Clinical evaluation consisted in the evaluation of the NAPSI and PASI scores. The MSUS evaluation consisted in the evaluation of 10 hand nails. In B-mode (BM) we evaluated the followings: thickness of the nail bed from the distal phalanx bone surface to the ventral plate (PB) according to Worstman X et al.; thickness of the nail from dorsal to ventral plate (IP); dorsal and ventral plate morphology, echogenicity and integrity. Additionally, we performed a color Doppler (CD) evaluation for the presence of CD signal at the nail bed and matrix level. A score for BM and different scores for CD were calculated for each nail and sums of all nails for BM and CD scores were calculated for each patient.

Results: We evaluated 60 patients with PsA, 23 with Pso and 20 controls. 52.4% were female. The mean age (SD; range) was 50.2 (13.6; 23–83). The age was higher in patients (Pso and PsA) than in controls ($p<0.001$). Patients with PsA were more treated with DMARD (81.7%) while patients with Pso were more treated with topics (73.9%) than DMARDs (13%), ($p<0.001$). The majority of the patients (96%) had a PASI score less than 12. The NAPSI was higher in Pso patients than in PsA patients ($p<0.001$); for all controls the NAPSI was 0.

US measurements of IP and PB were significantly higher in patients than in controls in the majority of the nail ($p<0.045$). Total US score for BM was significantly higher in patients than in controls ($p<0.001$). There were no significant differences for the majority of CD scores between patients and controls.

Overall we found weak to moderate positive correlations between NAPSI and US scores for BM, both for matrix and bed. For most of the nails we found no correlation between NAPSI and CDUS scores; for the rest of the nails the correlation was weak, both positive and negative.

References:

[1] The MSUS measurements and scores showed to be higher in patients with PsA and Pso compared with controls, while CD scores showed no differences.

Disclosure of Interest: None declared

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AB1030 IDENTIFICATION OF VERTEBRAL FRACTURES IN FRACTURE LIASION SERVICES ACROSS THE UNITED KINGDOM

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Background: Fracture Liaison Services (FLS) can prevent secondary fracture through systematic identification of low trauma fractures using dedicated case finding, with assessment and treatment of osteoporosis where necessary. Services are now being measured for quality against *Clinical Standards for Fracture Liaison Services* published by the National Osteoporosis Society in 2015.[1] The first standard asserts that all patients over 50 years with a newly reported vertebral fracture will be systematically and proactively identified.

Objectives: To evaluate provision for systematic identification of newly reported vertebral fractures in patients aged over 50 at Fracture Liaison Services (FLS) across the UK.

Methods: A gap analysis tool was used to measure service provision against standard one of the *Clinical Standards for Fracture Liaison Services*, relating to the systematic and proactive identification of vertebral fractures. Data was collected at 78 sites in the UK.

Results: 63% (49) of sites had *no* systematic process in place to identify vertebral fractures. Only 10% (8) sites identified *all* newly reported vertebral fractures. 27% (21) had procedures in place to identify *some* vertebral fractures, i.e. those within certain cohorts. There was considerable disparity across the UK. Sites in Scotland were significantly more likely to have comprehensive processes in place (38%, 6/16) than in the rest of the UK (3%, 2/62).

Conclusions: Systematic identification of vertebral fractures poses a particular challenge to services due to a number of factors. Vertebral fractures are difficult to identify as they tend not to present or be admitted in acute settings where FLS are primarily based. In addition, services require support from Radiology, including a commitment to avoid ambiguous terminology when reporting vertebral fractures. Furthermore, as a category, vertebral fractures fall between departments (Rheumatology, Orthopaedic, Fracture Clinic, A&E, Spinal services) making systematic identification even more challenging. In the Fracture Liaison Service Database Facilities Audit (May 2016), the most frequently cited barrier to the identification of vertebral fractures was lack of a patient pathway.[2] Gap analysis shows a paucity of provision in the identification of vertebral fractures. This is the key driver for work underway in the NOS to develop a patient pathway for vertebral fractures, in conjunction with clinical experts, to promote best practice and best patient care.

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AB1031 ANTI-DRUG ANTIBODIES: ASSAY PERFORMANCE IN PATIENTS TREATED WITH ANTI-TNF BIODRUGS

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Background: Minimum biodrug concentrations of ~7mg/l are predictive of disease remission[1]. Very low/absent biodrug concentrations associate with loss of benefit which may be due to ADA[2] however the clinical utility of ADA is assay dependant. In rheumatoid arthritis the combination of low/absent drug concentration and the presence of ADA appears to have the greatest utility[3]. Canterbury Health Laboratories, New Zealand (CHL) has developed a competitive binding ELISA to detect neutralising antibodies whereas most commercial assays utilise a bridging methodology

Objectives: Compare performance of a competitive binding assay with two commercial bridging assays in the detection of ADA to anti-TNFα biodrugs in serum samples with low/absent biodrug concentration

Methods: Serum samples referred for anti TNF biodrug concentrations found to have very low/undetectable concentrations (<1mg/l) were tested for ADA using the competitive-bind assay and two bridging assays (TANI Medikal and GRIFOLS)

