Figure 1.

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AB0813

DEVELOPING SARCOPENIA IS A RISK FACTOR FOR FRACTURES IN PATIENTS WITH RHEUMATOID ARTHRITIS: 4-YEAR DATA FROM THE CHIKARA STUDY

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Background: Patients with rheumatoid arthritis (RA) tend to have sarcopenia due to decreased muscle mass and function. We previously reported that 13.2% of RA patients without sarcopenia at baseline developed sarcopenia over a year using data from the prospective, observational CHIKARA study.

Table 1. Characteristics of 77 RA patients by sarcopenia status at baseline and at 4-year follow-up.

	no development (n=48)	development (n=6)	cured (n=10)	persisted (n=13)	p value
Baseline					
age, years	64.5 (57.8, 72)	70.0 (65.5, 72.3)	61.0 (54.5, 68.3)	72 (68, 81)	0.062
disease duration, years	4.6 (1.1, 9.9)	11.7 (2.8, 18.9)	8.1 (4.2, 14.3)	4.0 (2.2, 7.7)	0.427
biologics use, %	37.5	16.7	30.0	23.1	0.617
GC use, %	27.1	16.7	10.0	23.1	0.678
MMP-3, ng/ml	66.8 (51.8, 103)	52.5 (40.0, 56.7)	82.8 (57.8, 186)	157.5 (90.8, 250)	0.001
DAS28ESR	3.43 ± 0.87	3.48 ± 1.32	3.36 ± 1.08	3.80 ± 1.27	0.661
mHAQ	0.31 (0, 0.50)	0.19 (0.03, 0.44)	0.38 (0, 0.84)	0.50 (0.25, 0.88)	0.383
BMI, kg/m ²	23.4 ± 3.6	21.6 ± 2.4	19.2 ± 1.6	19.5 ± 2.6	<0.001
SMI, kg/m ²	6.8 ± 0.8	6.2 ± 0.6	5.8 ± 0.5	5.7 ± 0.6	<0.001
fat percentage, %	30.4 ± 8.4	29.1 ± 9.1	23.9 ± 4.0	25.1 ± 8.3	0.046
estimated bone mass, kg	2.2 (2.0, 2.4)	1.9 (1.8, 2.1)	2.0 (1.7, 2.1)	1.7 (1.7, 1.9)	0.012
BMR, kcal	1100 (1031, 1197)	1029 (918, 1070)	1012 (917, 1057)	934 (894, 1006)	0.005
Change during 4 years					
ΔDAS28ESR	-0.34 ± 0.97	-0.52 ± 0.98	-0.60 ± 1.46	-0.56 ± 1.14	0.834
ΔmHAQ	0 (-0.25, 0.16)	0.19 (0, 0.56)	-0.06 (-0.44, 0.94)	0 (-0.38, 0.38)	0.357
ΔSMI, kg/m ²	0.0 ± 0.3	-0.6 ± 0.3	0.3 ± 0.4	-0.0 ± 0.3	<0.001
fall, %	43.8	83.3	30.0	23.1	0.079
fracture, %	14.6	83.3	20.0	23.1	0.002

Data are shown as mean ± standard deviation (SD) or median (25th, 75th percentile). GC: glucocorticoids, BMI: body mass index, SMI: skeletal muscle mass index, BMR: body metabolism rate.

Objectives: The aim was to investigate sarcopenia status and the characteristics of RA patients longitudinally.

Methods: Body composition, laboratory data, disease activity, physical function, treatment, and history of falls and fractures were investigated in 100 RA patients who participated in the CHIKARA study at baseline and at 4 years. The patients were divided into 4 groups depending on their sarcopenia status: no sarcopenia development (N group), sarcopenia development (S group), cured (C group), and persisted (P group).

