POS0543

MORNING STIFFNESS IN CLINICALLY SUSPECT ARTHRALGIA IS EXPLAINED BY LOCAL SUBCLINICAL SYNOVITIS AND SYSTEMIC INFLAMMATION

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Background: Morning stiffness (MS) is considered a cardinal symptom in the clinical appraisal of arthralgia patients, suggesting presence of subclinical inflammation, which could indicate an increased chance of progression to rheumatoid arthritis (RA). However, the pathophysiology behind MS in arthralgia patients that is clinically suspect for progressing to RA (clinically suspect arthralgia; CSA) has never been studied. In RA, it is presumed that both local- and systemic inflammation underlie MS. We therefore hypothesize that, in patients with CSA, MS can also be explained by local- and systemic inflammation.

Objectives: To determine if MS can be explained by MRI-detected local inflammation (subclinical synovitis and tenosynovitis) and systemic inflammation (C-reactive protein(CRP)).

Methods: 514 CSA patients underwent a contrast-enhanced 1.5T MRI of metacarpophalangeal (MCP) 2-5, wrist and metatarsophalangeal (MTP) 1-5 joints, next to clinical assessment and laboratory investigations. MRIs were scored for synovitis and tenosynovitis in line with the RAMRIS-method. MS was dichotomized as present (duration ≥ 60 minutes) or absent (duration < 60 minutes). Associations of MRI-detected synovitis, tenosynovitis and increased CRP with MS were tested with univariable and multivariable logistic regression. Since earlier research in arthritis patients showed that the effect of combined presence of MRI-detected synovitis and tenosynovitis was increased, compared to the effect of these features separately, interaction between MRI-detected synovitis and tenosynovitis, and between synovitis and increased CRP, was assessed.

Results: In the studied CSA-patients, mean age was 44 years (sd 13), 397 patients (77%) were female, median tender joint count (TJC-70) was 5 (interquartile range 2-10), and 67 (13%) patients were ACPA-positive. MS was present in 191 (37%) CSA-patients. Baseline characteristics among patients with and without MS were similar. MRI-detected synovitis was more often present in patients with MS compared to patients without MS (34% versus 19%), OR 2.12 (95% CI 1.41-3.19). Also, MRI-detected tenosynovitis was more frequently present in patients with MS (36% versus 24%), OR 1.74 (1.18-2.57). Likewise, increased CRP levels (≥ 5 mg/L) were more often found in patients with MS (31% versus 18%), OR 2.00 (1.32-3.04). In multivariable analyses, ORs were 1.90 (1.22-2.96) for MRI-detected synovitis and 1.82 (1.18-2.82) for increased CRP. With an OR of 1.20 (0.77-1.87) MRI-detected tenosynovitis was not significantly associated with MS in a multivariable analysis. Interaction between synovitis and tenosynovitis, and between synovitis and CRP was not significant (p-value of 0.13 and 0.15, respectively).

Conclusion: Presence of MRI-detected synovitis and increased CRP levels are associated with presence of MS in patients with CSA. This indicates that MS in CSA patients could indeed be induced by both local- and systemic inflammation.

Disclosure of Interests: None declared

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POS0544

INFLUENCE OF EATING HABITS ON FRAILTY AMONG PATIENTS WITH RHEUMATOID ARTHRITIS: KURAMA COHORT

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory disorder that contributes to accelerating frailty, a clinical state of increased vulnerability due to declined physiological function. Although accumulating evidence suggests the importance of nutritional therapy for frailty in the general population, there is little evidence on dietary recommendations for preventing frailty in patients with RA.

Objectives: The present study aimed to reveal clinical associations between frailty status, eating habits and RA disease activity.

Methods: We conducted a cross-sectional study of 306 female outpatients enrolled from the KURAMA (Kyoto University Rheumatoid Arthritis Management Alliance) cohort database. The participants were classified into three groups (robust, prefrail and frail) according to simplified frailty scale (SOF index), and dietary data were collected using a self-reported food frequency questionnaire as previously reported. We performed multivariate logistic analyses for the presence of frailty/prefrailty with or without eating habits.

Results: Frail group showed physical decline such as decreased skeletal muscle index, hand grip strength and walking speed, and DAS28-ESR in the frail group was significantly higher compared to that in the others. In multivariate logistic analysis, the presence of frailty/prefrailty was correlated with DAS28-ESR (OR 1.71, $p=0.00004$) and methotrexate use (OR 0.47, $p=0.0097$). Cochran-Armitage trend test also showed that the intake frequency of five ingredients (meat, fish, milk, fruits and vegetables) was inversely associated with the prevalence of frailty/prefrailty. In additional multivariate logistic analyses with dietary habits, habitual intake of fish (at least three times per week), rather than meat or other foods, was independently correlated with the presence of frailty/prefrailty (OR 0.33, $p=0.00027$).

