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SP0140 IMAGING THE ARTHRITIC JOINT

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Advanced imaging approaches such as multiphoton laser scanning microscopy (MPLSM) enable the real-time visualisation of cellular behaviour throughout the development of immune responses *in vivo*. These techniques have brought new insights into the spatial and temporal organisation of the immune system, for example the T cell/Dendritic cell interactions in the lymph node during the decision to induce immunological priming versus immunological tolerance. We believe that understanding cellular interactions in the joint will similarly transform our understanding of the importance of time and tissue specific regulation of the immune system in homeostasis and in diseases such as Rheumatoid Arthritis. Furthermore, using cell fate mapping, we have integrated imaging data in different cellular locations with transcriptional analysis to reveal the underlying molecular basis of these interactions. We propose that the key T cell/DC interactions controlling the development of immune responses and their molecular basis are influenced by the distinct anatomical and temporal context in which they take place, providing targets for therapeutic intervention as well as indicating biomarkers to report immune function.

Abstract SP0140 – Figure 1

Disclosure of Interest: None declared

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SP0141 IMPROVING THE STUDY OF BONE DISEASES BY CORRELATIVE ELECTRON-, ION- AND X-RAY MICROSCOPY INCLUDING THEIR ANALYTICAL TECHNIQUES

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In the last decades a lot of knowledge was gathered on the structure and composition of bone. Cutting-edge correlative high-resolution microscopy and spectroscopy permits reaching the next level of understanding: Correlative workflows starting from X-ray microscopy volume analysis with voxel sizes of <1 μm, over large scale scanning electron data acquisition, to dual beam microscope analysis (focused electron- and ion beam) permit the scale bridging investigation of bone architectures and thus merging the "big picture" and the underlying ultrastructure with statistical significance. In combination with additional analytical add-ons, physical properties such as optical, mechanical, compositional, structural etc. deliver a highly detailed correlative dataset of bone.

The present paper utilises the comprehensive data acquisition to study bone degradation as it occurs in diseases such as osteoporosis and inflammatory osteoarthritis in mouse models.

Abstract SP0141 – Figure 1

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SATURDAY, 16 JUNE 2018

WIN and HOT Lancet session

SP0142 WHAT CAN NEW INSIGHTS IN THE PATHOGENESIS OF PSORIATIC ARTHRITIS TELL US?

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Psoriatic arthritis is a chronic immune-mediated inflammatory arthropathy, of unknown cause that presents with low grade inflammation of the skin, joints and/or entheses including the axial skeleton. Psoriatic arthritis is associated with increased mortality from cardiovascular disease. Diagnosis is primarily according to clinical phenotype due to the diverse clinical features. Increased understanding of the pathogenesis has led to specific new therapeutic agents and treatment strategies that prevent disease progression and improve quality of life, however 40% or more subjects show partial response or fail to respond. Despite this several unmet needs remain. There are no validated biomarkers for diagnosis, prediction of therapeutic response or remission, therefore it remains difficult to accurately assess disease activity, predict which subjects will respond to a specific therapy, and identify those in remission. This review will address specific recent advances in translational research that inform the pathogenesis of psoriatic arthritis.

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SATURDAY, 16 JUNE 2018

The GI tract in systemic sclerosis – is there light at both ends?

SP0143 ARMFUL HIDDEN TELANGIECTASIA

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Patients with systemic sclerosis (SSc) develop a broad spectrum of vascular manifestations including the almost universal Raynaud's phenomenon, commonly digital ulceration and more rarely critical digital ischaemia. In parallel, within this very heterogeneous disease, some patients will develop vascular related organ damages leading to heart or kidney failure. In addition, SSc patients commonly exhibit telangiectasia that are visible macular, dilated superficial blood vessels. They can develop near the surface of the skin or the mucous membranes. Cutaneous telangiectasia are now included in the classification criteria and may be a marker of more aggressive vascular phenotype. Furthermore, telangiectasia can occur in the gut and promote the development of more structured damages like vascular ectasias and sometimes the very specific gastric antral vascular ectasia. All these vascular lesions induce severe and recurrent chronic iron-deficiency anaemia that can require specific local treatments to stop the bleeding. They also occur in subsets of SSc patients at risk of other SSc complications that will be highlighted in the clinical cases to be presented.

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