AB0324

DISTRIBUTION AND CLINICAL SIGNIFICANCE OF ANTI-HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN A2 ANTIBODY IN CONNECTIVE TISSUE DISEASES

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Background: The anti-heterogeneous nuclear ribonucleoprotein A2 (hnRNP-A2) antibody is specific for rheumatoid arthritis (RA). But, it is also reported that there is no significant difference between RA and systemic lupus erythematosus (SLE) in terms of the antibody.

Objectives: To investigate the distribution and clinical significance of anti-hnRNP-A2 antibody in connective tissue diseases.

Methods: Serum anti-hnRNP A2 antibody level was measured by solid-phase enzyme linked immunosorbent assay (ELISA) in 1464 patients with RA, 209 patients with SLE, 204 patients with ankylosing spondylitis (AS), 63 patients with mixed connective tissue disease (MCTD), 133 patients with undifferentiated connective tissue disease (UCTD), 60 patients with Sjogren syndrome (SS), 47 patients with polymyositis/dermatomyositis (PM/DM), and 45 patients with systemic sclerosis (SSc). The positivity rate of anti-hnRNP-A2 antibody was compared among various patient groups, and its correlation to clinical and laboratory parameters and its diagnostic significance were analysed.

Results: The positivity rate of anti-hnRNP-A2 antibody was 38.0% (556/1464), 36.8% (77/209), 3.9% (8/204), 52.4% (33/63), 17.3% (23/133), 5.0% (3/60), 4.3% (2/47), and 8.9% (4/45) in RA, SLE, AS, MCTD, UCTD, SS, PM/DM and SSc, respectively. The rate differed insignificantly between the RA, SLE and MCTD groups ($p>0.05$), but was significantly higher than in other disease groups ($p<0.01$). The titers of anti-hnRNP-A2 antibody were significantly higher in the RA, SLE, MCTD groups than in other disease groups ($p<0.01$), but differed insignificantly between the RA, SLE, MCTD groups ($p>0.05$). In RA patients, anti-hnRNP-A2 antibody weakly correlated negatively to anti-Cyclic citrullinated peptide (CCP) antibody ($r=-0.135$, $p<0.01$), but correlated insignificantly to age, course of disease, time of morning stiffness, erythrocyte sedimentation rate, C reactive protein, rheumatoid factor (RF), anti-keratin antibody (AKA) and glucose phosphate isomerase (GPI) ($p>0.05$).

Conclusions: Anti-hnRNP-A2 antibody can be found in various connective tissue diseases, and its positivity rate is relatively high in RA, SLE and MCTD. It is not a RA-specific antibody. In RA, anti-hnRNP-A2 antibody does not coincide with other RA-related serological indicators; hence, it may serve as an adjunctive indicator for RA diagnosis.

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AB0325

CLINICAL OUTCOME OF 2 YEARS TREATMENT OF THE EARLY PHASE RHEUMATOID ARTHRITIS

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Background: Few studies have reported long term clinical outcome of patients with early phase rheumatoid arthritis (RA).

Objectives: The objectives of this study were to investigate outcome of 2 years treatment for RA which was started less than 12 months after RA symptoms first appeared and to evaluate prediction factors of poorly controlled patients at 2 years.

Methods: From a total of 1663 RA patients registered in the Akita Orthopaedic Group on Rheumatoid Arthritis (AORA), 66 patients were treated within the first year of RA appearance, and enrolled in this study. Sex, age, RA disease duration, Steinbroker's stage, Steinbroker's class, medications and DAS28-CRP at

the baseline and 2 years post-treatment were evaluated. Furthermore, we compared the group of remission (REM) or low disease activity (LDA) with the group of medium disease activity (MDA) or high disease activity (HDA) at 2 years.

