SP0029 RHEVITAL: CONTROLLING YOUR DISEASE ACTIVITY WITH AN APP

Corinna Elling-Audersch. German League against Arthritis, NRW, Solingen, Germany

Background: Rheumatoid arthritis (RA) is a chronic inflammatory disease requiring long-term treatment with regular monitoring of the ongoing therapeutic process by a rheumatologist to achieve good health outcomes and prevent negative disease impacts.

Objectives: The RheVITAL App is the product of a new and multilayered concept of treatment.

A combination of a team of rheumatologists, physiotherapists, IT specialists and research partners from the German League against Arthritis have all contributed to the development of this research project.

Methods: The presentation will show how this monitoring system improves the treatment of RA individually, monitors the patients on their way to self-empowerment and promotes participative collaboration between patients and rheumatologists.

Results: The patients play an active role in the whole system. The patients are trained about their diseases, their treatment and the medicine they are taking. Furthermore they are given much more information about the German patient organisation.

Conclusion: My talk will consider the function and management of the app, the difficulties as well as the efforts of data security and the role of the patient organisation as a research partner involved in this project.

Disclosure of Interests: None declared

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SP0030 DEVELOPING E-HEALTH SOLUTIONS FOR PATIENTS WITH PATIENTS

Susanne Karlfeldt. Karolinska Institutet, Academic Specialist Center, Center for Rheumatology, Stockholm, Sweden

Background: At the Center for Rheumatology the Patient's voice and needs are always central in the planning and development of the organization and its' services and structure. The Patient Council at the unit, with representatives from 14 different patient organizations, is a core facility that is always addressed when decisions are to be made that affects the patients. The need of a structure for digital re-visits at the clinic was raised in the Patient Council meeting.

Objectives: To develop a structure for a fully digital re-visit where all the preparations, the actual visit and the documentation and follow up could be conducted using different e-Health solutions and digital tools.

Methods: By first asking the involved patient representatives about desired interfaces and features of the end solution, we could decide on which available tools and structures we could build the digital re-visit around. A working group including patients, health care providers at the unit and technical staff, together formed the end product.

Results: A fully digitalized structure for re-visits to different health care providers (physicians, nurses, physiotherapists etc) is now up and running with an increasing number of visits every week.

Conclusion: By asking the patients about what is most important for them we focus on solutions and services that the patients really need and ask for. If we involve patients in the process from the very beginning, we know that we are doing the right thing and that we use our resources in the best way.

Disclosure of Interests: None declared

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WEDNESDAY, 12 JUNE 2019

16:15:00 – 17:45:00

Rehabilitation; opening Pandora's Box

SP0031 NEWS IN THE WORLD OF REHABILITATION

Ann Bremander. RånD Spenshult, Sweden

The ageing population and the increasing prevalence of chronic diseases is a great challenge for future health care systems. There will be a growing demand for rehabilitation services and a need to strengthen rehabilitation in the health system. According to the World Health Organization (WHO), rehabilitation is "the key for health in the 21st century". In the document *Rehabilitation in health systems* (2017), the WHO presents a number of overarching principles for rehabilitation services: the provision of person-centred care, the continuum of care across different levels of the health care system, and the importance of accessible, affordable care of high quality to everyone in need of rehabilitation. With reference to

the WHO overarching principles, I will shortly address and discuss some achievements and challenges in the delivery of rehabilitation services supported by recent and ongoing studies. Rheumatic and musculoskeletal diseases (RMDs) include over 200 diagnoses why the talk will include examples from rehabilitation services given to people with inflammatory arthritis (IA).

Over the last decades, pharmacological interventions has contributed to improved quality of life for a large number of people with inflammatory arthritis (IA). However, a relatively large group of people with IA lives with a persistent disease and experience pain, fatigue, physical disability, impaired work ability and decreased quality of life, emphasizing the need of rehabilitation services. I will discuss advancements and challenges in providing person centered care, in bridging the gap between health care sectors, the challenge to provide evidence of an effective rehabilitation service of high quality and if we provide accessible rehabilitation services according to the need of people with rheumatic diseases.

REFERENCE:

[1] Rehabilitation in health systems. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.

Disclosure of Interests: None declared

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SP0032 HOW TO MEASURE REHABILITATION

Alison Hammond. University of Salford, Centre for Health Sciences Research, Salford, United Kingdom

Background: Measuring outcomes is fundamental to rehabilitation. A wide range of subjective and objective outcome are available to health professionals, with patient reported outcomes (PROs) being widely used. Fundamental to their use is understanding how to select appropriate measures and interpret results.

Objectives: This talk addresses: how to identify and select patient reported outcomes measures; the COSMIN taxonomy; understanding measurement properties; evaluating fitness for purpose; and understanding cross-cultural and linguistic validation of PROs, to enable PROs to be used across countries. This will be illustrated with an example of a Swedish – English-Dutch-German PRO, the Evaluation of Daily Activity Questionnaire.

