## AB0728 RHEUMATIC MANIFESTATIONS OF INFLAMMATORY BOWEL DISEASES, STUDY FROM MIDDLE EAST

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**Background:** Musculoskeletal symptoms accompanying the diagnoses of Inflammatory bowel diseases (IBD), are seen in 6 -46% of cases1. There are very limited data about prevalence of rheumatic manifestations of IBD from the Middle East 2.

**Objectives:** The goal of this study is to examine the prevalence of rheumatic manifestations among patients diagnosed with IBD.

**Methods:** Between 1/2/2015 and 30/7/2016 all consecutive IBD patients were approached. A total of 127 adult patients signed the consent form. The diagnosis and extent of IBD (ulcerative colitis or Crohn's disease) had to be confirmed by a colonoscopy and histopathology. Patients were then interviewed and examined by one of two expert rheumatologists. A set of questions were used, complete rheumatological examination, X-rays of the lumbosacral and SI joints, and HLA-B27 test were done.

**Results:** Among our sample; 66% were Arabs and 34% are Asians, 58.3% were males, 52% fell in the age category of 30–49 years, 83.1% were married, 25.6% had a graduate degree, 36.5% had a history of smoking, and 15.2% had a family history of IBD.

The sample had 36%% with Crohn's disease, and 64% with ulcerative colitis. Any type of rheumatic manifestations were present in of 57.5% with no significant differences between the the two types of IBD diseases ($p>0.05$). The majority of these patients had peripheral manifestations (arthralgia, arthritis, enthesitis) (43.3%), while only 3.1% had axial alone, and 11% had both types. Among those with peripheral manifestations; 7.2% had type 1 arthritis (Pauciarticular), while 1.4% had type 2 arthritis (polyarticular). There were no significant differences between the two types of IBD diseases in regards to the presence of peripheral manifestations ($p>0.05$). However, the two diseases were significantly different in the presence of axial manifestations as more people with Crohn's have axial manifestations (19.6%) compared with Ulcerative colitis (12.3%). Those with Crohn's had more people with rheumatic manifestations 4–7 years before the diagnosis of IBD. HLA-B27 was positive in 5 patients 3 with Crohn's and 2 with ulcerative colitis. Logistic regression analysis of the data did not reveal any significant predictor or potential risk (type of IBD, gender, age group, BMI, smoking, family history, duration or extent) for the development of musculoskeletal manifestations in our patients.

**Conclusions:** In this study of musculoskeletal manifestations of patients with IBD from the Middle East 57.7% of them have any rheumatic manifestations.Peripheral manifesations occurred in 43%, axial alone in 3.1%, axial and peripheral manifestations in 11.5%, type I arthritis in 7.2% and type II in 1.4%. More patients with Crohn's has axial spondyloarthropathy (19.6%) compared with patients with ulcerative colitis (12.3%).

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## AB0729 BENEFITS OF ADDITIONAL SPINAL MAGNETIC RESONANCE IMAGING COMPARED TO SACROILIAC JOINTS IMAGING ALONE IN THE DIAGNOSIS OF SPONDYLOARTHROPATHY

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**Background:** Axial spondyloarthritis (AxSpA) is a chronic inflammatory condition predominantly involving the axial skeleton including the spine and sacroiliac joints. Magnetic resonance imaging (MRI) demonstrates inflammatory and structural changes in patients with both ankylosing spondylitis and non-radiographic (nrAxSpA) forms of SpA and has become widely used in diagnosing SpA.

Sacroiliitis is a prominent feature of SpA but up to 24% of patients with clinically active SpA can have normal MRI of their sacroiliac joints (SIJ).[1] Spinal inflammation is well recognized in SpA and studies have shown that 49% of clinically active nr-AxSpA patients have spinal lesions alone but no lesions in SIJ.[2] Thoracic spinal lesions are as common as SIJ lesions.[3] Therefore using spinal in addition to SIJ MRI should improve the overall sensitivity and specificity for the detection of the disease.

Prior to publication of the 2015 EULAR recommendations,[4] an evidence-based MRI protocol had been adopted in our hospital, using STIR and T1-weighted sequences of the whole spine and SIJs in patients with suspected SpA.

**Objectives:** To determine the additional diagnostic benefit of including limited sequence whole spine imaging with SIJ MRI to SIJ MRI alone in patients with suspected SpA.

