with an Esaote MyLab70XVG ultrasound device with a linear probe (7–12MHz) and an automated program measuring intima media thickness (IMT) by radiofrequency ("Quality intima media thickness in real-time, QIMT"), and registered the presence of atheroma plaques (per Mannheim consensus). We determined pulse wave velocity (PWV) by a validated MobilOGraph device. We considered as pathological an IMT >900 μ and a PWV ≥ 10 m/s and the presence of plaque and/or pathological IMT. We prospectively collected mortality and the development of new vascular events over four years and the current smoking status and exposure calculated in pack-year. Statistical analysis was performed using SPSS 17.0 software.

Results: We included 198 patients, excluding 15 because of previous CV events. The mean age was 66.5 years (SD 13.44) 76% were women and the mean BMI was 27.35 (SD 4.82). 31.1% were smokers, 43.2% hypertensive, 47.5% dyslipemic and 10.4% were diabetic. The mean duration of RA was 19.95 years (SD 11.88). 76.5% of patients were seropositive and 75.4% had erosions. The mean CRP and ESR were 9.51 mg/L (SD: 32.29) and 13.83 mm/h (SD:14.26), respectively. The mean modified SCORE was 1.81 (SD: 1.81). Regarding the vascular study, 48.1% had atheroma plaques, 32.2% a pathologic PWV [mean value of 9.13 (SD 2.12)], and 16.7% had a pathologic IMT [mean value of 748 μ (DE 168.73)].

31.1% of the patients (57) were smokers or former smokers. The average pack-year was 24.17 (SD: 21.37). No relation was found between current or previous use of tobacco and any of the outcome measures described. However, when considering cumulative exposure to tobacco, there was a trend to correlate with higher values of PWV ($p=0.07$) and a higher plaque presence ($p=0.089$) was detected. After 4 years of follow-up, 3 deaths were recorded among smoking patients, but a higher incidence of CV events was not detected in relation to cumulative exposure to tobacco ($p=0.99$).

Conclusions: The quantification of the exposure by pack-year of cigarette smoked could give us more information about vascular damage in patients with RA. The limitation of our study is the small number of smokers in the time they were followed.

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AB0372 LEFT ATRIAL FUNCTION IN RHEUMATOID ARTHRITIS PATIENTS

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Background: Rheumatoid arthritis (RA) is a common autoimmune systemic inflammatory disease affecting approximately 1% of the worldwide population. The interaction of genetic and environmental factors results in a cascade of immune reactions, which ultimately lead to the development of synovitis, joint damage, and structural bone damage.¹

The importance of the left atrium in cardiovascular performance has long been acknowledged. Quantitative assessment of left atrial (LA) function is laborious, requiring invasive pressure-volume loops and thus precluding its routine clinical use. In recent years, novel postprocessing imaging methodologies have emerged, providing a complementary approach for the assessment of the left atrium. Atrial strain and strain rate obtained using either Doppler tissue imaging or two-dimensional speckle-tracking echocardiography have proved to be feasible and reproducible techniques to evaluate LA mechanics.²

Objectives:

1. To screen cardiac affection in rheumatoid arthritis patients
2. To assess subclinical echocardiography affection in RA patients

Methods: 30 healthy control, and 45 RA patient subjected to full clinical assessment, DAS 28 ESR score, full laboratory evaluation, conventional and tissue Doppler imaging (TDI) and strain (S) and strain rate (SR) analysis by two-dimensional speckle tracking of the left atrium.

Results: we found statistically significant difference in 2 Left atrial PEF, 2 Left atrial EI, 2 Left atrial TEF, TDI mitral lateral annulus e', TDI mitral lateral annulus S, Average SR E 1/s between patients and controls, and negative correlation between TDI lateral e, TDI lateral s, and Strain rate e and rheumatoid factor, There was negative correlation between 2LA PEF, 2LA EI, and 2LA TEF. Rheumatoid factor is correlated to strain rate e, and negatively correlated with left atrial passive emptying

Conclusions: RA had alteration in left LV longitudinal myocardial function, left atrial expansion volume can be a predictor of AF in RA. RA patient had more left atrial stiffness. Our study concluded cardiac affection is more in seropositive RA patients.

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AB0373 SARCOPENIA COULD NOT PREDICT FALLS IN PATIENTS WITH RHEUMATOID ARTHRITIS FROM THE CHIKARA STUDY

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Background: The falls ratio is higher among patients with sarcopenia than among healthy individuals. We reported that the prevalence of sarcopenia was 28% and locomotive syndrome (locomo) was 52% in patients with rheumatoid arthritis (RA)¹. Whether patients with RA complicated by sarcopenia show a higher ratio of falls compared to those without sarcopenia remains unclear.

