was divided by the average of 6 posterior apical SUVmean values (basal/apical ratio). High Resolution Computed tomography (HRCT)-scans and Pulmonary Function Tests (PFT) were examined to confirm the diagnosis of ILD and to specify the pattern of fibrosis.

Results: Mean age of patients was 69.4 (SSc-ILD), 62.5 (SSc without ILD), 38.9 (SLE) and, 49.3 (pSS). In SSc patients, the mean disease duration was 5.0 (SSc-ILD) and 4.4 (SSc without ILD) years. Diffuse cutaneous sclerosis was present in 2 SSc-ILD and 1 SSc without ILD patients, while other SSc patients were diagnosed with limited cutaneous SSc. ILD was present in 5 out of 9 SSc patients as confirmed by HRCT and PFT. ILD was active in 3 out of 5 SSc-ILD patients. Posterior basal/apical SUVmean ratios of SSc-ILD patients were significantly increased compared to SSc patients without ILD (p=0.016), and compared to SLE and pSS patients without ILD (p=0.001 and p=0.016, respectively), which is shown in Figure 1.

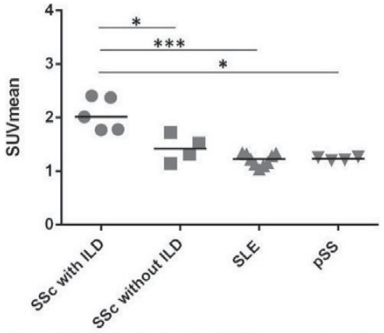

Figure 1: Basal/Apical ratio of SUVmean scores (corrected for bloodpool) in systemic autoimmune patients.
*= p<0.05, ***= p<0.001 (Mann-Whitney test), —— = median

Conclusions: Our findings demonstrate that ^{18}F-FDG PET -scan is potentially useful for the quantitative assessment of active ILD lesions in SSc patients. The technique may therefore provide opportunities to select the patients with inflammatory regions in ILD that are most likely to respond to immunesuppression.

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FRI0643 ENTHESITIS AND FOOT DISABILITY IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Enthesitis is a primary clinical feature of ankylosing spondylitis (AS). Lower extremity enthesopathy may cause foot pain and functional disability. Detection of enthesitis by using physical examination may be insufficient. Musculoskeletal ultrasonography is a noninvasive and low-cost method for detecting enthesitis readily.

Objectives: The aims of this study were to evaluate enthesitis by using musculoskeletal ultrasonography and foot disability in patients with AS, to compare healthy controls, and to determine the correlation of enthesitis score and foot function with disease activity and functional status.

Methods: In this study, 101 patients with AS and 42 healthy controls were examined for enthesal site abnormalities by using gray-scale ultrasonography. The findings were assessed by using the Glasgow Ultrasound Enthesitis Scoring System (GUESS). The foot function index (FFI), which comprised of pain, disability, and activity limitation subscales, was measured in all the patients with AS and healthy controls for assessment of foot function. Disease activity and functional status were assessed using the Bath AS Disease Activity Index (BASDAI) and Bath AS Functional Index (BASFI), respectively, in patients with AS.

Results: The median GUESS score was 8.00 (1.00–23.00), and, the median total FFI and scores in all the pain, disability, and activity limitation subscales were 14.70 (0.00–75.20), 16.60 (0.00–82.80), 16.10 (0.00–84.40), and 4.00 (0.00–60.00), respectively in patients with AS. The GUESS score, total FFI, and all the subscales scores were significantly higher in the patients with AS than in the controls (p=0.00). GUESS score showed no correlation with BASDAI and BASFI. In patients with AS, total FFI and scores for all subscales showed positive correlations between BASDAI and BASFI, respectively (p=0.00, *r*=0,66; p=0.00, *r*=0,0,50; p=0.00, *r*=0,59; p=0.00, *r*=0,31; p=0.00, *r*=0,60; p=0.00, *r*=0,54; p=0.00, *r*=0.57; p=0.00, *r*=0.50).

Conclusions: The severities of enthesitis and foot disability were higher in patients with AS. Patients with AS may undergo ultrasonographic examination for enthesal foot involvement. Foot disability is related with disease activity and function. Foot involvement and disability should be evaluated comprehensively and managed properly.

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FRI0644 SUBCLINICAL ULTRASONOGRAPHIC CHANGES OF THE ANTERIOR CHEST WALL JOINTS IN ANKYLOSING SPONDYLITIS AND RHEUMATOID ARTHRITIS AND THEIR ASSOCIATION WITH CHEST EXPANSION

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Background: Anterior chest wall (ACW) joints can be involved during the course of Rheumatoid arthritis (RA) and ankylosing spondylitis (AS), however, its clinical implications appear to be underestimated by the rheumatology community.

Objectives: To determine the prevelance and types of subclinical ultrasonographic changes in the ACW joints in RA and AS patients and their association with the chest expansion.

Methods: The study was conducted on 132 sternoclavicular joints (SCJ) and 66 manibrusternal joints (MSJ) in 66 subjects (22 AS, 22 RA, and 22 control). Ultrasound (US) assessments were performed to detect synovitis, erosions, ankylosis, osteophytes, or doppler signals. Chest expansion was measured. In RA group, Disease Activity Score (DAS28) and Health Assesment Questionare Disability Index (HAQDI) were recorded. In AS group, Ankylosing Spondylitis Disease Activity Score (ASDAS), Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) were recorded.

Results: US detected subclinical changes of ACW joints in (74.2%) of RA, (77.3%) of AS, and (21.2%) of control groups. There was a highly significant difference between total US changes in RA (74.2%) and control (21.2%) ($p<0.001$) and also between AS (77.3%) and control (21.2%) ($p<0.001$). Non of our control had neither erosions nor ankylosing in MSJ. MSJ ankylosing was signficantly higher in AS (77.3%) than RA (18.2%) ($p<0.001$). MSJ ankylosing was highly associated with limited chest expansion in both RA and AS ($P<0.001$). All patients (100%) in both groups (RA and AS) with MSJ ankylosing by US had limited chest expansion. In RA group, ultrasonographic changes were found to be higher with smoking, longer disease duration and high DAS28. In AS group, ultrasonographic changes were found to be higher with older age, male sex, smoking, longer disease duration and high BASDAI and BASFI.

Table 1. Comparison between RA and AS as regard ultrasonographic changes of anterior chest wall joints

	RA n (%)	AS n (%)	χ^2	p value
SCJ synovitis	34 (77.3)	24 (54.5)	5	**0.02***
SCJ PD activity	14 (31.8)	12 (27.3)	0.2	0.6
SCJ erosion	32 (72.3)	28 (63.6)	0.8	0.4
SCJ osteophyte	4 (4.5)	6 (13.6)	0.4	0.5
MSJ ankylosing	4 (18.2)	14 (63.6)	9.2	**0.002***
MSJ erosion	9 (40.9)	4 (18.2)	2.7	0.09
MSJ osteophyte	1 (0.5)	1 (0. 5)	0	1

*n: number; χ^2: chi-square test; PD: Power Doppler signals.

Conclusions: US detected subclinical changes of ACW joints in a high percentage of RA and AS patients. No erosions or ankylosing in MSJ were Found in the healthy individuals. MSJ ankylosing is more in AS than RA. Relatively, ankylosing of MSJ by US is highly associated with limited chest expansion in RA and AS. Up to the best of our knowledge, our study was the first study that detected subclinical changes of ACW joints in RA and AS by US.

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