Conclusions: A significant number of patients achieve clinical remission within a few months of starting TCZ. The R group, achieved a good EULAR response since mo 3; a progressive improvement in PD, persisted until mo 12. We consider that these findings refer to SS. From our data we consider that dose tapering should not be initiated until at least 9 months from the start of remission.

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SAT0667 IMPLEMENTATION AND ROLE OF MODERN MUSCULOSKELETAL IMAGING IN RHEUMATOLOGICAL PRACTICE IN EUROPE

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Background: Modern non-X-ray imaging methods are increasingly utilised by rheumatologists though the uptake and use of these techniques has developed very differently across Europe and there is limited data on their present impact in rheumatology for individual countries.

Objectives: To document the current implementation, role and training in modern musculoskeletal imaging techniques: musculoskeletal ultrasound (MSUS), magnetic resonance imaging (MRI), computed tomography (CT), and positron emission tomography (PET) among rheumatologists in the member countries of the European League Against Rheumatism (EULAR).

Methods: A EULAR Taskforce comprised of 9 rheumatologist experts in imaging developed English-language questionnaires for each imaging modality (CT, MRI, MSUS, PET) which were sent out to: national rheumatology societies of EULAR, national societies of the European Federation of Societies for Ultrasound in Medicine and Biology, the European Society for Magnetic Resonance Ultrasound in Medicine and Biology, as well as identified experts in the given modalities involved in research and/or training. The surveys were distributed via an online survey tool (SurveyMonkey). Simple descriptive and summary statistics were calculated from the responses.

Results: A total of 205 out of 395 experts replied to the surveys. More than 90% of MSUS experts had an MSUS unit in their department. The majority of responders reported having easy access to MRI, CT or PET (56%, 78% and 50% respectively). Suspicion of rheumatoid arthritis and peripheral spondyloarthritis were the main clinical indications for performing MSUS for diagnostic purposes. Suspicion of sacroiliitis and degenerative spine disease were the most common indications to perform MRI or CT for diagnostic purposes, while PET was mainly performed to

diagnose large vessel vasculitis and investigation of fever of unknown origin. When asked about the percentage of rheumatologists performing MSUS in their country 37% of experts reported less than 20%, 33% reported values between 20%–40% and 24% reported more than 40% (6%: unknown). The overwhelming majority (99%) of experts were certified in MSUS, while only 22% and 26% of experts in MRI and CT were certified in their techniques. Seventy-seven percent of responders reported that their national rheumatology societies organise MSUS courses, while courses in MRI or CT organised by the national rheumatology societies were less commonly reported (38% and 16% respectively).

Conclusions: Rheumatologists in Europe utilise modern imaging techniques, however access among the techniques and training offered is varied.

Disclosure of Interest: None declared

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SAT0668 ARTICULAR INVOLVEMENT IN CHRONIC HEPATITIS C INFECTION – A PRELIMINARY ULTRASOUND STUDY

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Background: Chronic hepatitis C is a public health issue. Extra-hepatic manifestations of this infection also include articular involvement, that sometimes mimics rheumatoid arthritis.

Objectives: Evaluation of potential articular involvement in patients diagnosed with chronic hepatitis C infection and possible correlations with biological abnormalities.

Methods: We evaluated 31 patients with chronic hepatitis C infection, using ultrasound (US) examination of both wrists and the second and fifth interphalangeal joints of the fingers. Then, we looked for possible correlations with various laboratory findings.

Results: 29% of patients were symptomatic (pain) at the time of the US examination.

10% of our patients had tenosynovitis of the extensor tendons, another 10% had active synovial hypertrophy (Doppler positive), 31.14% had inactive synovial hypertrophy, 20.9% had erosions and in 20% of them the US examination of the above mentioned joints was normal.

61.29% of patients having US abnormalities, where rheumatoid factor positive.

All patients with erosions and inactive synovial hypertrophy, 83.3% of those with active synovial hypertrophy and 67% of those with tenosynovitis where cryoglobulins positive.