Results: Of the 77 RA patients who completed the survey, 48 were in the N group; their body mass index, skeletal muscle mass index, fat percentage, estimated bone mass, and body metabolism rate at baseline were significantly elevated. On the other hand, 6 patients were in the S group; 83.3% of them experienced fractures during the 4 years, significantly more than in the other groups. Ten patients were in the P group, and their baseline MMP-3 was significantly higher than in the other groups. Thirteen patients were in the C group. There were no differences among the 4 groups in disease activity and physical function (Table 1).

Conclusion: Overall, 78% of RA patients developed sarcopenia during the 4-year follow-up period, and they developed fractures more frequently. Evaluation of sarcopenia is important for risk assessment of fractures.

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AB0814

PREGNANCY COURSE ASSESSMENT IN PATIENTS WITH RHEUMATIC DISEASES COMPARED TO CONTROLS

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Background: Rheumatic diseases such as rheumatoid arthritis (RA) and spondyloarthritis (SA) may occur among women of childbearing age. Adverse events during pregnancy including disease flare, preterm delivery, and neonatal or fetal death have been reported.

Objectives: Our aim was to assess the impact of rheumatic diseases on the course of pregnancy.

Methods: We conducted a cross-sectional study involving patients with RA (2010 ACR/EULAR criteria) and SA (2009 ASAS criteria) (study group) as well as healthy controls (control group) matched by age and gender. All women included had at least one pregnancy. Data were collected through telephonic interviews. We used the Student t test to compare the study group and the control group.

Results: We enrolled 57 patients (30 RA and 27 SA) and 57 controls. The mean age in the study and the control groups were respectively 43.2 ± 8.2 years [26-48] and 37.5 ± 6 years. The mean chronic inflammatory rheumatism duration was 13.81 ± 6.2 years. A history of primary sterility was found in 3 patients (1 RA and 2 SA) and none in the control group. The mean age during the first pregnancy was significantly higher in the study group (28 ± 6.2 years versus 24 ± 7 years in the control group) (p=0.01). Eight patients (5 RA and 3 SA) had a history of spontaneous miscarriage. A terminated pregnancy was noted in 3 patients (1 RA and 2 SA). Complications during pregnancy in the study group were gestational diabetes (0.3%), premature delivery (0.3%), premature rupture of membranes (0.3%), abortion threat (0.3%) and pre-eclampsia (6%). Pregnancy was more associated with complications in the study group (p=0.05). Cesarean section was more used in the study group (28 patients versus 9 in the control group; p= 0.00). The main indications of cesarean section in the study group were macrosomia (11 patients), scar uterus (6 patients), sacroiliitis (4 SA patients), twin pregnancy (2 patients), and undetermined reasons (6 patients). Fetal presentation in the study group was the seat presentation (3%), top presentation (4%), face (2%), and forehead presentation (0.3%) with no significant difference with the control group. Complications of childbirth in the study group were hemorrhage of delivery (10.3%), cord widening (6.6%), perinatal asphyxia (4.9%), and dystocia (1.9%). However, no statistically significant differences were found between the two groups in the prevalence of complications of childbirth. During pregnancy, 5 patients were on salazopyrine, 2 on corticosteroids and, 1 on non-steroidal anti-inflammatories.

Conclusion: Our study showed that pregnancies with rheumatic diseases were at increased risk of having maternal complications and adverse neonatal outcomes.

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AB0815

FIRST DEGREE RELATIVES OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS - CLINICAL, SEROLOGICAL AND IMMUNOLOGICAL CORRELATIONS

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Background: Antinuclear antibodies (ANA) have been unequivocally recognized as essential for diagnosis and play both pathogenic and diagnostic roles in systemic lupus erythematosus (SLE). SLE and ANA have also been found to be more often among relatives of SLE patients. ANA and other immunological changes are known to appear prior to the clinical onset of the disease and thus can be used as predictors. Studies have reported that relatives of SLE patients who later transitioned to SLE displayed more lupus-associated autoantibody specificities and had early clinical signs. They also displayed elevated baseline plasma levels of inflammatory mediators, including B-lymphocyte stimulator (BLyS) and interferon-associated chemokines, with concurrent decreases in levels of regulatory mediators, e.g. tumor growth factor (TGF)- β . Commonly recognized risk factors for SLE are signs of past Epstein-Barr (EBV) infection, use of estrogen drugs and current smoking. It seems that ANA, immunologic changes and risk factors have not been investigated together in relatives of SLE patients. **Objectives:** The aim of the study was to determine the relative prevalence of clinical signs of SLE or connective tissue disease (CTD), smoking, use of estrogen drugs and levels of circulating ANA, BLyS, IFN- α , TGF- β , anti-EBV viral capsid antigen (VCA) IgM and IgG antibodies among sera of FDR, non-FDR healthy individuals and SLE patients.