Results: At the baseline, the patients included 13 males and 53 females. Mean age and RA disease duration were 59^{21–85} years and 7^{1–11} months, respectively. Fifty-four, 8, 4 and 0 patients were classified into Steinbroker's stage I, II, III, and IV, respectively. Thirty-nine, 25, 2 and 0 patients were classified into Steinbroker's class I, II, III, and IV, respectively. Thirty-seven (56%), 24 (36%), and 16 (24%) patients were treated with MTX, DMARDs, and PSL, respectively. In DAS28-CRP, 19 (29%), 13 (20%), 32 (48%), and 2 (3%) patients showed REM, LDA, MDA, and HDA, respectively. Forty-four patients were followed-up for 2 years. At 2 years, 30, 7, 5, and 2 patients were classified into Steinbroker's stage I, II, III, and IV, respectively. Thirty-one, 12, 1, and 0 patients are classified into Steinbroker's class I, II, III, and IV, respectively. In DAS28-CRP, 33 (75%), 4 (9%), 7 (16%), and 0 (0%) patients showed REM, LDA, MDA, and HDA, respectively. Compared with the group of REM or LDA, the group of MDA or HDA had significantly older age ($p=0.018$), higher Steinbroker's stage ($p=0.012$) and higher DAS28-CRP ($p=0.049$) at the baseline.

Conclusions: At 2 years, 75% of patients with early phase RA achieved REM. Older age, higher Steinbroker's stage and higher DAS28-CRP at the baseline could be prediction factors of poorly controlled patients at 2 years.

Disclosure of Interest: None declared

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AB0326

MATRIX METALLOPROTEINASE-3 IS A GOOD PREDICTOR FOR JOINT DESTRUCTION ONLY IN MALE PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Serum level of matrix metalloproteinase-3 (MMP-3) is elevated by synovial inflammation. It destroys articular cartilage such as proteoglycans so that it has been used as a clinical biomarker of joint destruction in patients with rheumatoid arthritis (RA).

Objectives: The purpose of this study is to investigate a relation between radiographic progression, MMP-3 and other factors such as ultrasonography (US) findings.

Methods: 259 patients (213 women) with RA were enrolled in this study. Their baseline data such as age, sex, disease duration, use of glucocorticoid (GC) or DMARDs, disease activity (DAS28), laboratory data (MMP-3, CRP, RF and ACPA), and the Power Doppler (PD) score at digits and wrists by US were collected. The modified total Sharp score (mTSS), erosion score (ERN) and joint space narrowing (JSN) were examined at baseline and 1 year. Their changes from baseline to 1 year (Δ) were calculated. Relationship between baseline MMP-3 and other variables was examined. Predictors for joint destruction was investigated by multiple regression. Statistical analysis was separated by sex because upper limit of MMP-3 is different between men and women.

Results: MMP-3 showed no correlations with GC use, DAS28, CRP or mTSS. MMP-3 was correlated with Δ mTSS and Δ JSN only in men, but PD score only in women (table 1). Multiple regression analysis revealed that MMP-3 was correlated independently with Δ mTSS only in men, whereas PD score was correlated independently with Δ mTSS in women. PD score, but not MMP-3, could predict joint destruction at 1 year in women (table 2).

Abstract AB0326 – Table 1. Correlation with baseline MMP-3; univariate analysis

variables	Male		Female	
	correlation coefficient	P value	correlation coefficient	P value
DAS28-ESR	−0.004	0.980	0.043	0.191
duration	−0.225	0.133	0.088	0.189
RF	−0.083	0.687	−0.192	0.024
ACPA	−0.050	0.797	0.051	0.538
CRP	−0.003	0.986	0.060	0.370
GC use	0.042	0.781	0.109	0.104
mTSS	0.029	0.850	0.100	0.138
Δ mTSS	0.375	0.010	0.074	0.267
Δ ERN	0.223	0.137	0.101	0.133
Δ JSN	0.412	0.004	−0.009	0.891
PD score	0.224	0.143	0.181	0.010

Δ : difference in values from baseline to 1 year

Abstract AB0326 – Table 2. Predictor for joint destruction; multivariate linear regression analysis

	variables	coefficient	P value
Male	MMP3	0.013	0.001
	ACPA	0.010	0.002
	GC use	0.378	0.197
Female	PD score	0.267	<0.001
	ACPA	0.007	0.101
	GC use	-0.449	0.062

Conclusions: The baseline MMP-3 was a good predictor for joint destruction at 1 year only in male patients with RA. On the other hand, the baseline PD score was a useful predictor for joint destruction only in female patients with RA.

