SP0012 THE HYGIENE HYPOTHESIS IN AUTOIMMUNITYJean-Francois Bach. *Institut de France, Académie des Sciences, Paris, France*

Background and Aims: The frequency of autoimmune diseases has increased significantly in recent decades in developed countries. The hygiene hypothesis provides a possible explanation for this increase. The hypothesis is based on the observation of a concomitant decrease in the frequency of infectious diseases and an increase in the frequency of autoimmune diseases. It is also based on the geographical disparity in the frequency of autoimmune diseases, much more frequent in the north than in the south of the northern hemisphere, a disparity that is not explained by genetics.

Method: The disease frequency which is very low in southern countries increases from the first generation among subjects migrating northward. The causal relationship between the decline in infections and the increase in autoimmune diseases remains to be proven. Most of the evidence is based on spontaneous experimental models of autoimmune diseases that show the higher frequency of these diseases in a clean sanitary environment and their prevention through the administration of various bacteria, viruses or parasites.

Results: The underlying mechanisms are beginning to be revealed. An important place is given to pathogens and more particularly to their TLR ligands. Some arguments suggest that commensal bacteria in the intestinal microbiota also play a role. At the cellular level, the stimulation of certain regulatory cells and more particularly those producing TGF beta is well documented.

Conclusion: These considerations are important for understanding the epidemiology and pathophysiology of autoimmune diseases but can also provide new guidance on their treatment and especially their prevention. The problem is, however, complicated by the fact that the theory applies to varying degrees depending on the disease, for instance more in systemic lupus erythematosus than rheumatoid arthritis.

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WEDNESDAY, 12 JUNE 2019

14:15:00 – 15:45:00

Pharmaceutical pipeline in OA**SP0013 GROWTH FACTORS AND CARTILAGE: FROM MECHANISMS TO DMOADS**Marc Hochberg. *University of Maryland, School of Medicine, United States of America*

Background: Growth factors are biologically active molecules that can stimulate cellular division, growth and differentiation and, in articular cartilage, can regulate development, homeostasis and regeneration of matrix. These anabolic factors can stimulate synthesis of proteoglycans, aggrecan and type II collagen, induce mesenchymal stem cell (MSC) proliferation and drive differentiation of MSCs into chondrocytes and decrease catabolic effects of cytokines and matrix metalloproteinases (MMPs). Growth factors would not, however, be expected to have a direct analgesic effect in patients with symptomatic knee osteoarthritis.

Objectives: To review the role of growth factors in articular cartilage, identify specific growth factors and review data from phase 1 and 2 studies of selected growth factors in subjects with knee osteoarthritis.

Methods: A PubMed search was performed using key words "cartilage or chondrocyte" and "growth factor". The search included both original manuscripts and review articles as well as clinical trials but was limited to English language. From these searches, I selected review articles and clinical trials and excluded articles that solely examined molecular mechanisms of action of growth factors on chondrocytes.

Results: Growth factors for articular cartilage include molecules in the transforming growth factor- β (TGF- β) superfamily (including TGF- β 1, bone morphogenic protein [BMP]-2 and BMP-7), insulin-like growth factor-I, fibroblast growth factor (FGF) family (including FGF-2 and FGF-18), platelet-derived growth factor (PDGF) and Wnt ligands as well as platelet rich plasma (PRP).

Conclusion: Data will be presented from phase 1 and 2 studies of rhFGF-18 and SM-04690, a Wnt signaling inhibitor, that demonstrate proof-of-concept and early efficacy of these growth factors for structure modifying effects in subjects with knee osteoarthritis (OA).

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Disclosure of Interests: Marc Hochberg Shareholder of: BriOri Biotech, Theralogix LLC., Consultant for: Bristol Myers Squibb, Eli Lilly, EMD Serono, Novartis Pharma AG, Pfizer Inc., Samumed LLC, Symic Bio Inc., Theralogix LLC, Tissue-Gene Inc., TLC Biopharmaceuticals, Inc., Zynherba, Galapagos, IQVIA, Hoffman LaRoche.

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14:15:00 – 15:45:00

What's new: Latest news on biological treatment**SP0014 THE LATEST NEWS ON BIOSIMILARS TREATMENT**Jonathan Kay. *UMass Memorial Medical Center and University of Massachusetts Medical School, Division of Rheumatology, Department of Medicine, and Department of Population and Quantitative Health Sciences, Worcester, Massachusetts, United States of America*

Biologic medications have revolutionized the treatment of many rheumatologic diseases, but their high cost often limits patient access to these effective treatments. Biosimilars are legitimate copies of biopharmaceuticals, which no longer are protected by patent, that have undergone rigorous analytical and clinical assessment in comparison to their reference products and have been approved by a regulatory authority in a highly regulated area according to a specific pathway for biosimilar evaluation. In 2005, the European Medicines Agency (EMA) established a pathway for the review and approval of biosimilars and, one year later, approved the human growth hormone Omnitrope® as the first biosimilar. As of March 2019, 56 of 60 biosimilars approved by the EMA were commercially available in the European Union, of which 6 were of rituximab and 15 were of TNF inhibitors to treat rheumatologic diseases.

