The present talk will describe the indications and implications of using MRI in spondyloarthritis in the diagnosis and management of SpA, taking a starting point in the "EULAR recommendations for the use of imaging in the diagnosis and management of spondyloarthritis in clinical practice"; Mandl et al, *Ann Rheum Dis* 2015 74:1327–1339), the "Recommendations of the ESSR Arthritis Subcommittee for the Use of Magnetic Resonance Imaging in Musculoskeletal Rheumatic Diseases"; Sudot-Szopińska et al, *Semin Musculoskelet Radiol* 2015 19:396–411) and the recent update from The Assessment in SpondyloArthritis International Society (ASAS) MRI working group; Lambert et al. *Ann Rheum Dis* 2016 75:1958–1963). However, selected data from important clinical studies will also be described.

Disclosure of Interest: None declared

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SP0105 MRI IN EARLY AND ESTABLISHED SPA: WHAT IS THE ADDED VALUE?

I. Eshed. *Diagnostic Imaging, Sheba Medical Center, Ramat Gan, Israel*

MRI of the sacroiliac joints (SIJ) and of the spine has revolutionised diagnosis of early spondyloarthritis (SpA).

With its high contrast resolution, it is able to detect inflammation of the SIJ in its early stage before structural damage occurs. The introduction of biological drugs from the has further emphasised the need for early diagnosis of sacroiliitis. Since the treatment is to be used in a narrow window of opportunity to reach disease control, MRI was rapidly embraced as a dominant diagnostic tool and at the same time included into the classification criteria for axSpA becoming the cornerstone of SpA diagnosis. In this presentation, the early and more established imaging characteristics of sacroiliitis will be discussed in context of other imaging modalities and potential differential diagnoses.

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FRIDAY, 15 JUNE 2018

The stromal link to inflammation

SP0106 FIBROBLASTS: THEIR ROLES IN MATRIX AND VESSELS

J. Distler. *Department of Internal Medicine 3, University of Erlangen, Erlangen, Germany*

Persistent activation of fibroblasts is a common denominator of fibrotic diseases but mechanistically incompletely defined. In contrast to physiologic tissue repair responses, fibroblasts remain persistently active in fibrotic diseases and continue to release excessive amounts of extracellular matrix. We will discuss novel insights into the molecular mechanisms underlying the uncontrolled activation of fibroblasts in fibrotic diseases and potential implications of those findings for targeted antifibrotic therapies.

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New approaches in measuring what matters to patients

SP0107 WHAT CAN BAYESIAN STATISTICS CONTRIBUTE TO MEASURING PATIENT PERSPECTIVES?

V. Ritschl. *Section for Outcomes Research, CMSIIS – Center for Medical Statistics, Informatics, and Intelligent Systems, Medical University of Vienna, Vienna, Austria*

Thomas Bayes (1701–1761) founded the Bayesian approach, published as "Essay Towards Solving a Problem in the Doctrine of Chances" in 1763 as a new philosophy in inferential statistics opposed to the classical, frequentist approach. Frequentists test whether a hypothesis is true or false with a certain probability. The Bayesian approach depends on conditional probability which takes prior

knowledge (a prior distribution of probabilities) into account. An example for the use of the Bayesian approach is a self-reported instrument that assesses function in rheumatic and musculoskeletal diseases. This instrument produces worse scores with higher age due to the increasing incidence of physical disability. The prior knowledge (higher age leading to a worse function score) should be taken into account when the scores of the instruments are interpreted.

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SP0108 NEW APPROACHES IN MEASURING WHAT MATTERS TO PATIENTS – DECISION AID TOOLS

H. Bekker. *Chair in Medical Decision Making, School of Medicine – University of Leeds, Leeds, UK*

Purpose: To explain what patient decision aids are, why they help patients engage more effectively with healthcare, and how their use enables health professionals to meet clinical guidance on delivering shared decision making about treatment choices.

People's healthcare decisions are emotionally and cognitively demanding, involving trade-offs between treatment options with negative consequences for themselves and their families. Health professionals are delivering increasingly complex care; patients live longer with co-morbidities and increased frailty, and new technologies lead to more treatments being offered. Decision science provides insight into how people make these decisions, and what can influence people's thinking encouraging them to make more or less reasoned choices.

Patient decision aids are resources developed with reference to decision science evidence on how to structure the health problem, present information about risks, benefits and consequences of options, elicit patient values and guide people to reach treatment choices that fit best in their lives (<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001431.pub5/full>). This talk provides an overview of the components within patient decision aids (<http://ipdas.ohri.ca/who.html>) known to support people make more reasoned decisions about their healthcare, using examples taken from patient decision aids developed and evaluated within the UK.