Disclosure of Interest: None declared

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Rheumatoid arthritis – comorbidity and clinical aspects

AB0327 CLINICAL SIGNIFICANCE OF HORMONE-RELATED (ISOLATED) AMYLOIDOSIS OF THE ISLETS OF LANGERHANS – A POSTMORTEM CLINICOPATHOLOGIC STATISTICAL STUDY OF 234 RHEUMATOID ARTHRITIS PATIENTS

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Background: “All forms of amyloidosis related to the circulation of blood are systemic, and all forms of amyloidosis not connected to the circulation are isolated (localised)”.

Systemic AA amyloidosis (AAa) – characterised by amyloid A deposition – is one of the major chronic complication of rheumatoid arthritis (RA), in most of the cases leading to renal and less frequently to cardiac insufficiency and death.

Islet amyloidosis (IA) (islet amyloid polypeptide – IAPP – prohormone fragment deposition localised to islets of Langerhans) is an isolated (localised) form of amyloidosis of clinical (diagnostic) significance in adult type II diabetes mellitus (DM).

Objectives: The aim of this study was to determine the prevalence of AAa and IA in RA, to analyse the relationship between them, furthermore to evaluate the possible role of IA in DM in RA patients.

Methods: At the National Institute of Rheumatology 11 558 patients died between 1969 and 1998; among them 234 with RA, and all of them were autopsied. RA was confirmed clinically according to the criteria of the ACR.

The diagnosis of DM based on clinical data. Tissue samples of pancreas were available for histologic evaluation in 150 of 234 patients. AAa and IA was diagnosed histologically, amyloid A and IAPP deposits were confirmed histochemically. The relationships between AAa and IA further more between IA and DM were analysed by Pearson's chi-squared (χ^2) test.

Results: AAa complicated RA in 32 (21.33%) of 150 patients. Hormone-related IA localised to the islets of Langerhans was observed in 15 (10.0%) of 150 pancreases: Clinically diagnosed DM was associated with RA in 31 (20.66%) of 150 patients. AAa was associated with LA in 2 (6.45%) of 31 cases. The relationship between AAa and IA was not significant, even the association's coefficient was negative: -0.2381 , χ^2 ; $=0.0785$, $p<0.77$). IA associated with clinically diagnosed DM in 8 (53.3%) of 15 patients. There was a positive and significant correlation between clinically diagnosed IA and DM (association's coefficient: 0.6953 , χ^2 ; $=10.8475$, $p<0.0009$). IA was present without the clinical diagnosis of DM in 7 (46.7%) of 15 patients. The relationship between IA and clinically not diagnosed DM was also positive and significant (association's coefficient: 0.6037 , χ^2 ; $=6.8717$, $p<0.008$).

Conclusions: Systemic or localised types of amyloidosis may exist simultaneously side by side or may be present independently from each other. AAa and IA are independent phenomena based on the negative association's coefficient and not significant relationship between them, and may coexist in RA. According to our interpretation the early stage of IA (involving only a few islets with minimal IAPP deposits) represents a clinically latent DM and the advanced stage of it is clinically manifest DM. The strong positive and significant correlation between IA and clinically manifest DM suggest close relationship between them. Based on the positive and significant correlation between IA and clinically not diagnosed DM, the IA may be a good indicator of potential DM in the latent stage of disease. This correlation may help recognise DM in its early stage. For this reason we recommend that all biopsy material and surgical specimens of pancreas to be tested for IA or IAPP deposition.