We found low levels of C3 fraction of complement in 92.3 patients with erosions, 83.3 patients with active synovial hypertrophy, 84.2 patients with inactive synovial hypertrophy and 50% of patients with tenosynovitis.

In 85.7% of patients with active synovial hypertrophy, and 53.8% of patients with erosions, the C-reactive protein (CRP) levels where elevated.

No patient was diagnosed as also having rheumatoid arthritis

Conclusions: Even in asymptomatic patients with chronic hepatitis C infection, US examination of the wrists and of the second and fifth interphalangeal joints may reveal abnormalities. Certain types of these are probably correlated with the presence of cryoglobulins and possibly associated with CRP levels, C3 levels and rheumatoid factors positivity.

Further studies are needed to verify our finding

Disclosure of Interest: None declared

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SAT0669 99mTc-HDP SPECT/CT – A NEW METHOD IN EARLY DIAGNOSIS OF SACROILEITIS

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Background: 99Tc hydroxyl-disphosphonate SPECT-CT (HDP SPECT-CT) is a hybrid imaging technology, which is a new modality in the examination of the sacroiliac joint. It is a high resolution, low dose structural computer tomography scan fused with a functional metabolism recording. Our aim was to investigate whether it is comparable in sensitivity with MRI, to analyse quantitatively the radioisotope uptake, to assess its potential in the assessment of inflammatory activity, and in the diagnosis of spondylarthritis (SpA).

Objectives: Seventeen patients (9 women, 8 men, mean age 35 years) were involved into the study from July 2016. The patients were selected according the following clinical features: inflammatory type low back pain raising the suspicion of axial SpA,¹⁷ elevated CRP level,⁶ HLA-B27 positivity,⁸ associated oligo- or

polyarthritis,⁵ dactylitis,¹ enthesitis,¹ psoriasis,¹ uveitis¹ and inflammatory bowel disease.¹ All patients were therapeutic-naïve for glucocorticosteroids, DMARDs or TNF- α inhibitors.

Methods: First, we performed examination of the sacroiliac joint with X-ray, to exclude those patients, who already had radiographic lesions. Then an MRI was performed in the following sequences: T2- weighted STIR for the bone marrow oedema (BME) and T1-weighted sequence for the fat metaplasia (FM). The HDP SPECT/CT was used within one week to examine the sacroiliac joint. Thereafter, the MRI images were fused with HDP SPECT/CT images. On the MRI images the BME (active lesion) and FM (chronic lesion), on the CT scans the sclerotic lesions (SCL, chronic lesion) were drawn manually as volume of interest (VOI). Uninvolved cortical areas were drawn on the different modality slices as reference region (ref). Then, we determined the isotope (99mTc-labelled HDP) uptake of the different lesions and areas.

Results: Four active sacroileitis and five chronic sacroileitis without active lesions were diagnosed according to the MRI results. On the other 8 patient's sacroiliac joints images (MRI, scintigraphy, CT scans), no inflammation-related lesions were observed. The MRI and HDP SPECT-CT findings were 100% concordant. The isotope uptake of BME was the highest, the radioisotope uptake of sclerotic lesions was moderate, whereas the isotope uptake of FM lesions was not different from the HDP uptake of reference regions.

Conclusions: According to the initial results, the different MRI lesions have different isotope uptake, which suggests, that the HDP SPECT/CT can distinguish the early and chronic stage of axial SpA from chronic lesions. Thank to whole body imaging technique we can have further information about disease activity and extent. The presented data are the first of our prospective study, and examinations of new patients are still in progress and we plan to investigate our SpA patients in remission to explore the utility of this new method in subclinical activity assessment. We also plan to investigate the corner lesions of the spine to find other potential uses of the HDP SPECT-CT imaging in SpA.

Disclosure of Interest: None declared

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SAT0670 DYNAMIC THIOL/DISULFIDE HOMEOSTASIS AS A NOVEL OXIDATIVE MARKER IN BEHÇET'S DISEASE

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Background: Behçet's disease (BD) is a relapsing systemic inflammatory disorder of unknown etiology.¹

Objectives: In this study, we aimed to evaluate the relationship between the thiol-disulfide balance and disease activity and organ involvement in BD.

