April 2019. A total of 154 images were randomly selected and their reports were analyzed. The original reports were compared with the addendum made after the MDT and on the rheumatology electronic records. Clinical letters were also looked at to identify changes in follow up and treatment plans after the MDT.

Results: The majority of discussed images were X-rays (88). This is followed by 56 MRIs, 8 Ultrasounds and 2 others including CT.

After MDT review 38/88 X-rays (43%), 9/56 MRIs (16%) and 1/ 8 USS (13%) reports were amended. 31/38 amended X-ray (82%) and 5/9 amended MRIs (56%) were externally reported originally. In addition, 4 X-rays and 1 MRI reported by Radiology trainees were also amended.

Following the MDT outcome, the management plan was changed in 18/38 (47%) amended X-ray reports and 6/ 9 (67%) in amended MRI reports.

There were 17 rheumatology referrals by GP that were based on erroneous X-rays reporting and 3 of them were rejected after the MDT. The others were brought to the MDT after the first clinic visit and were discharged subsequently.

Conclusion: Joint rheumatology/ radiology MDT discussion makes significant outcome to patient care by minimizing unnecessary investigations and treatment based on erroneous or unclear reporting. Question is raised about efficacy of outsourcing of radiology reporting and need for intensive training for radiology trainees in reporting musculoskeletal(MSK) images. Since significant numbers of GP referrals were based on erroneous reports, reporting done by MSK radiologists would have reduced unnecessary burden and waste of outpatient rheumatology resources.

The images submitted for MDT were selected largely by consultant rheumatologists based on their review of the images and reliance on the original report. Therefore, clinical impact is underestimated in this survey as there were potentially other images not reviewed in MDT that had ended in unnecessary clinical consultation. This survey emphasizes the need and importance of incorporating formal musculoskeletal radiology training into routine rheumatology training program.

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AB1090

BIOMARKERS TO DIFFERENTIATE EARLY INDISTINGUISHABLE CASES OF OSTEOARTHRITIS AND RHEUMATOID ARTHRITIS.

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Background: Osteoarthritis (OA) and rheumatoid arthritis (RA) are the most frequent inflammatory diseases of the musculoskeletal system, which could not be differentiated in their early stages, and characterized by degradation of articular cartilage and impairment of joint function. Sometimes, criteria and radiography are not insufficient to distinguish early-stages of RA and OA and predict disease course, and therefore biomarkers that help clinicians to early diagnose disease are essential.

Objectives: The aim of this study is to estimate serum level of Matrix metalloproteinase 3 (MMP3) and hydroxyproline (HP) in early RA and OA patients to see if they can be used to differentiate both diseases at their early stages

Methods: The aim of this study is to estimate serum level of Matrix metalloproteinase 3 (MMP3) and hydroxyproline (HP) in early RA and OA patients to see if they can be used to differentiate both diseases at their early stages

Results: We found a highly significant elevation of serum MMP3 in OA patients group compared to RA patients and control groups. We also found a highly significant elevation of MMP3 in RA patients than control group, ($P < 0.001$). Meanwhile, we found a highly significant elevation of HP in OA patients than in RA patients and control groups, ($P < 0.001$), whereas there was no significant difference between HP in RA patients and control groups ($P > 0.05$).

Table 1. Demonstration of serum levels of MMP3 and HP in all groups.

"Enzyme"	OA (n=40)	RA (n=40)	Control (n=40)	p-value
MMP3 pg/mL	559.92±1112.84	153.25±162.05	59.79±63.54	<0.001
HP µg/mL	12.87±18.75	4.81±6.89	4.52±1.55	<0.001
HP µg/mL		4.81±6.89	4.52±1.55	> 0.05

Conclusion: Our results suggest that serum levels of Hydroxyproline (HP) rather than MMP3 could be used as a potential biomarker for early differentiation between osteoarthritis (OA) and rheumatoid arthritis (RA) when diagnostic criteria failed to be fulfilled.

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AB1091

FREQUENCY OF ULTRASOUND ENTHESITIS AND SYNOVITIS IN DIFFERENT ANATOMICAL SITES OF UPPER AND LOWER EXTREMITIES IN PATIENTS WITH PSORIATIC ARTHRITIS: CROSS-SECTIONAL STUDY

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Background: Psoriatic arthritis (PsA) is characterized by asymptomatic enthesitis and synovitis¹. The location of pathological lesions is not clear. Furthermore, ultrasound (US) enthesitis indices assess limited number of entheses.

Objectives: To detect the most frequent sites of US enthesitis and synovitis in PsA.