Commercially available lots of a reference product are not identical to one another. All biologic medications are subject to normal batch-to-batch variability and are monitored to ensure that this variation is within "proven acceptable ranges" so that patients are not subjected to risks of lesser safety or efficacy. Since biosimilars have been compared extensively to their reference products and been shown to have highly similar structure, equivalent efficacy, and comparable safety, an approved biosimilar can be considered to be like another batch of its reference product. Thus, patients need not be apprehensive about using an approved biosimilar in place of its reference product.

The "nocebo effect" refers to the misattribution of bodily symptoms to a medication and may result in discontinuation of a treatment that is not actually causing the perceived symptoms. Studies have suggested that the nocebo effect may result in discontinuation of treatment with a biosimilar because of subjective perceptions. This may be addressed by providing encouragement and reassurance through education and open collaborative discussion between providers and patients. By taking this approach to counseling patients, the rate of biosimilar discontinuation may be reduced.

The NOR-SWITCH study demonstrated that patients with inflammatory diseases controlled on treatment with reference infliximab do not experience greater worsening of disease activity when switched to biosimilar infliximab CT-P13 than when continued on treatment with the reference product. Thus, when the cost of the biosimilar is significantly lower than that of its reference product, substituting the biosimilar for the reference product may provide an economic advantage with no loss of clinical benefit. In Norway, where there is an annual "winner takes all" competitive tender process for hospital administered medications, the price of biosimilar infliximab in 2015 was 69% lower than that of its reference product. Thus, in most countries, it is safe, effective, and cost-effective to switch to a biosimilar. However, competition from biosimilars has occasionally driven down the price of a reference product, as in Sweden where the price of reference adalimumab was reduced by 80% in 2018 and became lower than that of adalimumab biosimilars.

The availability of lower-priced biosimilars should decrease the cost of treating patients by introducing market competition. Biosimilars should be more readily available to patients for whom the reference product had been inaccessible because of cost. Greater global access to effective biologic medications should reduce disability, morbidity, and mortality associated with rheumatologic diseases.

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WEDNESDAY, 12 JUNE 2019

14:15:00 – 15:45:00

How to perform low-budget high-quality research_____**SP0016 YOUR VERY FIRST STEPS ON SYSTEMATIC REVIEW***Loreto Carmona. Instituto de Salud Musculoesquelética, Research, Madrid, Spain*

Systematic reviews (SR) are a type of clinical research, and thus they follow the hypothetical-deductive or scientific method. Their objective is to answer clinical questions and they do it based on a specific structure (protocol) and working through inferences. Interestingly, a SR is a type of study design that can answer all types of questions, from efficacy to incidence. They manage the information from previous studies in a pre-established reproducible way, as unbiased as possible. They provide quick answers. However, they should be performed and interpreted with caution: a poor systematic review is much worse than a narrative review, as it gives the false impression of "science". This is even worse if the studies were combined in a meta-analysis.

In this lecture, we will review the protocol of a SR, the importance of rephrasing the question, the search strategy, selection criteria, and procedures of studies selection, primary endpoints, and quality and risk of bias. The last part of any SR is the analysis, which is always qualitative, supported by the evidence table, and following a synthetic discourse with the PICO order, and sometimes quantitative (meta-analysis). We will review some methods to evaluate publication bias, to combine results, and to explore heterogeneity. In this sense, it is essential to note that if we cannot find a valid explanation for heterogeneity, our results may not be valid.

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SP0017 USING AVAILABLE DATASETS TO ANSWER NEW RESEARCH QUESTIONS*Daniel Prieto-Alhambra. University of Oxford, NDORMS, Oxford, United Kingdom*

Background: Clinical data are continuously recorded in clinical encounters in the form of electronic medical records, registries, audits and similar databases. Such large datasets are available to researchers, and provide unique opportunities. However, challenges arise from the use of routinely collected data, that need special attention and specific skills to minimise a waste in research.

Objectives: To discuss available data sources (data discovery), their advantages and limitations, their uses, and to cover examples of research conducted using routinely collected datasets.

Methods: We will discuss a list of data sources at high level (types of data), their main pros and cons, and then cover challenges and solutions through a number of previously published examples.