Conclusion: Our results suggest that habitual intake of fish, rather than meat or other foods, may be beneficial in preventing frailty among RA patients.

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Table 1. Multivariate logistic analysis for RA patients with prefrailty or frailty

variables including eating habits	Fish + Meat		All	
	OR (95% CI)	P value	OR (95% CI)	P value
DAS28-ESR	1.78 (1.34 - 2.37)	0.00003	1.73 (1.30 - 2.30)	0.00009
MTX use	0.43 (0.23 - 0.79)	0.0055	0.42 (0.23 - 0.78)	0.0050
Age (1 year)	1.02 (1.00 - 1.05)	0.037	1.03 (1.01 - 1.06)	0.0015
PSL use	1.23 (0.69 - 2.21)	0.49	1.22 (0.67 - 2.20)	0.51
Duration of RA (1 year)	1.00 (0.98 - 1.02)	0.72	1.00 (0.98 - 1.02)	0.84
Body mass index	1.00 (0.93 - 1.07)	0.98	0.99 (0.92 - 1.07)	0.85
Biological agents use	1.02 (0.60 - 1.72)	0.94	1.04 (0.62 - 1.77)	0.87
Fish dish	0.31 (0.17 - 0.55)	0.00004	0.33 (0.18 - 0.61)	0.00027
Meat dish	0.86 (0.49 - 1.50)	0.60	0.89 (0.51 - 1.57)	0.69
Milk			0.71 (0.41 - 1.24)	0.23
Vegetable			0.95 (0.47 - 1.93)	0.89
Fruits			0.77 (0.41 - 1.42)	0.40

Figure 1. The prevalence of prefrailty or frailty for subjects by intake frequency

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POS0545

DISCORDANCE BETWEEN PATIENT'S AND PHYSICIAN'S DISEASE ACTIVITY ASSESSMENT IN RHEUMATOID ARTHRITIS: WHICH DOMAINS CAN INFLUENCE THIS DISCREPANCY WHEN REMISSION IS ACHIEVED?

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Background: In daily clinical practice, it is not rare to observe a relevant discordance between patient's global assessment (PGA) and physician's global assessment (PhGA), because of different illness perceptions.

Objectives: To evaluate the presence of PGA/PhGA discrepancy in patients with rheumatoid arthritis (RA) who achieved biological remission and to explore whether this discordance could be influenced by the presence of additional elements affecting patients' quality of life, such as comorbidities, sleep disturbances and psycho-emotional factors.

Methods: Our study included adult RA patients, followed in a single rheumatology centre, fulfilling three out of four Boolean remission criteria: tender joint count ≤ 1 , swollen joint count ≤ 1 and C reactive protein ≤ 1 mg/dl¹. Medical records including demographic data, clinical characteristics and outcomes measures were collected. To evaluate the impact of comorbidities we used the Rheumatic Disease Comorbidity Index (RDCI). Pain assessment, PGA and PhGA were rated on a visual analogue scale (0-100 mm) on the same day of the clinical evaluation. To analyse the discrepancy between PGA and PhGA, the [PGA-PhGA] variable was calculated, considering as discordant a difference ≥ 30 mm. All the subjects completed the following questionnaires: Health Assessment Questionnaire (HAQ), SF36 Health Survey, State-Trait Anxiety Inventory (STAI-Y1/Y2), Self-rating Depression Scale (SDS Zung) and Insomnia Severity Index (ISI). Statistical analysis was performed to compare concordant and discordant groups.

Results: The study included 90 patients (64 women, 26 men) with a median age of 60 [50-67] and a median RA duration of 10 [5-16] years; 80% of patients were RF and/or ACPA positive. According to DAS28 (median 1.7 [1.5-2.2]), 90% of patients achieved remission, 9% LDA and 1% MDA. Nevertheless, in 81% of cases PGA>PhGA and in 33% [PGA-PhGA] ≥ 30 . The discordant group showed higher median disease activity scores (DAS28: 2.2 [1.9-2.4] vs 1.5 [1.4-1.9],

$p < 0.001$; SDAI: 6.7 [3.9-8.1] vs 2.0 [0.7-3.2], $p < 0.001$). No differences were found in gender, age, comorbidities, RA duration, serology and treatment (cs-/b-DMARDs). Median prednisone dose was higher in the discordant group (0 [0-21] vs 0 [0-7.5] mg/week, $p = 0.024$). Data about patient-reported outcomes and differences between two groups are reported in the table 1.