Disclosure of Interests: None declared

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SP0033 RHEUMATOLOGICAL REHABILITATION, WHAT'S NEXT

Thea Vliet Vlieland. Leiden University Medical Center, Orthopaedics, Rehabilitation and Physiotherapy, 2300 RC Leiden, Netherlands

Over the past years, there have been major changes in the delivery of rheumatology rehabilitation and advances in its evidence base. To make rheumatology rehabilitation future-proof, a number of developments in the medical treatment of people with rheumatic and musculoskeletal diseases (RMDs), health systems and society as a whole need to be taken into account with the planning of services and their evaluation and the training of health professionals in rheumatology (HPRs).

Regarding the health status and needs of people with RMDs, their profile has changed markedly over the past decades, to a large extent due to improvements in the medical treatment. But some patients may not respond well to treatment, and for those who do, there may still be challenges to keep up with the increasing demands of our society.

For reasons of transparency, quality and efficiency there is a need to demonstrate the added value of rehabilitation, by working along defined rehabilitation care pathways. But care also needs to be personalized, tailored to a person's individual situation, abilities and needs. This includes, among others, that people with RMDs must be involved in any treatment decision, requiring a specific level of health literacy.

The actual delivery of rehabilitation services by means of extensive inpatient or outpatient trajectories is under pressure in many health care systems, for economic reasons but also because treatment in one's own environment whenever possible, is preferred by many people with RMDs. For that purpose, adequate use of digital interventions, but also seamless care involving primary care clinicians with specific expertise is needed.

All of the abovementioned developments require specific competences of HPRs, not only including the optimal assessment and treatment of individual people with RMD, but also makes a strong appeal to e.g. their communication, advocacy and organizational skills and abilities to monitor the quality of their practices and redesign when needed.

This presentation addresses current and future challenges for HPRs in rheumatology rehabilitation and how they can anticipate to be prepared for the next phase.

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WEDNESDAY, 12 JUNE 2019

18:15:00 – 19:45:00

Personalised medicine in rheumatic disease

SP0034 RA-MAP. PATIENT STRATIFICATION IN RA

John Isaacs. Newcastle University, Institute of Cellular Medicine, Newcastle upon Tyne, United Kingdom

Background: When we assess rheumatoid arthritis in the clinic we quantify inflammation. Apart from measuring auto-antibodies we do not assess the immune system.

Objectives: The MRC/ABPI RA-MAP study was an academia-industry consortium designed to characterise the immune dysregulation that presents clinically as RA¹. Key questions were:

- o Are there baseline immune markers of prognosis/therapeutic response?
- o What is the molecular signature of the disease state (is there an immune correlate of inflammation)?
- o Can 'RA' be defined in terms of immune dysregulation and are there distinct subtypes?

Methods: RA-MAP was a systems immunology analysis of 275 patients with seropositive, treatment-naïve early RA (the TACERA cohort). Patients were assessed at baseline and every 3 months for up to 18 months. At each visit, clinical samples were collected for transcriptomic (blood), proteomic (blood) and metabolomic (blood and urine) analyses. Peripheral blood mononuclear cells were characterised by flow cytometry. Clinical and demographic information was collected at each visit. Primary analyses addressed the key questions by seeking associations between immune parameters and disease activity or disease state.

Results: Latent class analysis of clinical data revealed three main disease trajectories². Transcriptomic and systems approaches highlighted at least two subtypes of seropositive RA. Proteomic analyses also supported multiple RA subtypes. Metabolomic analyses revealed prognostic baseline signatures. Flow cytometry revealed a reduction in peripheral blood mononuclear cell complexity as disease became less active. Combinatorial analyses of different datasets is currently underway.

Conclusion: RA-MAP has provided important insights into the immunological and molecular heterogeneity of RA. Our findings require replication and validation, and some analyses are ongoing. RA is the consequence of dysregulated immunity characterized by distinct molecular 'endotypes'.

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- [1] Cope AP, et al. The RA-MAP Consortium: a working model for academia-industry collaboration. *Nat Rev Rheumatol* 2018;14:53-60. doi: 10.1038/nrrheum.2017.200
- [2] Tom BDM, et al. Novel methodology to discern predictors of remission and patterns of disease activity over time using rheumatoid arthritis clinical trials data. *RMD Open* 2018;4:e000721. doi:10.1136/rmdopen-2018-000721

Disclosure of Interests: John Isaacs Grant/research support from: Pfizer, Grant/research support from: Pfizer, Consultant for: Abbvie, Pfizer, Roche, Galvani, Merck, Gilead, Eli Lilly, Amgen, Janssen, Celltrion, NAPP, Consultant for: Abbvie, Pfizer, Roche, Galvani, Merck, Gilead, Eli Lilly, Amgen, Janssen, Celltrion, NAPP, Speakers bureau: Abbvie, Pfizer, Eli Lilly, Speakers bureau: Abbvie, Pfizer, Eli Lilly

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SP0035 PRECISION MEDICINE IN PSA

Yoshiya Tanaka. University of Occupational and Environmental Health, Japan, The First Department of Internal Medicine, Kitakyushu, Japan

Background: Biological DMARDs targeting particular molecules relevant to pathological processes have revolutionized the treatment of rheumatoid arthritis (RA) and clinical remission is now realistic targets. However, several issues to be addressed still remain. First, less than half of patients who are treated with methotrexate and biological DMARDs achieved remission defined by stringent composite measures. Second, from multiple biological DMARDs, how to select the most appropriate treatment in each patient remain unclear. Third, how to expand the treatment strategies learned from RA to other rheumatic and/or systemic autoimmune diseases are still under investigations.

