possibly influenced by the number of patients included. One subject associated Sjögren Syndrome, another one cutaneous Lupus and another patient, morphea. All of the patients included, received steroids and immunosuppressants. Azathioprine was the most frequently used (18/20), followed by Methotrexate (7/20), Rituximab (5/20), Mycophenolate (4/20), Cyclophosphamide (3/20) and Abatacept (1/20).

Conclusions: In our cohort with AS, the most common clinical manifestation was ILD, and an important part of the patients showed a decreased DLCO. Capillaroscopy was pathogenic in most of them and could be useful for the diagnosis of AS, specially in those patients presenting solely with ILD at the clinical debut, although its pronostic value is still unknown. Multidisciplinary consultations are useful in the management of these truly challenging patients.

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AB1178 IS ANTI NUCLEAR ANTIBODY TEST REQUIRED CORRECTLY IN DAILY PRACTICE? A CHOOSING WISELY ANALYSIS

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Background: The most sensitive and gold-standard test used for the detection of antinuclear antibody (ANA) is accepted as the indirect immunofluorescence (IIF) test.¹ International proposals, including the choice of rational examination, referred to as "choosing wisely", include significant efforts to reduce overuse of examinations such as the ANA.²

Objectives: Our aim was to retrospectively analyse the distribution of the ANA test samples for clinical reasons according to the clinical departments and to determine the most frequently requested reasons and to draw attention to the rational ANA request.

Methods: Detection of ANA samples. Between January 2014 and August 2016, the results of the requested ANA test samples were screened for various reasons. The results of the first 4 divisions with the most common ANA test request and the reasons for the test were also analysed in detail (paediatric diseases were excluded). The ANA test was evaluated using the IIF method and the interpretation of the results was done according to the fluorescence intensity observed in the samples (+1 positive, +2 positive, +3 positive and +4 positive).

Results: 11407 ANA samples were evaluated. The first 5 sections requiring ANA test most were as follows: Neurology 1917 (24.7%), dermatology 1825 (23.6%), rheumatology 1574 (20.3%), paediatric nephrology 1404 (18.1%) and haematology 1027 (13.3%). In all the sections dealing with children, the ANA test number was 2461 and the mean age of the patients was 12.7 years, while the number of ANA samples required in the entire adult patient group was 8946 and the mean age of the patients was 46.8 years. ANA positivity rates for neurology, dermatology, rheumatology and haematology departments are 14.9%, 15.4%, 32.6% and 14.1%, respectively. The interclinical positivity rate was statistically significant ($p < 0.0001$). Positive +1, +2, +3 and +4 positivity rates were 33.5%, 27.8%, 22.2% and 16.3%, respectively, when all positive ANA results were evaluated in terms of titre. When positivity was evaluated in terms of ANA positivity rates/titre, +4 positivity was found to be the most common in the patients from the rheumatology department (135/262=51.5%) ($p < 0.0001$).

The reasons for ANA requests were determined according to ICD diagnostic codes. According to this; in neurology, headache, cerebrovascular event and multiple sclerosis; in dermatology urticaria, psoriasis and dermatitis; in rheumatology, SLE, arthritis and fibromyalgia; in haematology, anaemia and thrombocytopenia were the most common reasons for ANA requests.

Conclusions: Based on specific recommendations and "choosing wisely", the ANA test should be requested in patients with a high pre-test probability for autoimmune diseases. Raising awareness in terms of wisely choosing ANA test is needed in departments outside the rheumatology.

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AB1179 MUSCULOSKELETAL PATTERN OF 18F-FDG UPTAKE IN PATIENTS WITH POLYMYALGIA RHEUMATICA

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Background: Polymyalgia rheumatica (PMR) is a common inflammatory rheumatic disease of the elderly whose diagnosis is usually based on clinical and ultrasound findings. Recently, ¹⁸F-FDG PET/CT has been proposed as a promising one-step tool for assessing extent and severity of PMR. However, the pattern of ¹⁸F-FDG uptake in PMR is not well established and there is a lack of imaging guidelines.

Objectives: Our aim was to describe the musculoskeletal pattern of ¹⁸F-FDG uptake in PMR patients and assess if there were any differences between classic and atypical PMR.

Methods: Retrospective study of 75 patients with PMR and their respective PET/CT scans from a referral centre. We considered two groups: **a)** Classic PMR: patients who fulfilled the 2012 EULAR/ACR criteria; and **b)** Atypical PMR: patients with symptoms resembling PMR but did not fulfil the 2012 EULAR/ACR criteria. Distributions of categorical variables were compared by Pearson Chi2 or Fisher exact test as appropriate.

Results: We evaluated 75 patients (27 men and 48 women) with a mean age $\pm$ SD of 68.2 ± 10.7 years. A PET/CT was performed in all of them. Forty-two (56%) patients classic PMR and 33 (44%) atypical PMR. FDG-PET uptake was observed in the following musculoskeletal regions: in shoulders (n=45), sternoclavicular joints (n=33), hips (n=32), cervical interspinous bursae (n=8), lumbar interspinous bursae (n=29), pubic symphysis (n=4), subtrochanteric bursae (n=20), ischial tuberosities (n=19) and knees (n=33). The comparative study between both groups is shown in the **TABLE**, without observing any statistical significance.