Conclusion: In our study we found discordance between the global disease assessment reported by patients, although considered in biological remission, and their physicians in 33% of the cases. As previously described², our data seems to confirm that potential causes for this discordance could be pain due to non-inflammatory processes, functional disability and compromised physical health. In the present study also psychological stress, particularly state anxiety, seems to negatively affect PGA/PhGA concordance. These results confirm the importance, in clinical practice, of exploring and managing inflammatory and non-inflammatory parameters separately, also in patients achieving biological remission.

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Table 1. Data are expressed as median (1st-3rd quartile) and compared using Mann-Whitney test.

PATIENT-REPORTED OUTCOMES	PATIENT NUMBER =90	CONCORDANT GROUP (PGA-PhGA) <30 =60 (67%)	DISCORDANT GROUP (PGA-PhGA) ≥ 30 =30 (33%)	p <0,05
PGA, [0-100]	20 (10-40)	10 (0-20)	50 (37-60)	-
PhGA, [0-100]	0 (0-10)	0 (0-10)	10 (0-10)	-
PGA-PhGA, [0-100]	10 (0-30)	10 (0-10)	40 (30-52)	-
VAS pain, [0-100]	20 (10-40)	10 (0-20)	50 (30-60)	<0,001
HAQ, [0-3]	0,13 (0-0,50)	0 (0-0,25)	0,31 (0,09-0,87)	<0,001
STAI Y1, [20-80]	36 (31-47)	35 (30-42)	40 (35-51)	0,014
STAI Y2, [20-80]	37 (33-45)	37 (33-45)	38 (33-47)	ns
SDS ZUNG, [25-100]	45 (40-51)	44 (39-49)	48 (40-53)	ns
ISI, [0-28]	2 (2-11)	5 (2-11)	8 (3-14)	ns
SF36 Physical, [0-100]	44 (36-52)	48 (40-54)	36 (28-46)	<0,001
SF36 Mental, [0-100]	50 (38-56)	51 (41-57)	47 (33-54)	ns

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POS0546

RENAL DYSFUNCTION AND METABOLIC CHANGES IN PATIENTS WITH RHEUMATOID ARTHRITIS ARE ASSOCIATED WITH ANGIOPOIETIN-LIKE PROTEIN TYPE 4

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Background: Along with chronic inflammation, the development of renal damage in rheumatoid arthritis (RA) is promoted by the presence of metabolic syndrome (MS), which may be an independent risk factor for the progression of chronic kidney disease.

Objectives: To establish a correlation between serum angiotensin-like protein type 4 (ANGPTL4) and the presence of renal dysfunction and metabolic disorders in RA patients.

Methods: We examined 158 patients with RA (91.8% - women and 8.2% - men) aged 21 to 80 years old with an average duration of the disease - 9 [4; 15] years. The majority of patients were seropositive for RF-IgM (57.6%) and for anti-citrullinated protein antibody (ACPA) (60.1%), with an advanced clinical stage (45.6%) and moderate activity (3.2 < DAS28 $\leq$ 5.1) of the pathological process (58.2%). The laboratory examination included the determination of serum concentrations of angiotensin-like protein type 3 (Human Angiotensin-like Protein 3 ELISA, Bio Vendor, Czech Republic) and type 4 (RayBio Human ANGPTL4 ELISA Kit; RayBiotech, USA).

To assess renal function in RA patients, the estimated glomerular filtration rate (GFR) was used according to the 2009 CKD-EPI formula. On the basis of GFR measurements, the patients were divided into three groups: I - optimal renal function (> 90 ml / min); II - a slight decrease in renal function (89-60 ml / min); III - reduced renal function (<59 ml / min).

A combination of the increased blood pressure ($\geq 140 / 90$ mmHg), the increased triglyceride levels (≥ 1.7 mmol / L), and the impaired carbohydrate metabolism (increased fasting plasma glucose ≥ 6.1 mmol / L) with a background of central obesity (waist circumference ≥ 94 cm in men and ≥ 80 cm in women) served as the basis for inclusion into the group of RA patients with signs of MS.

Results: A multivariate analysis of variance was performed comparing ANGPTL indices depending on GFR in the groups of RA patients without signs of MS and