Objectives: Psoriatic arthritis (PsA) is a typical complication of psoriasis that causes irreversible destruction and dysfunction of joints and/or the spine and

appropriate and timely intervention is prerequisite to inhibit progress in the damages. Various cytokines including IL-12, IL-23, IL-17 and TNF play important roles in the pathogenesis of PsA. Therefore, biological DMARDs targeting these key effector cytokines are currently available and actually effective in supporting the resolution of enthesitis and subsequent arthritis as well as damages of spine/joint in PsA.

Methods: We have compared efficacies of biological DMARDs in PsA patients who were treated according to 2015 EULAR recommendations and whose biological DMARDs were strategically selected based on peripheral blood lymphocyte phenotyping using 8-colour flow cytometry with specific focus on helper T cell subsets.

Results: Patients with PsA were divided to 4 groups by the dominance of Th1- and Th17-phenotypes and biological DMARDs were stratified in each subgroup: an anti-p40 antibody to the activated Th1 cell-predominant patients, anti-IL-17 antibodies to the activated Th17 cell-predominant, IL-17 inhibitors or TNF inhibitors to the Th1/Th17-high, and TNF inhibitors to the Th1/Th17-low patients. Significant improvement of simplified disease activity index (SDAI) and psoriasis area and severity index by both the standard treatment and the strategic selection of biological DMARDs after the 6-month treatments. It is noteworthy SDAI values were improved in the vast majority of patients in the strategic treatment group, whereas the values were sustained in some patients despite standard biological DMARDs.

Conclusion: Although accumulation of evidence and development of new markers are expected, the obtained results indicate potential for precision medicine via the strategic selection of different biological DMARDs for PsA based on the phenotypic differences in peripheral helper T cells.

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- [1] Miyagawa I, Nakayamada S, Nakano K, Kubo S, Iwata S, Miyazaki Y, Yoshikawa M, Yoshinari H, Tanaka Y. Precision medicine using different biological DMARDs based on characteristic phenotypes of peripheral T helper cells in psoriatic arthritis. *Rheumatology* (2019) 58: 336-344.
- [2] Tanaka Y. Psoriatic arthritis in Japan: difference in clinical features and approach to precision medicine. *Clin Exp Rheumatol* (2016) 34, 49-52.

Disclosure of Interests: Yoshiya Tanaka Grant/research support from: Abbvie, Astellas, Bristol-Myers Squibb, Chugai, Daiichi-Sankyo, Eisai, Mitsubishi-Tanabe, MSD, Ono, Taisho-Toyama, Takeda, Speakers bureau: Abbvie, Asahi-kasei, Astellas, Bristol-Myers Squibb, Chugai, Daiichi-Sankyo, Eli Lilly, Eisai, Glaxo-SmithKline, Janssen, Mitsubishi-Tanabe, Novartis, Pfizer Japan Inc, Sanofi, Takeda, UCB, YL Biologics

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SP0036 MASTERPLANS – TAILORING SLE FOR THERAPY

Ian N. Bruce. University of Manchester, United Kingdom

Background: Systemic Lupus Erythematosus (SLE) is a chronic autoimmune disease which is highly heterogeneous in its clinical manifestations and also in its response to specific therapies. Across a number of trials of novel agents, overall response rates are approximately 40-60% and in the past almost 60 years only one drug (belimumab) has been licensed for use in SLE. Current therapy is therefore based on a 'trial and error' approach frequently involving glucocorticoid co-therapy. Delayed and poor control of inflammation results in organ damage, cardiovascular disease and glucocorticoid toxicity. We established a consortium of academia and industry partners (MAXimizing SLE Therapeutic Potential by Application of Novel and Stratified approaches (MASTERPLANS) with the aim of identifying key endotypes associated with response and low disease activity on particular therapies.

Objectives: Our consortium is addressing the hypothesis that strata exist within SLE populations that will enable more targeted use of existing and novel therapeutic agents and improve response rates. Specifically, B-cell related biomarkers including dynamics and function predict responses to mycophenolate mofetil (MMF) and B-cell targeted biologics and interferon signature/pathway dynamics identifies patients with poorer responses to these agents.

Methods: Our approach will firstly be to re-analyse data already available from large studies and trials to identify key predictive factors of response. Also, using data from a large UK cohort, the BiLAG-Biologics Register, we will assess clinical factors and biomarkers that predict response and low disease activity. Combining results from these studies with that gained from previous studies will enhance our ability to identify endotypes of response.

Conclusion: Identifying biomarkers of response will allow better selection of therapy for individual patients. Using the right drug at the right time will improve control of inflammation for patients with SLE and contribute to improving long-term outcomes.

Disclosure of Interests: Ian N. Bruce Grant/research support from: Genzyme Sanofi, GlaxoSmithKline, Consultant for: AstraZeneca, Eli Lilly, GlaxoSmithKline,