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Innovative treatments for a better quality of life

SP0109 INVOLVEMENT OF A PATIENT ORGANISATION IN HEALTH TECHNOLOGY ASSESSMENT

J. Clausen. *Scientific Adviser, Deutsche Rheuma-Liga Bundesverband e.V., Bonn, Germany*

The term "Health Technology Assessment" (HTA) designates the systematic evaluation of therapies (drugs and non-drug interventions) and technologies for cost effectiveness, clinical effectiveness and safety to form the basis for evidence-based priority setting and policy decisions (reimbursement and coverage decisions). Usually, therapeutic or diagnostic interventions are subject to the assessment, but also complex programs (e.g. prophylactic screening programs) may be investigated. The involvement of patient organisations in Health Technology Assessments improves outcomes and offers additional insights. It guarantees that the perspective of the most important group – the patients as consumers – is adequately addressed.

A patient organisation may be involved in various ways in Health Technology Assessments: Patient organisations can identify gaps in healthcare coverage and initiate the generation of a respective Health Technology Assessment; they can provide additional registry data, complementing study data from randomised controlled trials for the Health Technology Assessment. The provision of information on patient-relevant outcomes and other patient-relevant aspects (e.g. mode of administration) is crucial to assess the benefit for patients of the therapy (or technology/program) under evaluation. Moreover, patient organisations may also be involved in the evaluation of the assessment report and in the execution of the results.

Generation of an HTA can be a time-consuming process and a very demanding one for patient organisations and the involved volunteers. Staff members of the patient organisation can be involved directly in the various tasks, or indirectly, supporting voluntary patients. If voluntary patients attend panel groups, most of them will need intensive support by their respective patient organisation depending on the complexity of the respective topic. Finding qualified volunteers, willing to

spend a substantial amount of their time and able to travel frequently, is another obstacle to overcome.

This presentation provides some examples of the involvement in Health Technology Assessments of the German Rheumatism League, Germany's largest patient organisation with about 3 00 000 members, and the essential prerequisites for the participation of patient organisations in that process.

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FRIDAY, 15 JUNE 2018

EULAR Projects in investigative rheumatology_____

SP0110 AUTOANTIBODY STANDARDISATION IN RHEUMATIC DISEASES. THE ROLE OF THE EUROPEAN CONSENSUS FINDING STUDY GROUP ON AUTOANTIBODIES IN RHEUMATIC DISEASES (ECFSG)

J. Rönneklid, on behalf of The European Consensus Finding Study Group on autoantibodies in rheumatic diseases (ECFSG). *Department of immunology, genetics and pathology, Uppsala University, Uppsala, Sweden*

The aim of the European Consensus Finding Study Group on autoantibodies in rheumatic diseases (ECFSG), a.k.a the EULAR autoantibody study group, is to achieve a common consensus in autoantibody diagnostics: a laboratory result should be the same, independent of the country or laboratory where the result is obtained. Since 1988, the ECFSG has yearly distributed unknown sera to European laboratories (presently 43) for evaluation in a clinical context. These sera are chosen to reveal differences between different laboratories. The results are discussed in conjunction to the European Workshop for Rheumatology Research (EWRR) every year. Use of reference materials helps to align test results by adopting internationally used measurement units, but reference materials are missing for many autoantibody specificities. Since 2014 an ECFSG focus has been on evaluating samples that might constitute new reference materials for companies producing autoantibody measurement assays, as well as for clinical laboratories. Hitherto investigated autoantibody specificities are provided in the table 1. In my talk I will present the work of ECFSG, including the characterisation of the samples that have constituted raw material for currently available reference materials. I will also tell about our first characterisation of a tentative new reagent sample, that thereafter was produced as reference material by the National Institute of Biological Standards and Control (NIBCS) in the UK. In November 2017 that reagent was endorsed by the World Health Organisation (WHO) to become the new international reference reagent for anti-double stranded DNA (anti-dsDNA) antibodies.

Abstract SP0110 – Table 1. Hitherto tested tentative or now existing reference reagents

2014	anti-dsDNA (now publicly available WHO standard, NIBSC 15/174)
2015	ACPA
2016	anti-PR3 (standard available from the EU Science Hub, ERM-DA483/IFCC)
2016	anti-MPO (standard available from the EU Science Hub, ERM-DA476/IFCC)
2016	IgG anti-b2GP1
2017	anti-GBM
2018	anti-DFS70

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SP0111 HOW NEURO ENDOCRINE IMMUNOLOGY IMPACT RHEUMATIC DISEASES?