Methods: 57 PsA patients were enrolled to the study. US examination included bilateral large 14 joints; entheses of tendons and ligaments in the projection of examined joints (total number - 54). Totally, 798 joints, 3078 entheses were examined. The study was conducted by US rheumatologist. Data collection: demographical, clinical, US (total synovitis count by grey scale, enthesitis counted as the sum of structural and acute components (US enthesal findings assessed by the definition and scoring for enthesitis in PsA (OMERACT US)². Chi-square test used to calculate difference of articular and enthesal frequency between upper and lower extremities.

Results: In all 57 patients: male - 25 (43.9%), mean age 43.4±10.3(SD) years (y), PsA duration was 7 (3;10) y, Disease Activity in PsA score 18.1 (10.2;26.1).

Table. Frequency of articular and enthesal involvement of different anatomical sites in PsA

Upper extremities / Joints / Entheses	Frequency	Lower extremities / Joints / Entheses	Frequency
Acromioclavicular	29/456 (6.4%)	Hip	19/342 (5.6%)
Shoulder	3/456 (0.7%)	Knee	28/342 (8.2%)
Elbow	10/456 (2.2%)	Ankle	23/342 (6.7%)
Wrist	27/456 (5.9%)	Trochanter major:	31/2166 (1.4%)
		-gluteus minimum	36/2166 (1.7%)
		-gluteus medium	
Short head of the biceps brachii	11/912 (1.2%)	Spina iliaca anterior -superior	13/2166 (0.6%)
		-inferior	8/2166 (0.4%)
Coracoacromial ligament	5/912 (0.5%)	Ischiadicus tuberositas	36/2166 (1.7%)
Infrascapularis	19/912 (2.1%)	Medial collateral ligament	44/2166 (2%)
		-Proximal	25/2280 (1.2%)
		-Distal	
Supraspinatus	18/912 (1.9%)	Lateral collateral ligament	23/2166 (1.1%)
		-Proximal	9/2166 (0.4%)
		-Distal	

Table. Frequency of articular and enthesal involvement of different anatomical sites in PsA

Upper extremities / Joints / Entheses	Frequency	Lower extremities / Joints / Entheses	Frequency
Infraspinatus	5/912 (0.5%)	Patellar ligament	19/2166 (0.9%)
		-Proximal	25/2166 (1.2%)
		-Distal	
Triceps brachii	21/912 (2.3%)	-Pes anserinus	37/2166 (1.7%)
Medial epicondyle	21/912 (2.3%)	Biceps femoris	7/2280 (0.3%)
Lateral epicondyle	34/912 (3.7%)	Semimembranosus	35/2166 (1.6%)
		Quadriceps femoris	52/2166 (2.4%)
		Tibialis anterior	9/2166 (0.4%)
		Tibialis posterior	13/2166 (0.6%)
		Achille	46/2166 (2.1%)
		Plantar fascia	30/2166 (1.4%)

There was difference between US synovitis detection of upper (57.1%) and lower (42.9%) extremities ($p=0.04$). Total count of US enthesitis of lower extremities (70.4%) was significantly higher than of the upper (29.6%; $p<0.01$).

Conclusion: US synovitis of upper extremities was slightly higher than in lower. US enthesitis of lower extremities is significantly higher. US imaging can be used to diagnose enthesitis and synovitis, especially in patients in whom symptoms may be difficult to discern, and data on location of pathological lesions will be useful.

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AB1092 ULTRASOUND EXAMINATION OF JOINTS AND PERIARTICULAR TISSUES IN PATIENTS WITH INFLAMMATORY BOWEL DISEASES.

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Background: Joints and enthesal involvement is a common extraintestinal manifestation in inflammatory bowel diseases (IBD) [1]. Recent studies have shown the superiority of ultrasound over clinical findings in the evaluation of joints and periarticular tissues.

Objectives: To assess of joint and enthesal involvement in IBD patients using ultrasound with Power Doppler, their correlation with IBD clinical variables and the difference between Crohn's disease (CD) and ulcerative colitis (UC).

Methods: We prospectively included 38 IBD patients into the study. Disease activity was evaluated in CD by Harvey Bradshaw, in UC - Mayo Index. Peripheral joints and entheses were imaged by ultrasound, using Samsung Accuvix A30 5-13 MHz linear array transducer. Ultrasound examination of 14 peripheral joints (hip, knee, ankle, shoulder, acromioclavicular, elbow, wrist) and 35 entheses was performed. Vascularization on them was assessed with Power Doppler (PD). Enthesal abnormalities were scored with US according to indices GUESS, MASEI and BUSES [2]. Statistical analysis was done by Mann-Whitney test and Spearman criteria by "Statistica" software.

