–43.
- [2] Frisell T, Hellgren K, Alfredsson L, Raychaudhuri S, Klareskog L, Asklung J. Familial aggregation of arthritis-related diseases in seropositive and seronegative rheumatoid arthritis: a register-based case-control study in Sweden. *Ann Rheum Dis*. 2016 Jan;75(1):183–9.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.4714

SATURDAY, 17 JUNE 2017

HPR patients' perspectives, functioning and health (descriptive: qualitative or quantitative)

SAT0723-HPR GENDER DIFFERENCES IN COPING STRATEGIES AND ILLNESS ACCEPTANCE IN PATIENTS WITH INFLAMMATORY ARTHRITIS – A NATIONWIDE CROSS-SECTIONAL STUDY

B.A. Esbensen^{1,2}, C. Flurey³, K.V. Jensen¹, L. Andersen¹, N.M. Hammer¹.
¹Rigshospitalet - Glostrup, COPECARE, Centre for Rheumatology and Spine Diseases & Research Unit, Glostrup; ²Department of Clinical Medicine, Faculty of Health and Medical, University of Copenhagen, Copenhagen, Denmark; ³Rheumatology Unit, Bristol Royal Infirmary, West England, Bristol, United Kingdom

Background: There is an increasing focus on how patients with inflammatory arthritis (IA) manage living with arthritis. There are a preponderance of women with RA (70%), thus previous research has overall focused on female patients and their management. Research in other long term conditions suggests men need their own health strategy¹, thus it is important to investigate whether there are gender differences in coping strategies and illness acceptance within chronic IA.

Objectives: To explore gender differences in IA as reflected by coping strategies and illness acceptance. Furthermore, to identify factors associated with high degree of illness acceptance.

Methods: The study was conducted as a nationwide cross-sectional study using online survey during 2016. Patients >18 with rheumatoid arthritis (RA), psoriatic arthritis (PsA) and axial spondyloarthritis (axSpA) were invited to contribute through: The Danish Rheumatism Organization, local arthritis networks, diagnosis networks, and rheumatology departments across the country. The self-report online questionnaire comprised Socio-demographics, Diagnosis, Symptoms (pain, fatigue, global), Medications, Disease Activity, Functional Status, Coping (i.e. confrontation, avoidance and acceptance-resignation) and Illness Acceptance. As recommended by EULAR 2 patients with RA (KJV & LA; male and female, respectively), were included as equal research partners in all phases of the study. Descriptive statistics were applied to explore gender differences, and logistic regression analyses were performed to test for factors associated with illness acceptance.

Results: In total, 664 (85% women) were included in the study; RA 53%, PsA 27% and axSpA 20%. More men (40%) than women (30%) were treated with biological DMARDs ($p=0.048$). No significant gender differences were found in disease activity, symptoms and functional status. Overall, the total sample had high degree of illness acceptance and no significant difference was found between males and females. Regarding illness coping, women with IA tend to use avoidance as a coping strategy significantly more than men ($p=0.015$). In the final multivariable regression model, higher education (OR=1.46; 1.02–2.11), longer time diagnosed (OR=1.21 per 1-yr. increase; 1.01–1.05), lower physical disability (OR=0.76; 0.69–0.85), better coping with fatigue (OR=1.13; 1.05–1.22), less avoidance (OR=0.93; 0.87–0.99) and acceptance-resignation (OR=0.62; 0.62–0.75) as coping strategies were significantly associated with high degree of illness acceptance.

Conclusions: No significant differences were found in illness acceptance among women and men with IA. However, women tended to use avoidance as a coping strategy more than men. High levels of illness acceptance may be explained by high education, longer disease duration, and better physical function, better coping of fatigue and less use of passive coping strategies.

References:

- [1] White A, McKee M, Richardson N, et al. Europe's men need their own health strategy. *BMJ* 2011;343:d7397.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.5027

SAT0724-HPR GOTENBURG NURSE LED TIGHT CONTROL STUDY – GOTNET. PATIENTS' EXPERIENCES OF NURSE-LED CARE AND TIGHT CONTROL. A QUALITATIVE STUDY OF PATIENTS WITH RHEUMATOID ARTHRITIS

U. Bergsten^{1,2}, A.-S. Sjö¹. ¹Rheumatology Department, Sahlgrenska University Hospital, Gothenburg; ²Department of Research, Development and Education, Region Halland, Varberg, Sweden

Background: Rheumatoid arthritis (RA) is a chronic inflammatory illness, using both pharmacological and non-pharmacological therapies. Some patients experience good treatment, knowledge about their illness and situation. For other patients, it might look different depending on how much they know about their illness. Earlier research has primarily focused on patients in remission. In order to strengthen and support patients with RA that are not feeling well, to give them more knowledge about their situation, one strategy could be that they have access to a nurse-led rheumatology clinic with person-centered care (PCC).