Results: Over a 22 month period (Jan 2014 – Oct 2016), 67% (331/497) of referred samples had biodrug concentrations below 7mg/l and 15% (n=79) had low/undetectable biodrug concentrations (adalimumab n=36 or infliximab n=43). ADAs were detected in 53% (42/79) of this latter group. The competitive binding assay detected ADAs in all samples testing positive for ADA by binding assay. In addition a further 8 samples were positive for ADA by the competitive assay: 53% (42/79) positive for ADA by the competitive assay and 33% positive by one or other of the commercial assays

Conclusions: The competitive binding ELISA was more sensitive in detecting biodrug ADAs in serum samples with very low/undetectable biodrug concentrations

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AB1032 COMPARISON OF DIFFERENT TECHNIQUES FOR DETECTING ANTI-DFS70 ANTIBODIES

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Background: Antinuclear antibodies (ANA) positivity with a dense fine speckled (DFS) pattern by indirect immunofluorescence (IIF), as per the definition of the International Consensus on ANA Patterns (ICAP), is not uncommon and is linked to the presence of anti-DFS70 antibodies. These antibodies, in the absence of others, are very valuable as biomarkers of exclusion of a systemic autoimmune disease (SAD).

Objectives: To evaluate anti-DFS70 antibody detection by two different laboratory techniques and its relation with different IIF patterns, including DFS pattern.

Methods: During three months, the serum of patients with positive ANA was consecutively collected. Three groups of patients were established according to their IIF pattern: a first group (D) with a DFS pattern as per ICAP; a second group (M) with other speckled with positive mitosis patterns; and a third group (C), as a control, with well defined homgeneous and speckled patterns.

In order to perform a preliminary analysis, 10 serum samples were randomly selected from each group. In each serum sample, an ANA screening by IIF on Hep-2000 cells (Fluorescent IgG ANA-Ro Test System – Immunoconcepts) using an AP-16 Elite/Zenit-Up/GSight system from Menarini, and an anti-DFS70 antibodies detection by two different laboratory techniques (IIF on Hep-2 cells [Hep-2/DFS70 Knock-out - Immco Diagnostics] and inmunoblot [ANA+DFS70 Dot Blot – Alphadia]) were performed. Simultaneously, antibodies against extractable nuclear antigens (ENA), nucleosomes (NUS) and histones (HIS) were tested.

Results: In group D, positivity for anti-DFS70 antibodies was confirmed in 7/10 cases, all of them being negative for other ANA. In group M, 2/10 serum samples were positive for anti-DFS70 and 2/10 were positive for anti- NUS antibodies, none of them being positive for anti-ENA. In group C, no sample was positive for anti-DFS70 antibodies, while all of them showed positivity for antibodies against ENA, NUS and HIS.

The detection of anti-DFS70 was found to be equal by the two methods in 8 of the 9 positive cases, being both negative in the others. In no case the presence of anti-DFS70 was associated with a diagnosis of SAD.

Conclusions: Both IIF and immunoblot are suitable methods for detecting anti-DFS70 antibodies. We propose to determine anti-DFS70 and to perform an ENA screening in case of finding a DFS pattern of ANA by IIF, and to investigate anti-DFS70 in other speckled patterns with positive mitosis if no other specificities have been previously found.

Disclosure of Interest: None declared
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AB1033 THE EXPRESSION OF IMMUNOGLOBULIN G AND IMMUNOGLOBULIN G4 IN LYMPHOMA

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Background: Although IgG4-related disease has been gradually recognized, its relationship with malignant diseases, especially lymphoma has been an eternal topic.
Objectives: To explore the expression of IgG4 positive cells in lymphoma.
Methods: Surgical excision specimens with definite diagnosis of lymphoma from January to December, 2013 were collected. Hematoxylin-eosin staining and immunohistochemical staining of IgG and IgG4 were then evaluated on dense lymphoplasmacytic infiltration, storiform fibrosis and obliterative phlebitis. For the quantification of IgG and IgG4 positive cells, the areas with the highest density of positive cells were evaluated. Three high-powered fields (hpf) in each section were analyzed, and the average number of positive cells per hpf was calculated.
Results: 16 patients with lymphoma were selected in our study. There were 9 males and 7 females with an average age of 51 years old. The pathologic type included 13 cases of non-Hodgkin lymphoma and 3 cases of Hodgkin lymphoma. Sub types of Non-Hodgkin lymphoma contained 8 cases of diffuse large B cell lymphoma, 2 cases of small B cell lymphoma, 1 case of mucosa accociated lymphoid tissue marginal zone B cell lymphoma (MALToma), follicular lymphoma, peripheral T-cell lymphoma and hepatosplenic T-cell lymphoma. The 16 specimens all manifested as dense lymphocytic infiltration, accompanied by atypical lymphocytes. Proliferation of fibrous tissue was only seen in one specimen. 14 cases were IgG positive with the highest cell count from 20–350/hpf. IgG can be expressed in both cytoplasm and cytomembrane. 2 cases of IgG4 positive were Hodgkin lymphoma and the highest cell counts were 11 and 12/hpf respectively.
Conclusions: IgG4 positive cell, fibrosis and obliterative phlebitis seldom appear in lymphoma. Added specific tumor signature molecules, it may not be difficult to distinguish lymphoma from IgG4-related disease.
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AB1034 SCORING SYSTEMS OF MUSCLE MRI IN IDIOPATHIC INFLAMMATORY MYOPATHIES