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AB0328 CARDIOVASCULAR RISK EVALUATION IN LONG STANDING RHEUMATOID ARTHRITIS: REAL CLINICAL DATA

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Background: According to recent national and EULAR recommendation cardiovascular risk (CVR) in pts with RA should be evaluated using modified SCORE system. But a lot of investigations and real clinical data demonstrate that this system commonly down-estimates CVR in RA pts.

Objectives: Aim of our study was to compare standard CVR assessment and additional CVR evaluation on the basis of specific disease-associated risk factors (RF) and CV system investigations in long standing RA.

Methods: 118 pts (96 female, 22 male) aged from 34 to 74 years old (mean age 55.91 ± 5.21) with long standing RA (duration >5 years) were observed. In all pts CVR was stratified according to modified SCORE. We have analysed pts medical cards and standard examination data to determine clinical features of RA and associated conditions to verify severity of CVR. In term to reveal asymptomatic CV disease pts had undergone additional investigations (echocardiography, Dopplerography of carotid arteries, ECG-monitoring).

Results: Conventional CVRF were registered in 110 (93.22%) pts. Age>45 (male), >50 (female) was in 85 (72.03%) pts, BMI>25 kg/m²; in 10.17%, elevated cholesterol level and/or dyslipidemia in 41.52%, AH with target organ damage was detected in 45.76%, T2DM in 11.8%, CKD 3 stage in 10.17%, history of MI was in 2 (1.69%) pts. According to modified SCORE for RA very high, high, moderate and low CVR was detected in 17.80%, 47.46%, 18.64%, 16.10% cases respectively. High activity of RA was diagnosed in 61.02%, and erosive arthritis in 84.75% pts. Inadequate disease-modifying treatment was qualified in 15.26% cases. Majority of pts (59.32%) received systemic glucocorticoids (GC) in daily doses from 2 to 12 mg of methylprednisolone, among these pts 14 (11.86%) have been taken GC in moderate and high dose for a long period. On the basis of instrumental data asymptomatic atherosclerosis of aorta and/or aortic valve and/or carotid arteries was detected in 44 pts (37.29%). Silent ischemia was revealed in 3 pts (2.54%). High disease activity and long term systemic GC treatment were associated with significantly high CV events in observed pts ($p<0.05$). Using obtained results we reassessed CVR in studied cohort. Revised data of CVR stratification suggest that 49 (41.53%) pts were in VH-CVR, 41 (34.75%) – in H-CVR, 16 (13.56%) in M-CVR and only 12 (10.17%) in L-CVR. The difference in pt ratio for CVR stratification was significant in accordance with χ^2 ; criterion.

Conclusions: Obtained data suggest that modified SCORE is not absolutely reliable tool for precise CVR stratification in long standing RA. Additional investigations to define asymptomatic atherosclerosis and coronary artery disease are required in term to prevent CV complications especially in pts with high active erosive RA treated with systemic GC.

Disclosure of Interest: None declared

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AB0329 THE METHOD OF EVALUATION OF CARDIORESPIRATORY SYSTEM NEUROVEGETATIVE REGULATION IN RHEUMATOLOGIC PATIENTS

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Objectives: To study the characteristics of cardiorespiratory system (CRS) neurovegetative regulation disorders and to define the correlation with disease activity.

Methods: 40 rheumatoid arthritis (RA) patients (14 m:30 f; median age 45 ± 2.32), 18 ankylosing spondylitis (AS) patients (13 m:5 f; m.a. 39.6 ± 2.44), 17 osteoporosis (OP) patients (3 m:14 f; m.a. 55.5 ± 1.47), 50 healthy persons (HP, 25 m:25 f; m.a. 23.8 ± 0.84) were studied. The diagnosis of RA, AS, OP were established by the current diagnostic and classification criteria. The cardiorespiratory system neurovegetative regulation was studied with the use of