Abstract AB1179 – Table 1

	PMR (N=75)	Classic PMR (n=42)	Atypical PMR (n=33)	P#
Sex (women), n (%)	48 (64.0)	29 (69.0)	19 (57.6)	0.30
Age (years), mean $\pm$ SD	68.2 $\pm$ 10.7	73.9 $\pm$ 8.5	61.6 $\pm$ 9.5	0.60
F-FDG uptake		25 (59.5)	20 (60.6)	0.92
Shoulders	45 (60.0)	20 (47.6)	13 (39.4)	0.48
Sternoclavicular joints	33 (44.0)	19 (45.2)	13 (39.4)	0.76
Hips	32 (43.7)	5 (12.0)	3 (9.0)	0.98
Cervical interspinous bursae	8 (10.7)	12 (28.6)	11 (33.3)	0.40
Lumbar interspinous bursae	29 (38.6)	1 (2.4)	3 (9.1)	0.31
Pubic symphysis	4 (5.3)	12 (28.6)	6 (18.2)	0.67
Subtrochanteric bursae	20 (26.7)	12 (28.6)	7 (21.3)	0.47
Ischial tuberosities	19 (25.4)	16 (38.1)	17 (51.5)	0.25
Knees	33 (44.0)	25 (59.5)	20 (60.6)	0.92

Comparisons between classic and atypical PMR.

Conclusions: In patients with PMR, ¹⁸F-FDG uptake seems to be more frequent in shoulders, sternoclavicular joints, hips and knees. In addition, ¹⁸F-FDG uptake can be also detected in lumbar interspinous bursae and less frequently in subtrochanteric bursae, ischial tuberosities, cervical interspinous bursae and pubic symphysis. No differences between classic and atypical PMR patients were seen.

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AB1180 THE INFLUENCE OF MECHANICAL STRESS ON THE HANDS ON ULTRASOUND RESULTS: A PROSPECTIVE STUDY WITH VOLLEYBALL PLAYERS (US-VOLLEY) – PRELIMINARY DATA

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Background: Various imaging studies have found an influence of physical exercise on joint and tendon pathology in ultrasound. It is not clear¹ how specific grey scale and power Doppler changes are in a context of mechanical stress and² if a distinction to findings in acute arthritis exists.

Objectives: To examine via grey scale and power Doppler ultrasound the acute physiological effects of increased physical stress on the fingers and wrists and their surrounding structures through volleyball training in amateur healthy subjects as a reference to the known pathological findings (effusion, increased perfusion) in acute arthritis.

Methods: Examination of 18 healthy amateur volleyball players via musculoskeletal ultrasound before and directly after their routine volleyball practice. Ultrasound assessment included a grey scale and power Doppler examination of the dominant hand (longitudinal planes of the dorsal wrist and dorsal and palmar

planes of MCP II-III and PIP II-III joints). Findings were graded semi-quantitatively from 0 to 3 both in grey scale (effusion) and power Doppler (perfusion). The results of the joint assessment were aggregated in a composite index for grey scale and power Doppler (range 0–54 points). All ultrasound images were graded by two independent raters who were blinded to image acquisition.

Results: Volleyball training showed statistically significant effects in the composite index for grey scale and power Doppler scores ($p=0.004$). 16 of 18 players showed a change in their composite index with a median change of 1 and a maximum change of 3 points. Subanalysis revealed that changes were related to grey scale exclusively, with no statistical difference in power Doppler scores.

Abstract AB1180 – Figure 1

Conclusions: The results of our study suggest that mechanical stress on the hands leads to changes in grey scale ultrasound in healthy subjects in at least one joint. However, the composite index for changes in grey scale and power Doppler changed 3 points at the most in one subject over various joints. To add, no changes in power Doppler score were observed. While changes in grey scale ultrasound appear to be minor, power Doppler ultrasound appears to be a more robust method and less prone to environmental factors. Power Doppler appears to be able to discriminate between physiological changes due to mechanical stress and acute arthritis and thus, is highly specific.

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AB1181

ANTI-RO60 SEROPOSITIVITY DETERMINES EPIOTOPE SPECIFICITY OF ANTI-RO52 ANTIBODIES IN PATIENTS WITH AUTOIMMUNE RHEUMATIC AND MALIGNANT DISEASES

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Background: Epitope mapping of anti-Ro52 antibodies (abs) has been extensively studied in patients with Sjögren's syndrome (SjS) and systemic lupus erythematosus (SLE). Comprehensive epitope mapping in systemic sclerosis (SSc) or malignant diseases (MD), also associated with anti-Ro52 abs, has not been performed.

Objectives: To fully characterise Ro52 epitopes in anti-Ro52 ab-positive SSc and MDs.