Objectives: We investigated events of falls and fractures, and predictors of those events in patients with RA.

Methods: We used data from a prospective observational study (CHIKARA study, UMIN000023744) started in 2016. Sarcopenia was diagnosed using the criteria of the Asia Working Group on Sarcopenia². We counted the number of patients and events of falls and fractures they had per year[A1], and investigated correlations between those events and disease activity, body composition and sarcopenia. Predictors at baseline influencing those events were analysed by uni- and multivariate analysis.

Results: Participants comprised 100 patients with RA (females, 78%; mean age, 66.1 years). Falls occurred in 21 patients (19 women), as 33 events (mean, 2 times/patient). Fractures occurred in 4 patients (4 women), as 5 events. Table 1 shows predictors for falls, with positive correlations for bone mass index, obesity level, fat percentage, and loco, and negative correlations for height, trunk muscle mass, and grip strength. No relationships were seen between falls and CRP, DAS28ESR, skeletal muscle mass, and sarcopenia. Height (odds ratio, 0.912; $p=0.003$) and obesity level (odds ratio, 1.04; $p=0.006$) were independent predictors by multivariate analysis (table 1). In terms of fracture events, falls was the only predictor ($r=0.469$, $p=0.001$).

Abstract AB0373 – Table 1. Predictors of falls in patients with RA

	Univariate		Multivariate		
	R	P	Odds ratio	95% CI	P
Body mass index	0.195	0.040			
Obesity level	0.194	0.040	1.040	1.011–1.069	0.006
Fat percentage	0.211	0.025			
Locomotive syndrome	0.237	0.012			
Height	–0.263	0.005	0.912	0.858–0.968	0.003
Trunk muscle mass	–0.188	0.048			
Grip strength	–0.198	0.036			
CRP	0.063	0.512			
DAS28ESR	–0.008	0.932			
Skeletal muscle mass	0.091	0.337			
Sarcopenia	–0.093	0.327			

Conclusions: Falls have been reported as significantly more frequent with sarcopenia. However, no relationship was seen between fall events and sarcopenia in this study. We may need to evaluate not only skeletal muscle mass, but also muscle function to predict falls.

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AB0374

NONTUBERCULOUS MYCOBACTERIUM INFECTIONS IN PATIENTS WITH RHEUMATOID ARTHRITIS: A SINGLE-CENTRE EXPERIENCE IN JAPAN

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Background:

Objectives: Nontuberculous mycobacteria (NTM) infection has been increasing in both general population and immunocompromised patients in Japan. This study aimed to identify the incidence and clinical characteristics of NTM infections in patients with rheumatoid arthritis (RA).

Methods: We performed a cross-sectional analysis and assessed 11 RA patients, who were all female, complicated with NTM (mean age, 66.6 years) at our institute. We examined Steinbrocker Stage and Class, disease duration, positivity of anti-CCP antibody and rheumatoid factor, HAQ-DI, DAS28-ESR, NTM species, radiological features, methotrexate use and dosage, prednisolone use and dosage, biological agent use, and anti-NTM therapy.

Results: Average values obtained with SD were as follows: age (years), 66.6 ±8.0; Steinbrocker Stage I, 1; II, 0; III, 1; and IV, 9; Class 1, 2; 2, 5; 3, 4; and 4, 0; disease duration (months), 274.9±126.9; positivity of anti-CCP antibody, 80.0%; positivity of rheumatoid factor, 100%; HAQ-DI, 1.35±0.72; DAS28-ESR, 3.61 ±0.90; detection by sputum culture, 81.8%; NTM species, *M. avium*, 8 cases and *M. intracellulare*, 3 cases; bronchiectasis, 90.9%; interstitial pneumonia, 0%; methotrexate use and dosage (mg/week), 63.6% and 7.4±3.4; prednisolone use and dosage (mg/day), 81.8% and 4.3±2.0; biological agent use, 45.5%; and anti-NTM therapy, 36.4%.

Conclusions: At our institute, RA patients complicated with NTM were long-standing, had high disease activities and worse HAQ-DI. In all five patients (45.5%) who were treated with biologics, 3 who had preceding episodes of NTM infection were treated with anti-NTM therapy before treatment with biologics, and the other 2 who had asymptomatic NTM infection after treatment with biologics were not treated with anti-NTM therapy thereafter. In RA patients who are treated with biologics, it is necessary to perform sputum cultures constantly to detect possible NTM infections. This finding is important in the management of RA complicated with NTM.

