SP0165 NEW TRENDS IN BIOMARKERS IN INFLAMMATORY JOINT DISEASE

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This lecture provides an overview on new developments in biomarker research and standardization in inflammatory joint diseases. The presentation includes an introduction of established and new biomarkers in serum and synovial fluid as well as methods for their detection. Furthermore, an overview on different modifications of auto-antigens (including citrullinated, carbamylated and acetylated isoforms) and their role in immune response and pathogenesis of disease will be given. The diagnostic performance of new and established biomarkers will be discussed including antibodies against modified antigens also illustrated by difficult to diagnose cases. In this context, special attention will be attributed to the predictive value of biomarkers for diagnosis of disease and treatment response.

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FRIDAY, 14 JUNE 2019

15:30:00 – 17:00:00

Ultrasound advanced II
SP0166 ULTRASOUND OF THE HAMSTRING MUSCLE COMPLEX-CLINICAL APPLICATION + DEMO

David Andrew Bong. *Instituto Poal de Reumatologia, Universitat de Barcelona, Rheumatology; Anatomy, Barcelona, Spain*

The hamstring muscle complex (HMC) are the “brakes” of human bipedal ambulation and are susceptible to injury during concentric contraction. Although common in sports medicine practice, a recent systematic review of severe hamstring injuries (grade II-III) suggests that greater than 10% of these severe injuries are non-sports related and disproportionately affect older women.

Musculoskeletal ultrasound (MSKUS) is one of the basic imaging techniques utilized to detect and define these injuries and eliminate other potential causes of posterior thigh pain. This presentation will discuss the clinical application of MSKUS of the HMC in rheumatology/musculoskeletal medicine and offer a systematic anatomically-based method of examining this important non-articular region.

Disclosure of Interests: None declared

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SP0167 US FOR ASSESSING LUNG INVOLVEMENT IN RHEUMATIC DISEASES – CLINICAL USE + DEMO

Andrea Delle Sedie. *University of Pisa, Rheumatology Unit, Pisa, Italy*

Background: Evaluation of interstitial lung disease (ILD) is always difficult (low sensitivity for X-ray and pulmonary function tests or high level of radiation for HRCT): ultrasound (US) has recently shown interesting results on truth, discrimination and feasibility. Due to the thickening of interlobular septa for edema or fibrosis, US beam can interact with those structure and produce artifacts on the screen:

B-lines (BL) and pleural line irregularity (PLI). A positive correlation between BL and HRCT has been established both in systemic sclerosis patients and in other patients with ILD; more recently similar results have been published by using PLI as a finding for US assessment in patients.

BL has been recently defined by the OMERACT as a vertical hyperechoic reverberation artifact that arise from the pleural line, extend to the bottom of the screen without fading, and move synchronously with lung sliding, while PLI has been defined as a loss of regularity that may be associated with an increase in thickness, focal, diffuse, or nodular.

A low number of BLs has been described in healthy subjects but they are generally confined to the posterior and lower part of the thorax.

Up to now, many different scanning protocols have been used to assess BL or PLI in patients, providing similar results.

Conclusion: US lung evaluation is a useful and feasible imaging technique.

Disclosure of Interests: Andrea Delle Sedie Speakers bureau: Abbvie, UCB, Celgene, MSD

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SP0168 US FOR SYNOVIAL BIOPSIES – CLINICAL RELEVANCE AND SAFETY + DEMO

Andrew Filer. *University of Birmingham, Institute of Inflammation and Ageing, Birmingham, United Kingdom*

Background: The introduction of ultrasound guidance to access synovial tissue samples has facilitated a rapid growth in tissue-related research. Ultrasound guidance enables operators to use less invasive approaches compared to a gold standard direct vision arthroscopy procedure while maintaining the quality of samples obtained. Patients find the procedures easy to tolerate and are willing to undergo repeat biopsy, facilitating the analysis of tissue samples in clinical trials and experimental medicine studies. Advanced analytic techniques including single cell analytics are now being used to exploit the tissue samples obtained in order to provide dramatic leaps in understanding of synovial pathology.

Objectives: In this session the key aspects of the dominant techniques in use will be presented, including safety, patient tolerability and quality of output. The research and clinical utility of synovial biopsy will be discussed. Sonographic approaches to the major techniques will then be illustrated through video demonstrations, and competencies required to undertake training will be discussed alongside current EULAR initiatives for training. Finally, examples of research outputs generated through synovial biopsy will be explored alongside the logistics required to deliver such clinical studies.

Disclosure of Interests: None declared

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FRIDAY, 14 JUNE 2019

17:30:00 – 19:00:00

Complement and autoimmunity – emerging therapeutic opportunities
SP0169 COMPLEMENT AND LUPUS IN THE YOUNG AND THE OLD

Marina Botto. *Imperial College London, Centre for Inflammatory Disease/ Immunology and Inflammation, London, United Kingdom*

Complement component C1q is known to play an important recognition role in adaptive and innate immunity. More recently evidence has emerged that C1q may have roles outside the complement system and the relevance of these functions may change with ageing. Homozygous deficiency of the first component of the complement system, C1q, is one of the most powerful susceptibility genetic factors for the development of systemic lupus erythematosus (SLE). The vast majority of patients with C1q deficiency develop a syndrome closely related to SLE. The disease is typically of early onset and is often very severe. Although the phenotype of disease varies between patients, the fact that C1q deficiency is sufficient to cause SLE in almost all humans identifies a pivotal role for this molecule. The challenge is to identify the relevant physiological activity that can explain this strong association.

On the other hand, C1q seems to play a different role in old people. The concentration of C1q rises with aging and can be modulated by exercises. Of note, increased levels of C1q have been reported in the central nervous system of old people, with the highest levels being seen in close proximity to synapses and central regions of the brain suggesting that C1q may play a role in the development of problems associated with aging. Consistent with this hypothesis aged C1q-deficient mice showed less cognitive and memory decline in hippocampus-dependent behaviour tests compared to their wild-type litter mates.

In summary, the traditional view of the role of C1q as just initiator of the classical complement pathway needs revision. Evidence is emerging that C1q has roles outside the complement system and these will be discussed.

Disclosure of Interests: None declared

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SP0170 IS COMPLEMENT A CRITICAL INGREDIENT IN THE DEVELOPMENT OF RA?

V. Michael Holers. *University of Colorado Denver, Rheumatology, Aurora, CO, United States of America*

Background: Prior studies of patients with classified rheumatoid arthritis (RA) have demonstrated in synovial fluid, on cartilage surfaces and in the synovium the presence of pro-inflammatory complement activation fragments C3a and C5a, the membrane attack complex (MAC), and C3 fragment-bound immune complexes. Ex vivo studies of RA-related autoantibodies have shown the capacity to activate complement pathways, and also demonstrated the presence of disease-