Methods: Testing was performed in sera from 95 anti-Ro52 positive patients with various autoimmune diseases (32 SSc, 20 SjS, 28 SLE) and 15 with malignant diseases (MD). Five recombinant Ro52 fragments [Ro52-1 (aa 1–127), Ro52-2 (aa 125–268), Ro52-3 (aa 268–475), Ro52-4 (aa 57–180, partly overlapping Ro52-1 and Ro52-2), and Ro52-5 (aa 181–320, partly overlapping Ro52-2 and Ro52-3)] were tested by line-immunoassay. Anti-Ro60 was tested by ELISA.

Results: Overall, reactivity to Ro52-1, Ro52-2, Ro52-3, Ro52-4 and Ro52-5 were present in 35.8%, 100%, 0%, 32.6%, 50.5%, respectively. Patients with SLE more frequently recognised Ro52-1, Ro52-4 and Ro52-5 than patients with SSc and malignant diseases. When epitope mapping was analysed in accordance to Ro60 reactivity, patients were subdivided in 50 Ro52pos/Ro60pos (13 patients with SSc, 14 with SjS, 18 with SLE and 5 patients with MD) and 45 Ro52pos/Ro60neg patients (19 with SSc, 6 with SjS, 10 with SLE and 10 patients with MD) and the following findings were noted: Abs to Ro52-1 were present in 26/50 (52%) Ro52pos/Ro60pos compared to 8/45 (18%) Ro52pos/Ro60neg patients ($p<0.001$); antibodies to Ro52-2 were present in all patients; antibodies to Ro52-3 was totally absent; antibodies to Ro52-4 were present in 23/50 (46%) Ro52pos/Ro60pos compared to 8/45 (18%) Ro52pos/Ro60neg patients ($p=0.003$); antibodies to Ro52-5 were present in 33/50 (66%) Ro52pos/Ro60pos compared to 15/45 (33.3%) Ro52pos/Ro60neg patients ($p=0.001$). Ro52 epitope recognition did not differ between Ro52pos/Ro60pos and Ro52pos/Ro60neg in patients with SLE, SjS and patients with MD. In SSc anti-Ro52-1 reactivity was present in 8/13

(62%) Ro52pos/Ro60pos compared to 0/19 (0%) Ro52pos/Ro60neg patients ($p<0.001$); In SSc, anti-Ro52-5 reactivity was present in 9/13 (69.2%) Ro52pos/Ro60pos and 5/19 (26.3%) Ro52pos/Ro60neg patients ($p=0.029$). Ro52 epitope recognition in Ro52pos/Ro60pos patients did not differ amongst diseases.

Conclusions: Ro52-1 (aa 1–127) and Ro52-4, partially overlapping with Ro52-1, (aa 57–180) are dominant epitopes in Ro52pos/Ro60pos patients but not in Ro52pos/Ro60neg patients with autoimmune rheumatic diseases, suggesting that amino acids 57–127 may contain an epitope specifically recognised by the Ro52pos/Ro60pos group. Whether Ro60 is responsible for the unmasking of Ro52 (aa57–127) neoepitope remains to be investigated.

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AB1182

THE STABILITY OF RHEUMATOID FACTOR AND ANTI-CCP ANTIBODY IN ARCHIVED SAMPLES OF BLOOD

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Background: Recently, there has been an increasing demand for analysing a large amount of specimen at the same time and for stably storing those specimens for clinical research. Therefore, the role of the biobank that collects and preserves the samples for research and supplies them stably is very important.¹ Anti-CCP antibody and RF predated the onset of RA by several years, which indicates that citrullination and the production of anti-CCP and RF autoantibodies are early processes in RA.² In addition, RA patients with anti-CCP antibody had more swollen joints and more severe radiological destruction.³

Objectives: The purpose of this study is to evaluate the stability of RF and anti-CCP antibody after preserving the remaining samples for a long time and to determine the usefulness of the remaining samples that were kept for future research.

Methods: Serum samples used in this study were collected from 50 patients with RA in Eulji university hospital in 2011. The patients had baseline measurement at the time the samples were obtained and had more than one serum aliquots stored for archived samples. At baseline measurement, rheumatoid factor was quantified with turbid immunometry and anti-CCP was measured by an ELISA analyzer. All specimens were kept in a freezer where temperature monitoring was carried out for 24 hours to keep the temperature below -70°C . 6 years later, the samples were slowly thawed at 4°C and measured by the same method of the baseline measurement.

Results: The mean age for 50 patients from which the samples were collected is 51.22 years. It was an average of 6.0 years (range: 5.6–6.1 years) for the samples to be stored at the biobank. We observed a slight decrease in concentration of RF and anti-CCP. There were significantly difference in concentration of RF and anti-CCP ($Z=-5.10$, $p\text{-value}<0.001$; $Z=-3.81$, $p\text{-value}<0.001$). The correlation between baseline sample and archived sample is strong (RF: $\rho=0.973$, $p\text{-value}<0.001$; anti-CCP: $\rho=0.938$, $p\text{-value}<0.001$).

Conclusions: This study assessed the stability of RF and anti-CCP antibody in archived samples of blood. Our results showed that serum concentration of RF and anti CCP antibody remain stable for up to 5 years at -70°C . There was a slight decreased in the level overtime that was correlated with baseline value. These data indicated that the archived human samples in human cohorts could be used to examine for research and could be estimated according to the regression analysis.

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