Disclosure of Interests: Daniel Prieto-Alhambra Grant/research support from: Grants from Amgen, UCB Biopharma and Servier outside the submitted work, Consultant for: UCB Biopharma, Speakers bureau: Amgen

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14:15:00 – 15:45:00

Health Professional Welcome session_____**SP0018 WHAT YOU SHOULDN'T MISS FROM THE HPR PROGRAMME AS A CLINICIAN***Maria Bergström. Linköping University, Department of Social and Welfare Studies, Division of Occupational Therapy, Norrköping, Sweden*

As a health professional, the EULAR congress is the place where I can get access to new and fresh rheumatology research of good quality. My presentation will take you through the possibilities the congress offers clinicians when it comes to different topics within the area of rheumatology. Further, my aim and hope is to give you a sense of what is in store for you during this year's EULAR congress.

People with rheumatic diseases today live their lives to a great extent having the diagnosis affecting their everyday life. The ability to work, interact with others or engaging in activities they want to, can be limited. So what do we need to know about them in order to provide the best possible treatment and rehabilitation? As a

health professional clinician, I look forward to finding some of the answers to this during this congress.

During the EULAR congress, we as health professionals have the possibility to contribute to and acquire research of good quality in rheumatology, on our way to give our patients the best possible treatment. Also, we have the possibility to contribute to the patients' health, and I look forward to sessions touching health topics such as exercise. The quality of research and the variety of topics during this EULAR congress can give us a bigger set of tools to work with when we get back to our patients and continue our path towards the best possible treatment and health for this big and important group of patients. I hope that this session can provide an overview of what this year's congress can offer from a clinical perspective.

Disclosure of Interests: None declared

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SP0019 PRES HPR: DONT DELAY, COLLABORATE TODAY*Jeannette Cappon¹, PreS Committee for Health Professionals¹, Department pediatric rehabilitation, Reade Center for rehabilitation and rheumatology², Dutch Health Professionals in Pediatric Rheumatology³. ¹Reade Center for Rehabilitation and Rheumatology, Pediatric Rehabilitation, 1056AB Amsterdam, Netherlands*

Background: The Pediatric Rheumatology European Society (PreS) is an international organization based in Europe which is dedicated to advance the care and improve the health and well-being of children and young people with rheumatic conditions, helping them to reach their full potential. Full PreS membership is extended to individuals from all European countries, whether they are within the EU or not, and includes countries in the middle east and from other parts of the world as associate members to enrich the collective experience and knowledge. PreS welcomes every practitioner/researcher in the field of pediatric rheumatology.

The PreS committee for Health Professionals in Pediatric Rheumatology aims to bring together nurses, physical therapists, occupational therapists, social workers, psychologists, podiatrists and other health professionals (HP) to foster dialogue, to set standards of clinical practice, education and research.

Collaboration between PreS and Eular Health Professionals starts today, here in Madrid.

Collaboration in general starts with a shared goal to work on together. Our young patients of today might be your patients of tomorrow: what should you know about what they have been through? Your patients of today might have been our young patients of yesterday: what can we learn from their experiences of the past being a child with a rheumatic condition? Did they receive comprehensive care that sustained into their adulthood?

Objectives: To find shared goals between HP Eular and HP PreS to deliver comprehensive care for people with rheumatic diseases during their full life.

To find common interests to discuss between HP Eular and HP PreS

Methods: Examples of common interests e.g. supporting self management of pain and health and illness education are presented.

Shared goals for collaboration are proposed and collected from the audience.

Opportunities to connect for Eular HP and PreS HP in Madrid and Prague September 2020 are listed and benefits are mentioned.

Results: Health Professionals from Eular and PreS experience common interests and shared goals. Positive relations are expected to develop upcoming years.

Conclusion: Collaboration between HP Eular and HP PreS can start today

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14:15:00 – 15:45:00

EULAR Projects in paediatric rheumatology_____**SP0020 THE GLOBAL CHALLENGE AND OPPORTUNITY FOR PAEDIATRIC RHEUMATOLOGY***Christian Scott. University of Cape Town, Red Cross War Memorial Children's Hospital, Paediatric Rheumatology, Cape Town, South Africa*

Background: Poorly developed healthcare systems and the overwhelming burden of communicable diseases have limited the growth and development of Paediatric Rheumatology in non central and less resourced countries.^{1,2} Most children on earth reside in these less resourced environments and suffer from disproportionately poor access to adequate care for paediatric rheumatic diseases. Emerging evidence suggests that rates of rheumatic diseases are not likely to be different to European and North American children but that diseases severity and