Methods: Forty three FDRs of SLE patients were studied along with 15 SLE patients and 15 clinically healthy subjects as control groups. The FDRs and the healthy answered a questionnaire about early clinical signs of CTD, smoking and estrogen use history. The questionnaire was developed based on the existing Screening Questionnaire for Connective Tissue Diseases and current knowledge of most early signs of CTD. Blood samples were obtained and tested for ANA, both by indirect immunofluorescence and immunoblot, anti-dsDNA by ELISA. ELISA was also performed to measure levels of BLyS, IFN- α , TGF- β , anti-EBV IgM and IgG.

Results: More than half of the FDRs displayed ANA in titer 1:160 or more, with predominantly AC-4 type of fluorescence according to International Classification on ANA Patterns (ICAP) compared to only AC-1 and AC-0 among patients and controls respectively. A correlation between the ANA titer and the number of complaints was found. This was particularly valid or reported skin complaints and oral ulcers which appeared more frequently when ANA was 1:320 or above ($p=0.018$ and 0.038 respectively). Furthermore, oral ulcerations showed positive correlation with the presence of anti-Ro60. No associations were found in the healthy group between reported complaints and ANA titers. Smoking and estrogen use did not differ across the three groups. Patients showed significant differences in levels of BLyS ($p=0.027$), TGF- β ($p=0.019$) and anti-EBV IgG ($p=0.041$) compared to both FDRs and controls. Without reaching statistical significance, levels of TGF- β tend to split the FDR group into "healthy-like" and "SLE-like".

Conclusion: Our results show that FDR ANA levels are between those of SLE patients and healthy subject groups. This is consistent with previous studies. The data also suggest that ANA positivity correlates with reported complaints, some of which could be interpreted as very early clinical signs of SLE. Of note, anti-Ro60 is known to be among the earliest ANA that appear in "future" SLE patients and in this study they are related to oral complaints that could be caused by early sicca phenomena. Immunologically, our data support previous findings [1] that the FDRs are a heterogenic group with different "lupus-developing" potential.

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AB0816

PREDICTORS OF RESPONSE TO THE FIRST bDMARD IN BIOLOGIC-NAÏVE PATIENTS WITH SPONDYLOARTHRITIS: A COHORT STUDY

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Background: Several markers of response to biologic disease-modifying anti-rheumatic drugs (bDMARDs) have been identified in Rheumatoid Arthritis. However, data on predictors of response in Spondyloarthritis (SpA) are more limited. **Objectives:** To identify predictors of response to bDMARDs in a SpA population. **Methods:** Monocentric retrospective study including all the SpA patients (ASAS classification criteria) followed at our Rheumatology Department, registered in the national database and treated with bDMARD between July 2001 and August 2020. Demographic, clinical and laboratory data at baseline and disease activity measures at 6 and 12 months of bDMARD were collected. Mann-Whitney U test and chi-square tests were used to the comparison analysis between groups (continuous and categorical variables, respectively) and univariate logistic regression was used in the prediction analysis.