**Methods:** MRI scans performed for suspected SpA over twelve months from November 2015 to November 2016 were reviewed retrospectively (n=203). Reports were analysed for presence and location of lesions suggestive of SpA. HLA-B27 status of the patients and the presence of SpA associated clinical features as defined by ASAS criteria were recorded.

**Results:** MRI scans from 203 patients with suspected SpA were reviewed. 81 (40%) were male and 122 (60%) were female. The age range was 13 to 78 years (mean =41). 130 (64%) were less than 45 years of age. 157/203 (77%) patients had been tested for HLA B-27 alleles of whom 46 (29%) were HLA-B27 positive. All patients had inflammatory back pain and 76 (37%) had one or more additional SpA features as per ASAS criteria.

Overall 43 (21%) patients had a positive MRI spine and/or SIJs for inflammatory or structural changes. 21/43 (49%) patients had inflammatory lesions in their sacroiliac joints only. 18/43 (42%) patients had inflammatory changes involving both SIJ and Spine and 4/43 (9%) had spinal inflammatory changes only with normal SIJs (Table 1). In these four patients the thoraco-lumbar spine was involved. In HLA-B27 positive patients (n=46), 25 (54%) had a positive MRI.

| Positive Imaging Findings | Number of patients | Percentage of patients |
|---|---|---|
| SIJ & Spine | 18 | 42 |
| SIJ lesions alone | 21 | 49 |
| Spinal lesions alone | 4 | 9 |
| Total | 43 | – |

**Conclusions:** The majority of patients with SpA can have their diagnosis confirmed on SIJ MRI. However a proportion of patients (9%) had spinal changes only. Additional spinal MRI has been shown to increase the diagnostic yield for axial spondyloarthropathy in our cohort.

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## AB0730 CELL CHOLESTEROL TRANSPORT IN SPONDYLOARTHRITIDES AND ITS RESPONSE TO ANTI-RHEUMATIC DRUGS

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**Background:** Spondyloarthritis is associated to accelerated atherosclerosis, possibly due to chronic inflammation and lipid metabolism disturbances. Circulating lipoprotein function may be more important than concentration. In particular, cholesterol efflux capacity (CEC) of high density lipoproteins (HDL) opposes to foam cell formation and correlates inversely with cardiovascular risk[1]. Instead, the capacity of low density lipoproteins (LDL) to load cells with cholesterol (CLC) favors atherosclerosis. CEC and CLC may be altered independently from lipoprotein serum levels, *e.g.* due to chronic autoimmune inflammation or to medical therapies[2].

**Objectives:** Our aim was to compare CEC and CLC in patients with ankylosing spondylitis (AS) and psoriatic arthritis (PsA). We also aimed to evaluate CEC and CLC modification upon anti-rheumatic therapy and their relationship to lipoprotein levels.

**Methods:** Patients with AS (n=24) and PsA (n=36) were from the observational PSARA study. Treatment was: anti-TNF agents for AS; MTX alone or in combination with an anti-TNF agent for PsA.

Serum was drawn before, after 6 weeks and after 6 months of anti-rheumatic therapy to measure CEC with a validated cell model (radioisotopic technique to measure % cholesterol efflux on total cell cholesterol[3]) and CLC (with a macrophage model and fluorimetric measurement of cell cholesterol[2]).

**Results:** At baseline serum LDL and total cholesterol were higher in PsA than in AS patients. LDL, total cholesterol and HDL increased after treatment in AS, but not in PsA.

In AS, CEC increased after 6 weeks of treatment (4.9±0.3 vs. 5.5±0.3, 95% CI: -1.09 to -0.03, $p<0.05$), in parallel with HDL serum levels. In PsA, CEC did not differ between any of the time points.

CLC did not change with treatment in AS nor in PsA, but was overall higher in PsA than in AS patients. Despite the LDL serum level increase in AS, after 6 months of treatment the difference between CLC in PsA and AS was the most significant (34.0±1.8 in PsA vs 27.8±1.5 in AS, CI 95%: 3.28 to 6.67, $p<0.05$). In addition, after 6 months of therapy the correlation of CLC with LDL levels, present before treatment, was lost in the AS group. In the PSA group CLC did not correlate with LDL serum levels at any time point.

**Conclusions:** Our novel data indicate that pro-atherogenic lipoprotein dysfunction is more marked, and less responsive to anti-rheumatic treatment, in PsA than AS patients.

