disease activity in RA, although the effect of the other antibiotics on disease activity should be examined.

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SAT0124

AORTIC STIFFNESS AND TIME TO WAVE REFLECTION ARE ASSOCIATED WITH LEFT VENTRICULAR DIASTOLIC DYSFUNCTION MEASURES IN RHEUMATOID ARTHRITIS

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Background: Patients with rheumatoid arthritis (RA) experience an increased frequency of heart failure with a preserved ejection fraction (HFpEF) (1). The treatment of HFpEF is currently suboptimal. Elucidation of the underlying pathophysiological mechanisms of HFpEF may provide potential targets for its management. Diastolic dysfunction often precedes the progression to HFpEF (2). Abnormalities in aortic function contribute to diastolic dysfunction in non-RA populations (3,4).

Objectives: The aim of this study was to determine whether impaired aortic function is associated with left ventricular diastolic dysfunction in RA.

Methods: Arterial function was determined by applanation tonometry using SphygmoCor software and left ventricular diastolic function was assessed by echocardiography in 176 patients with RA. Markers of arterial function included carotid femoral pulse wave velocity (PWV), central systolic and pulse pressure, pulse pressure amplification and the magnitude and timing of the forward and reflected waves. Markers of diastolic function included the ratio of early-to-late transmitral blood flow velocity (E/A), the ratio of E to the mean of the lateral and septal wall myocardial tissue lengthening at the mitral annulus (e')/(E/e') and the septal and lateral e'. Relationships of comprehensively evaluated arterial function with markers of LV diastolic function were determined in confounder adjusted multivariate regression models.

Results: The timing of the forward (Ft) and reflected (Rt) waves were each associated with E/A (Ft: partial $r=0.20$, $p=0.02$; Rt: partial $r=0.30$, $p=0.001$) and Rt was further associated with lateral e' (partial $r=0.36$, $p<0.0001$) and septal e' (partial $r=0.36$, $p<0.0001$); PWV was associated with E/e' (partial $r=0.18$; $p=0.03$). Reflected wave timing was associated with two indices of impaired relaxation (E/A<0.8: OR (95% CI)=0.51 (0.29-0.91), $p=0.01$; lateral e'<10: OR (95% CI)=0.43 (0.26-0.71), $p=0.001$); PWV was associated with an increased left ventricular filling pressure (E/e'>12: OR (95% CI)=1.58 (1.04-2.38), $p=0.03$).

Conclusions: Aortic stiffness and time to wave reflection are associated with increased filling pressure and impaired relaxation of the left ventricle, respectively. The development of diastolic dysfunction in RA may be partly mediated by changes in large artery function.

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SAT0125

THE IMPACT OF SELECTED COMORBIDITIES ON TREATMENT OUTCOME IN PATIENTS WITH RHEUMATOID ARTHRITIS: AN EXPLORATORY COHORT STUDY.

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Background: Patients with Rheumatoid Arthritis (RA) may present with various comorbidities resulting in worse treatment response.[1-2]

Objectives: To investigate the impact of selected comorbid diseases on RA outcome with the aim of Disease Activity Score in 28 joints-C-Reactive Protein (DAS28-CRP).

Methods: All our RA patients were included in this study. Patients' demographics, serology results and DAS28-CRP at the time of diagnosis and after 4 months of treatment initiation were collected. Patients' electronic hospital records were evaluated for a positive history of thyroid diseases, Diabetes Mellitus (DM), primary hyperparathyroidism, vitamin B12 deficiency and presence of other diagnosed autoimmune diseases.

Results: 1035 RA patients were included. 63.4% were female, mean of age 67.1 years, mean of disease duration 9.6 years, 58.6% rheumatoid factor positive and 51.3% anti-cyclic citrullinated peptide positive. The observed prevalence of thyroid diseases was 11.8%, DM 10.4%, primary hyperparathyroidism 2.8%, vitamin B12 deficiency 5.8%, and other diagnosed autoimmune diseases 1.6%. There were significant associations between presence of thyroid diseases and female gender ($p<0.001$); DM and greater age ($p<0.001$); primary hyperparathyroidism and longer disease duration ($p=0.002$); other diagnosed autoimmune diseases and antinuclear antibody positivity ($p<0.001$). RA patients with thyroid diseases ($p=0.001$) and other comorbid autoimmune diseases ($p<0.001$) had significantly poorer initial response to the RA treatment compared to patients with isolated RA. Univariate analyses revealed that age, presence of thyroid diseases, presence of other diagnosed autoimmune diseases and DAS28-CRP at the time of diagnosis were significantly associated with Δ DAS28-CRP. Additionally, multivariate analysis demonstrated that Δ DAS28-CRP deterioration was significantly correlated to the presence of thyroid diseases (unstandardized regression coefficient (standard error):-0.188(0.088), $p=0.030$) and presence of other diagnosed autoimmune diseases (-0.537(0.208), $p=0.010$). (table1)

Table 1. Univariate and multivariate analysis of risk factors for Δ DAS28-CRP.

	Variables	Univariate analysis	Multivariate analysis
	Backward analysis		
	Gender	0.028 (0.066)	0.058 (0.056)
Age	0.007 (0.002)**	0.003 (0.002)	
	Disease duration	0.000 (0.003)	- 0.003 (0.003)
IgM-rheumatoid factor	-0.055 (0.065)		0.014 (0.068)
	Anti-cyclic citrullinated peptide antibody	-0.098 (0.065)	-0.041 (0.068)
Antinuclear antibody	0.003 (0.086)		-0.042 (0.067)
	Presence of Thyroid diseases	-0.315 (0.098)**	-0.188 (0.088)*
0.160	(0.081)*		
	Presence of Primary		

Hyperparathyroidism-0.059 (0.193)0.008 (0.159)Presence of Diabetes Mellitus0.077 (0.104)-0.023 (0.086)Presence of vitamin B12 deficiency0.102 (0.136)0.047 (0.112)Presence of other diagnosed autoimmune diseases-0.895 (0.249)**-0.537 (0.208)*-0.565 (0.204)*Thyroid stimulating hormone level0.013 (0.008)0.011 (0.007)DAS28-CRP at time of diagnosis0.724 (0.027)*0.711 (0.029)**0.715 (0.029)**P value <0.05, ** P value <0.005

Conclusions: RA patients are at increased risk of specific comorbidities with possible impact on the treatment outcome. The authors, therefore, recommend to do periodical assessment of comorbidities to diagnose concurrent comorbid diseases as early as possible.

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