Results: In 38 patients UC was in 22 (58%), CD - in 16 (42%). The mean age of UC patients was 28 (23; 35) years, in CD - 33 (27; 36) years. The mean duration of UC was 24 (10; 48) months; CD - 66 (24; 114) months. The majority of patients had highly active disease: in UC - moderate and severe attacks in 16 pts (72%), in CD out of 16 patients, moderate and severe activity was observed in 9 (56%). Synovitis were found in 19 patients (50%), 8 patients with UC (36%), and 10 patients with CD (62%), synovitis with vascularization was detected in 7 patients (18%), five with CD (13%), two with UC (9%).

Enthesitis (echogenicity reduction and thickening) was detected in 30 patients (79%), 8 (50%) pts with CD and 17 (77%) pts with UC, enthesitis with vascularization (PD) in 13 pts (34 %), 5 (31%) pts with CD and 8 (36%) pts with UC. Tenosynovitis was observed in 11 pts (29%), three (19%) with CD and 8 (36%) pts - UC, tenosynovitis with vascularization in two patients (5%), one with UC and one with CD. Structure damage (erosion, enthesophytis) were found in 23 patients (61%), 12 patients (75%) with CD and 11 (50%) patients with UC.

There were no significant differences in ultrasound signs of joint and entheses damage between patients with UC and CD.

We found an association between the clinical characteristics of IBD and the ultrasound signs of entheses damage: duration of the disease has a direct moderate

correlation with the number of enthesitis (SR = 0.36; $p = 0.026$) and GUESS (SR = 0.37; $p = 0.022$).

There was no statistically significant relationship between the severity of the attack and damage to the joints and entheses.

Conclusion: The severity of joint and periarticular tissues damage is significantly correlated with the duration of the index disease and are independent of IBD activity.

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AB1093 INTEROBSERVER AGREEMENT IN MAGNETIC RESONANCE OF SACROILIAC JOINTS ABOUT ACTIVE SACROILIITIS

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Background: Axial spondyloarthritis has characteristic clinical features such as enthesitis, sacroiliitis and spondylitis, and extra-articular manifestations(1). Magnetic resonance imaging (MRI) of sacroiliac (SI) joints is used to detect early sacroiliitis(2). Health institutions in our country carry out some of the radiology reporting services by outsourcing for reasons such as high cost and insufficient number of radiologists(3).

Objectives: We decided to evaluate the interobserver agreement in active MRI findings of SI between radiologist of outsourcing radiology services and local/expert radiologist in musculoskeletal diseases.

Methods: Between the years of 2015 and 2019, 8100 sacroiliac MRIs were taken at our center. The MRI of 1150 patients who were reported as active or chronic sacroiliitis from these sacroiliac MRIs or whose MRI was considered by the primary physician in favor of sacroiliitis was included in the study. Concordance between Evaluation and Service Procurement was examined using Kappa (k) coefficients. Mc Nemar test was used to compare the evaluation result between two observers. A p-value <0.05 was considered significant. Analyses were performed using commercial software (IBM SPSS Statistics, Version 23.0. Armonk, NY: IBM Corp.)

Results: Of the 1150 patients examined in the study, 526 (45.7%) were male and 624 (54.3%) were female. The general average age is 37.20 ± 11.65 and the average age of men and women is 34.98 ± 11.19 and 39.07 ± 11.71 respectively. A statistically significant difference was found between the expert radiologists and outsourcing radiologist reports. In other words, a high level of compatibility was not found among the evaluators ($p < 0.001$). When the consistency between expert radiologist and outsourced radiologist reports was examined, it was observed that there was a medium level of concordance ($k = 0.589$).

Conclusion: The diagnosis of a spondyloarthropathy may be delayed for some reasons. In addition to the insidious course of the disease, being contented with an outsourced radiologist report may delay diagnosis. If the patient's clinic and MRI report are not consistent, the patient should not be removed from follow-up.

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		OUTSOURCING RADIOLOGIST REPORTS		TOTAL	p
		NOT ACTIVE SACROILIITIS	ACTIVE SACROILIITIS		
EXPERT RADIOLOGIST REPORTS	NOT ACTIVE SACROILIITIS	508	178	686	<0.001 0.589
	ACTIVE SACROILIITIS	59	405	464	
TOTAL		567	583	1150	