In AS, CEC improved significantly during anti-TNF therapy, probably due to increase in anti-atherogenic HDL. Despite the LDL increase associated with the anti-TNF therapy in AS patients, CLC stayed constant, standing against a hypothetical pro-atherogenic effect of such LDL increase.
These data may be useful for atherosclerosis prevention and treatment with tailored strategies for AS and PsA patients.
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## AB0731 OVERCOMING THE PROBLEMS OF UNTRANSLATABILITY: A MOBILE PHONE APPLICATION IN THE EXAMPLE OF TURKISH VERSION OF BASDAI

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**Background:** Patient-reported outcomes (PROs) are important in monitoring and making treatment decisions.Recently,we reported that the translation of"tender points" in the fourth question of the Turkish version of BASDAI was not correctly understood,and replacing this question with an entheses examination (BASDAI-Q4) decreased the score (∆BASDAI:0.99,p<0.0001,95% CI0.54–1.44).[1]
**Objectives:** We report here the results of an investigator initiated clinical trial using a self-developed mobile phone application (MPA)[2] to overcome the problem of untranslability.
**Methods:** Out of 135 invited 95 axSpA patients participated.Initially,BASDAI self-report forms (BSRF) were administered.Thereafter,patients were randomized into two groups (2:1).GroupA completed a second set of BSRF after using the MPA with embedded videos defining terms and grading for each domain.GroupB completed a second set of BSRF under guidance of an inexperienced family physician (FP).A third set of BSRFs were completed by GroupB with the same FP after he went through the MPA.Afterwards,an entheses examination (EE) was performed by a blinded rheumatolgist and patients graded enthesis pain between 0–10.StandartQ4 was replaced with the EE scoring (BASDAI-Q4).Patients older than 45 years of age were excluded.
**Results:** Fifththree male (%55.7) and 42 female (%44.3)patients,with a mean disease duration of 13 years (SD=8.7)were studied.Sixtyfour and 31 patients were randomized to Groups A and B, respectively.Nine patients reported the Q4 as"not understood".32 patients had no enthesitis on EE,but of those only 21 scored"0" for Q4 during the unassisted-PRO.Eleven reporting no enthesitis had so on EE.In GroupA,out of six"not understood" responders forQ4,five reported enthesitis after MPA assistance and four had enthesitis at the final EE.Nineteen patients had no enthesitis on physical examination,but of those only 12 scored"0" for Q4 during the unassisted PRO,and an additional nine scored"0" forQ4 after MPA assistance.Six out of seven patients reporting no enthesitis,but with enthesitis on EE reported,enthesitis after MPA assistance.In GroupB,scoring forQ4 was similar after both the unassisted- and FP's first assistance PRO.Out of four "not understood" responders for Q4,two reported enthesitis after the second assistance of FP and both had enthesitis at the final EE.Six patients had no enthesitis on EE,but of those only4 scored"0" for Q4 during the unassisted-PRO,and an additional two scored"0" for Q4 after second FP-assistance.Two out of four patients reporting no enthesitis,but with enthesitis on EE,reported enthesitis after second FP-assistance.Mean BASDAI was significantly higher in both groups then BASDAI-Q4 (Group A=3.97±1.95 vs. 2.84±1.98, p<0.0001,95% CI0.58–1.52, Group B=3.81±2.05 vs. 2.98±2.25, p<0.0001,95% CI0.48–1.31). In both groups, MPA for both, patients and FPs resulted in more reliable overall BASDAI scores with BASDAI-Q4 as the gold standard (Group A=3.05±2.25 vs. 2.84±1.98, p=0.081, 95% CI0.71–1.45, Group B=3.21±1.87 vs 2.98±2.25, p=0.075,95% CI0.71–1.63).
**Conclusions:** Mobile applications may improve the quality of collected data in cases of untranslability even in previously validated PROs.
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## AB0732 SPONDYLOARTHRITIS IN THE DEMOCRATIC REPUBLIC OF CONGO