Results: A total of 325 patients were included, 178 (54.8%) males, 76 (23.4%) smokers and 164 (50.5%) HLA-B27 positive. Concerning SpA subtypes: 236 (72.6%) had Ankylosing Spondylitis, 31 (9.5%) had Inflammatory Bowel Disease Associated SpA and 58 (17.9%) had Undifferentiated SpA. The mean age at the start of the first bDMARD was 41.7 years (± 12.2) and the median disease duration was 12.1 years (0.5–52.7). The mean ASDAS-CRP (Ankylosing Spondylitis Disease Activity Score with C-reactive protein) was 4.0 (± 0.8) and most patients (57.2%) exhibited very high disease activity at baseline as evaluated by ASDAS-CRP. Ninety-five (29.2%) patients were taking NSAIDs (nonsteroidal anti-inflammatory drugs) and 131 (40.3%) were under csDMARDs (conventional synthetic disease-modifying antirheumatic drugs), being sulfasalazine the most frequent (28.3%). All patients started iTNF (tumor necrosis factor inhibitors): adalimumab (30.2%) and golimumab (24.6%) were the most frequently started bDMARDs. At 6 and 12 months of bDMARD, 63.5% and 65.7% of the patients had ASDAS response (clinically important improvement or major improvement). Variables that showed statistically significant differences at baseline between those different groups are presented at Table 1.

Table 1. Baseline characteristics that showed statistically significant differences at baseline between groups of patients with vs without ASDAS responses at 6 and 12 months of bDMARD. (bDMARD: biologic disease-modifying antirheumatic drug; BMI: body mass index; CRP: C-reactive protein; ESR: erythrocyte sedimentation rate).

	ASDAS response at 6 months			ASDAS response at 12 months		
	yes	no	p-value	yes	no	p-value
Age at start of bDMARD (mean $\pm$ SD)	39.6 $\pm$ 12.2 years	44.2 $\pm$ 10.7 years	p=0.012	40.7 $\pm$ 12.8 years	44.2 $\pm$ 10.9 years	p=0.035
Age at SpA diagnosis (mean $\pm$ SD)	32.2 $\pm$ 11.1 years	35.8 $\pm$ 11.9 years	p=0.023	31.3 $\pm$ 10.7 years	35.4 $\pm$ 11.2 years	p=0.010
BMI (mean $\pm$ SD)	25.7 $\pm$ 4.3 kg/m ²	28.7 $\pm$ 6.0 kg/m ²	p=0.045	25.6 $\pm$ 4.3 kg/m ²	28.5 $\pm$ 5.7 kg/m ²	p=0.005
CRP (mean $\pm$ SD)	3.2 $\pm$ 3.5 mg/dL	1.1 $\pm$ 1.2 mg/dL	p<0.001	3.4 $\pm$ 3.5 mg/dL	1.4 $\pm$ 1.6 mg/dL	p<0.001
ESR (mean $\pm$ SD)	36 $\pm$ 22	25 $\pm$ 20	p<0.001	38 $\pm$ 24	27 $\pm$ 17	p=0.001
ASDAS-CRP (mean $\pm$ SD)	4.1 $\pm$ 0.8	3.5 $\pm$ 0.4	p<0.001	4.2 $\pm$ 0.8	3.6 $\pm$ 0.8	p<0.001
HLA-B27+	61.5%	26%	p=0.006	60.1%	44.4%	p=0.033
Males	62.3%	35.7%	p=0.004	62.3%	37.5%	p=0.001

Body mass index (BMI) (OR 0.89 [0.80–0.99], 95% CI) and ASDAS-CRP at baseline (OR 2.8 [1.2–6.6], 95% CI) predicted ASDAS response at 6 months; moreover, only BMI (OR 0.91 [0.83–0.99], 95% CI) predicted ASDAS response at 12 months of bDMARD.

Conclusion: Our results demonstrate that a higher baseline disease activity predicts the response to bDMARDs in SpA. Interestingly, BMI at baseline also predicts ASAS response at 6 and 12 months of treatment with bDMARD, in line with some data that suggest an association between BMI and disease activity in SpA.

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AB0817

CAN RHEUMATIC CONDITIONS ASSOCIATED INTERSTITIAL LUNG DISEASES BE MANAGED IN A DISTRICT GENERAL HOSPITAL – RESULTS FROM A LONGITUDINAL OUTCOMES SURVEY

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