Methods: One hundred fifty (150) patients with BD and 100 age-gender matched healthy controls were included in the study. Disease activity was assessed with the BD Current Activity Form (BDCAF) score. Serum levels of native thiol (NT), total thiol (TT), and disulfide were measured and the disulfide/native thiol, disulfide/total thiol and native thiol/total thiol levels were calculated for the patient and control groups.

Results: NT, TT, NT/TT values of the BD patients were significantly lower than those of the control group. The disulfide/NT, disulfide/TT values of BD patients were higher compared to the control group and the disulfide value of the BD group was slightly higher compared to the control group (table 1). No correlation was determined between thiol levels and disease activity and organ involvement in BD.

Abstract SAT0670 – Table 1. Laboratory results of the BD and the control group

	BD	HC	p
Native Thiol (SH)(μmol/l)	357.93 $\pm$ 76.65	453.01 $\pm$ 60.8	0.000*
Total Thiol (μmol/l)	398.57 $\pm$ 78.33	490.29 $\pm$ 58.48	0.000*
Disulfide (μmol/l) (SS)	20.32 $\pm$ 8.19	18.64 $\pm$ 7.87	0.109
Disulfide/native thiol x100	5.93 $\pm$ 2.76	4.25 $\pm$ 1.99	0.000*
Disulfide/total thiol x100	5.2 $\pm$ 2.13	3.86 $\pm$ 1.69	0.000*
Native thiol/total thiol x100	89.6 $\pm$ 4.26	92.28 $\pm$ 3.38	0.000*

*p<0,05

Conclusions: In patients with Behçet's disease, the dynamic thiol-disulfide homeostasis balance shifted towards disulfide formation due to thiol oxidation. It may be used as a novel marker in BD because it is easy, practical, fully automated and relatively inexpensive.

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SAT0671 INITIAL DEVELOPMENT OF A WHOLE-BODY MAGNETIC RESONANCE IMAGING INFLAMMATION INDEX FOR ACTIVE DISEASE OF PERIPHERAL JOINTS AND ENTHESES IN PATIENTS WITH INFLAMMATORY ARTHRITIS

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Background: Magnetic resonance imaging (MRI) allows objective assessment of inflammation in peripheral joints and entheses. MRI scoring systems have until now focused on assessing specific parts of the musculoskeletal system in detail, e.g. the Rheumatoid Arthritis MRI Scoring System (RAMRIS), which is applied to wrist and metacarpophalangeal joints and adjacent tendon sheaths. The interest in a whole-body MRI approach is growing as modern MRI scanners now permit whole-body scanning within an acceptable time frame, and future improvements in MRI hardware and pulse sequences are expected to improve scan time and image resolution further.

Objectives: To develop a whole-body MRI scoring system for inflammation of peripheral joints and entheses and to investigate its feasibility and reliability.

Methods: Definitions of the key pathologies and locations for assessment have been agreed upon in the OMERACT MRI Working Group¹. In a first round in June 2017, 9 readers (AJM/DG/FG/IE/MØ/PB/SJP/SK/WPM) scored MR images of 2 patients with spondyloarthritis using a draft web-based scoring system. Results were discussed and the scoring system was slightly modified. Hereafter, in a second round in October 2017, 14 MRI readers (3 musculoskeletal radiologist (IE/JLJ/RGL) and 11 rheumatologists with varying exposure to MRI (AJM/DG/FG/MS/MØ/PB/RP/SJP/SK/VF/WPM), scored 5 similar patients by the modified scoring system. Using a semiquantitative scale 0–3 (none/mild/moderate/severe), synovitis and osteitis were scored separately for 83 joints, and soft tissue inflammation and osteitis were scored separately for 33 entheses. Discrepancies between readers were discussed during an online meeting to obtain consensus, to train inexperienced readers, and to identify potential pitfalls when applying the scoring system.