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**Background:** While spondyloarthritis (SpA) is intensively studied in the Western world, data are scarce in sub-Saharan Africa.
**Objectives:** To determine the spectrum of SpA in outpatients with rheumatological complaints attending two rheumatology practices in Kinshasa, Democratic Republic of Congo.
**Methods:** A descriptive cross-sectional study over six months (December 1st, 2012 till May 31th, 2013) in consecutive patients attending the two rheumatology practices of Kinshasa; diagnosis was based on Amor or the ESSG criteria, and a clinical evaluation by a rheumatologist. Sacroiliac joint radiographic lesions were scored with the modified New York criteria. BASDAI and BASFI were evaluated in axial SpA.
**Results:** One hundred five patients (10.7%) were diagnosed among 984 rheumatologic outpatients with a sex ratio (male to female) of 1.4. The average age at the onset of the disease was 41.3±12.4 years. Non-radiographical axial spondyloarthritis was the most frequent subtype (4.98%) followed by reactive arthritis (4.27%). Other subtypes were: ankylosing spondylitis (1.02%), psoriatic arthritis (0.1%), SAPHO syndrome (0.1%) and IBD associated arthritis (0.1%). Mean BASDAI and BASFI in axial SpA were 42.7/100 and 46.4/100 respectively. Peripheral enthesitis was found in 43% of SpA patients and uveitis (10.4%) was the most frequent extra-articular manifestation. We did not detect any family history. Median erythrocyte sedimentation rate and C reactive protein were 37 (range: 7–110) mm/h and 22 (range: 4–48) mg/l respectively.

| Subtypes of SpA | *N* (Rf) | Sex distribution | | | P | Mean age (years) ±SD |
|---|---|---|---|---|---|---|
| | | M | F | Ratio | | |
| Nr-axSpA | 49 (46.7) | 27 | 22 | 1:0.8 | 0.23 | 40.5±7.5 |
| ReA | 42 (40.0) | 20 | 22 | 1:1.1 | 0.47 | 40.2±13.1 |
| AS | 10 (9.5) | 6 | 4 | 1:0.7 | 0.45 | 46.2±4.7 |
| PsA | 1 (0.95) | 0 | 1 | | | 32 |
| SAPHO Syndrome | 1 (0.95) | 1 | 0 | | | 35 |
| Enteropathic arthritis | 1 (0.95) | 0 | 1 | | | 25 |
| Juvenile SpA | 1 (0.95) | 1 | 0 | | | 13 |

**Conclusions:** This hospital-based study suggests a substantial occurrence of some subtypes of SpA in central Africa. A population-based study is needed.
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## AB0733 ASSOCIATIONS OF SERUM OSTEOPROTEGERIN AND IL-18 CONCENTRATIONS WITH CARDIOVASCULAR RISK IN ANKYLOSING SPONDYLITIS AND PSORIATIC ARTHRITIS PATIENTS

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**Background:** Inflammatory spondyloarthropathies (SpAs), ankylosing spondylitis (AS) and psoriatic arthritis (PsA) are associated with cardiovascular (CV) disorders. In both diseases cytokines of IL-17/IL-23 axis are thought to play a pathogenic role. PsA, but not AS, is usually preceded by psoriasis, suggesting contribution of skin inflammation-related cytokines to disease manifestation and CV risk.
**Objectives:** To search in AS and PsA patients for the association between CV risk and serum concentrations of select cytokines, i.e. of IL-17/IL-23 axis, IL-18 and osteoprotegerin (OPG) related to skin inflammation and/or cardiovascular disease (CVD) pathogenesis, respectively.
**Methods:** Twenty patients with AS (15M/5F) and 18 patients with PsA (10M/8F) of similar age (mean±SD, 42±7 vs 46±10 years) and disease duration (6.5±10 vs 6.1±7 years) were evaluated. A group of 38 sex and age-matched healthy volunteers was used as a control. Routine laboratory tests, i.a. measurement of serum C-reactive protein (CRP) concentrations were performed. Clinical data, including evaluation of disease activity by $ASDAS_{CRP}$ and BASDAI indices, calculation of SCORE (Systemic Coronary Risk Evaluation) index and atherogenic index (AI=total cholesterol/HDL) were collected. Serum concentrations of IL-17AF, IL-21, IL-23, IL-27, IL-18 and OPG were measured by specific commercially available enzyme-linked immunosorbent assays (ELISA) and were expressed in pg/ml. The Mann-Whitney U-test was applied for intergroup comparison, and correlation was assessed using a Spearman's Rank two-tailed test (*R* value is shown).
**Results:** Compared with control, total group of SpAs patients was characterized by significantly elevated serum concentrations of OPG (1757±852 vs 1062±406 pg/ml), IL-18 (273±235 vs 164±195 pg/ml) and IL-21 (68±127 vs 20±49 pg/ml). Interestingly, while up-regulation of OPG (1517±387) and IL-18 (324±291)