M. Cutolo, on behalf of EULAR Study Group on Neuroendocrine Immunology of Rheumatic Diseases (NEIRD). *Research Laboratory Division Rheumatology Dept Internal Medicine University of Genova Italy, University of Genova Italy, Genova, Italy*

The Neuro Endocrine Immune Network (NEI) is the most important communication-system in human body to maintain the health status. NEIRD evaluate the relationships between NEI and Rheumatic and Musculoskeletal Diseases (RMDs). The altered interaction between the nervous system, the immune/inflammatory cells and the endocrine system plays an important role in the pathophysiology of autoimmunity and chronic inflammation. The involvement of the adrenal steroid

hormones in the immune response is fundamental and follow a circadian rhythm (circadian rhythm studies obtained the Nobel Prize for Medicine in 2017). As Matter of fact, the nocturnal ability of the NEI system to mount an efficient immune and inflammatory response, with related clinical consequences, is matter of important chronotherapeutic approaches with exogenous steroids, in particular with glucocorticoids (GCs) (their discovery obtained the Nobel Prize in 1950 and still a pillar in the treatment of RMDs and not only). Other important steroid hormones involved in the NEI are the sex hormones (estrogens. E2 OH-metabolites are potent enhancers of cell proliferation) and the d-hormone (steroidal hormone structure of the final metabolite of Vitamin D). Clinical observations indicate a strong influence of the neuroendocrine system on immune function and *vice versa* in chronic inflammatory rheumatic diseases. The influence of hormones and neuronal pathways happens before and after the outbreak of the disease. Very recent data demonstrate the modulatory role of estrogens on epigenetic mechanisms (ie DNA methylation and gene upregulation). For example differentially expressed miRNA pathways linked to E2 in human endothelial cells through ER have been shown, and provide new insights by which oestrogen can modulate endothelial function. This point might be crucial in autoimmune diseases like systemic sclerosis (SSc) a disease prevalent in females and that start from damaged endothelium. We have started a large study on epigenetic and pregnancy on patients with RMDs such as rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE). On the other hand, the disease process with an activated immune system influences several hormonal and neuronal pathways. In addition, the energy bottleneck leads to important disease sequelae such as sickness behaviour/fatigue/depressive symptoms, sleep disturbances, anorexia and malnutrition, bone loss, muscle wasting and cachectic obesity, insulin resistance with hyperinsulinemia (insulin-like growth factor-1 resistance), dyslipidemia, alterations of steroid hormone axes, disturbances of the hypothalamic-pituitary-gonadal (HPG) axis, elevated sympathetic tone, hypertension and volume overload, decreased parasympathetic tone, inflammation-related anaemia, and finally circadian (circannual) rhythms of symptoms. New therapeutic strategies should respect these findings because rheumatic patients die earlier due to the mentioned disease sequelae. It is suggested that disease sequelae must be treated more consequently because they are inherent to chronic inflammatory systemic diseases (possible evolution for some of them in cancer). Therapeutic strategies in this field of NEIRD are slowly developing. Low-dose glucocorticoid therapy as supplementation of the "small adrenal engine", chronotherapy with glucocorticoids (night release) and vitamin D supplementation are the best examples of the successful utilisation of demonstrated concepts.

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SP0112 MICROCIRCULATION IN RHEUMATIC DISEASES

V. Smith^{1,2}, on behalf of the EULAR Study Group on Microcirculation in Rheumatic Diseases. ¹Department of Internal Medicine, Ghent University; ²Department of Rheumatology, Ghent University Hospital, Ghent, Belgium

Background: The EULAR Study Group on Microcirculation in Rheumatic Diseases (SG MC/RD) aims to build an international network of expert centres to facilitate and exchange knowledge. It is a non-profit group and has no financial support. Both altered microvascular morphology and peripheral flow are the main focus of research.

Objectives: 1) To integrate different expertises to study the pathophysiology of disease processes. 2) To exchange knowledge and to facilitate standardisation concerning different techniques to assess the (micro)circulation such as nailfold capillaroscopy, laser doppler and laser speckle contrast analysis (LASCA). 3) To elaborate predictive indexes for disease progression and follow-up based on the integration of different tools and biomarkers. 4) To develop intervention protocols based upon an understanding of and targeting disease mechanisms (i.e. microvascular damage progression to fibrosis).

Methods: The EULAR SG MC/RD was accepted by the EULAR Executive committee in March 2014 and is being supervised by the EULAR Committee on Investigative Rheumatology, currently chaired by Prof. X. Mariette. Anno 2018 the number of members has risen to 79 (out of which 26 from 14 non-European countries). The EULAR study group meets half yearly (every EULAR/ACR) and