Disclosure of Interest: None declared

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AB0375

A SYSTEMATIC LITERATURE REVIEW OF OMEGA 3 IN THE TREATMENT OF RHEUMATOID ARTHRITIS

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Background: Many different elements and variations of diet in the management of rheumatoid arthritis (RA) have been studied over the years such as vegan or Mediterranean diets.

Objectives: This systematic literature review covers one food stuff, omega-3 polyunsaturated fats efficacy in the management of RA alongside or independent of conventional DMARD therapy.

Methods: A systematic review of the literature between 1966–2017 was conducted using MEDLINE, CINAHL and EMBASE databases, with key words "RA" and "omega-3" for English-language articles producing 209 hits. We then refined to publications within the last 10 years, giving 96 results. Only including clinical trials gave 12 hits pertaining to 8 trials.

Results: The table above shows a summary of the evidence found. In total, 751 were exposed to omega-3 versus 1733 controls with the smallest study being an

RCT involving 13 people and the largest a case-control study with 1569 participants. A notable difference between these studies was the use of DMARD therapy as part of the inclusion or exclusion criteria. Another difference noted was the RA stage eligible for a trial. Some studies required a diagnosis of RA of <12 months whereas most required stable RA ongoing for >12 months.

Conclusions: This review concludes that omega-3 leads to clinical and statistically significant improvements in RA. There was a significant heterogeneity in the trials published with different inclusion criteria especially regarding disease duration and concomitant DMARD therapy. It would seem prudent to include dietary advice in our advice to patients when treating RA. Possible reasons for this evidence would include altering the microbiome.

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AB0376

RAPAMYCIN INDUCES REMISSION IN PATIENTS WITH NEWLY DIAGNOSED RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is an autoimmune disease characterised by chronic inflammation of the joints. We found that there was an imbalance between Th17 and Treg cells in the patients with active refractory RA, reduced absolute number of Treg cells was found in these patients.

Objectives: To observe the medium-term curative effect of rapamycin in the treatment of 25 cases newly diagnosed rheumatoid arthritis.

Methods: Collecting 25 patients of newly diagnosed rheumatoid arthritis, which accorded with RA diagnosis standard of ACR in 1987. The patients were treated with rapamycin at a dose of 0.5 mg every 2 days for 24 weeks, then we observed the change of clinical improvement and immunological assessments after 24 weeks.

Results: There was 25 patients enrolled. After rapamycin treatment for 24 weeks, the mean DAS28 of them was decreased from 5.36 [1.42] to 3.45 [1.29] (p=0.001). The absolute number of Treg^{CD4+CD25+Foxp3+} cells significantly higher than baseline (30.24 [14.44], 46.64 [27.54], p=0.025). The absolute number of Th17 cells was not significantly different (6.40 [4.46], 7.03 [5.60], p>0.05), and the same as the ratio of Th17/Treg cells (0.25 [0.18], 0.19 [0.16], p>0.05). Meanwhile, the mean dose of prednisone was decreased from 11.25 mg/d to 9.6 mg/d.

Conclusions: Rapamycin could induce the balance of Th17 cells and Treg cells, especially up-regulate the absolute number of Treg cells, thus induce remission in patients with newly diagnosed RA.

Disclosure of Interest: None declared

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Abstract AB0375 – Table 1

Reference:	Study type	Participants in intervention group	Participants in control group	Omega-3 dose	Duration	Did it show efficacy?	How did they assess response?
Proudman et al ¹	RCT	86	53	3.7 g/day	1 year	Yes	Success/failure of DMARDs
Shapiro et al ²	Case-control	324	1245	>2 servings boiled/baked fish per week	Diet from a 1 year period	Yes	RA risk
Lee et al ³	Meta-analysis	183	187	>2.7 g/day	>3 months	Clinical not statistical significance	NSAID consumption, tender/swollen joint count, physical function
Bahadori et al ⁴	RCT	8	5	0.2 g/kg– fish oil emulsion	22 weeks	Yes	Decrease in swollen and tender joint counts
Rajaei et al ⁵	RCT	30	30	3.9 g/day	12 weeks	Yes	DAS28
Tedeschi et al ⁶	Cross sectional analysis	31	145	Eat fish>2 x per week (<5.5 g/day)	Diet from past yr	Yes	DAS28
Galarraga et al ⁷	RCT	49	48	2.2 g/day	9 months	Yes in reducing NSAID intake but not in DAS28	Daily NSAID requirement
Veselinovic et al ⁸	RCT	40	20	600 mg/day	12 weeks	Yes	DAS28