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Background: MRI is a widely used radiological method for assessing muscle involvement in idiopathic inflammatory myopathies (IIM). There is still no universally accepted and validated scoring protocol for the quantification of pathological changes in muscles.
Objectives: To identify MRI scoring systems used in previous studies. To summarize the most frequently evaluated MRI features and to suggest parameters for a unified scoring system, that has to be validated in the future.
Methods: A detailed literature search was conducted in the standard medical databases. Information regarding individual MRI scoring systems were obtained from the methodological explanations and their parameters were compared.
Results: We identified different scoring systems with a large variability of assessed localizations and parameters (Table 1). Muscle oedema as a sign of active muscle inflammation was evaluated in all studies. There were some studies using modified Mercuri score for evaluation of the fatty infiltration as a marker of chronic muscle damage or the Goutallier grading (1, 2), developed originally for the assessment of inherited neuromuscular disorders or structural changes in orthopedics. Perifascicular oedema or soft-tissue oedema were also assessed in some cases. There was no concordance between evaluated muscle groups.
Conclusions: MRI plays a significant role in the evaluation of pathological changes in IIM. This search demonstrated, that there is no widely used, standardized method for assessment of a MRI finding. According to our results, a future concept of MRI scoring system should include evaluation of muscle oedema, fatty infiltration and possibly also the presence of perifascicular (-fascial) and subcutaneous tissue inflammation. Muscle groups most convenient for evaluation have to be determined as well.
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AB1035 EXAMINATION OF ULTRASOUND FINDINGS IN UNDIFFERENTIATED SPONDYLOARTHRITIS PATIENTS WITH DACTYLITIS

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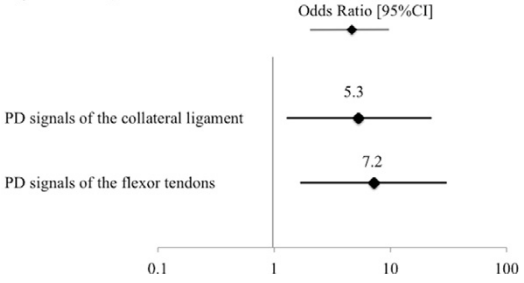
Objectives: To evaluate the ultrasound findings in undifferentiated spondyloarthritis (uSpA) patients with or without dactylitis.
Methods: Between April 2014 and December 2016, sixty-six patients with uSpA diagnosed at our center were consecutively enrolled. The diagnosis of uSpA was made by the Japan College of Rheumatology (JCR)-certified rheumatologists and dactylitis was defined as sausage-digit appearance. Ultrasound, clinical and laboratory findings at diagnosis in patients with dactylitis (dactylitis group; n=30) were compared to those without dactylitis (non-dactylitis group; n=36). Grey scale (GS) and power Doppler (PD) signals of the wrist and finger joints, PD signal of extensor and flexor tendon sheaths, and PD signals of the collateral ligament of the fingers in both hands were assessed by ultrasound. Ultrasound assessment was made by JCR-registered sonographers.
Results: There were no significant differences in clinical and laboratory findings, including inflammatory back pain, arthritis of the lower limbs, tenderness of the entheses, radiographic/MRI changes of sacroiliac joint and HLA-B27 allele frequency, between two groups. In ultrasound findings, the dactylitis group had significantly more PD signals of the flexor tendon sheaths (83% vs. 22%, $p<0.0001$), the collateral ligament (83% vs. 25%, $p<0.0001$), and the MCP joint (30% vs. 3%, $p<0.01$) as compared with the non-dactylitis group. In logistic

Figure 1. Logistic regression analysis of ultrasound findings for the contribution of diagnosis of dactylitis



Abstract AB1034 – Table 1. Muscle MRI scoring systems

Author	Muscle oedema	Fatty infiltration	Sequences	Muscle groups	Other aspects
Pipitone 2016	1 = present, 0 = absent	–	STIR	17 bilat.	–
Andersson 2015	1 = present, 0 = absent	0 - 4 Goutallier gr.	T1W, STIR	thigh, NS	–
Malattia 2014	0 = no abnormalities, 1 = mild-moderate <50%, 2 = high degree >50%	–	STIR	42 (whole body MRI)	perifascicular + subcutaneous tissue inflammation
Zheng 2014	0–5 scale from normal to moderate intrafascicular global oedema	0–5 modif. Mercuri score	T1W, STIR	12, thigh muscles bilat.	–
Davis 2011	0 = absent, 1 = mild, 2 = moderate, 3 = severe	–	STIR	4, thigh bilat.	soft-tissue + perifascicular oedema
Studynkova 2007	VAS 0–10	–	STIR	thigh muscles, NS	muscle oedema extent + total MRI affection

STIR = short-tau inversion recovery, NS = not specified, T1W = T1 weighted sequences, VAS = visual analogue scale.