Conclusions: Only 32% patients had received both influenza and pneumococcal vaccinations. The uptake rate for influenza vaccination was reasonable at 64%, however the rate for pneumococcal vaccination was only 28%. Vaccination assessment should be performed routinely for all RA patients in clinic, and in particular those on biologic medications to reduce the risk of developing these infections in this high risk cohort.

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AB0400 HIGH PREVALENCE OF COMORBIDITIES IN PATIENTS WITH RHEUMATOID ARTHRITIS IN SOUTH AFRICA

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Background: Patients with rheumatoid arthritis (RA) are at increased risk to develop comorbidities. Data on the prevalence of comorbidities in RA patients in South-Africa is lacking.¹ Poorly controlled joint inflammation, common use of glucocorticosteroids and nonsteroidal anti-inflammatory drugs, a high prevalence of smoking and obesity, together with a high burden of infectious diseases may be important risk factors for comorbidities in this population.

Objectives: To assess the prevalence of comorbidities in RA patients in Cape Town, South-Africa and the association with disease activity and DMARD use using the METEOR (Measurement of Efficacy of Treatment in the 'Era of Outcome' in Rheumatology) database.

Methods: This is an ongoing cross-sectional study. Data from 109 RA patients from regular clinic visits at Groote Schuur Hospital in Cape Town, South Africa have been entered in the Meteor database (from December 2016). The Meteor database is a free online tool that was developed to improve the management of RA patients by helping rheumatologists to register, monitor and tightly control disease activity. The tool is currently widely used in other countries, but has it has not yet been described in any African countries. Information on the following parameters were reported: demographics, disease duration, disease activity (CDAI), current DMARDs used and comorbidities.

Results: The mean age (SD) was 57.6 (14.7) years, disease duration (SD) 14.1 (14.6) years, female gender 86.7%, RF positive 85.1% and ACPA positive 80.4%. The average (SD) CDAI was 13.1 (9.8) and 49.3% were smokers. Current DMARDs used was Methotrexate (72%), Sulphasalazine (29%), Chloroquine (67%), Low dose corticosteroids (47%), Leflunomide (11%), Etanacept (1%), but no other biological agents (0%). At least one comorbidity was present in 69% of the patients, two in 40%, three in 26%, four in 13% and five in 2% of the patients. The most frequently observed comorbid diseases were hypertension (45.5%), tuberculosis (TB) (11.1%), Diabetes Mellitus Type 2 (10.9%) and osteoarthritis (10.9%). Other diseases included hypercholesterolemia (7.1%), gastro-oesophageal reflux disease/peptic ulcer (6.1%), COPD/emphysema (6.1%), HIV (4.0%), hypothyroidism (4.0%), ischaemic heart disease (3.0%), liver disease (3.0%), DVT/pulmonary embolism (3.0%), malignancies (3.0%), asthma (2.0%), discoid lupus erythematosus (2.0%), interstitial lung disease (1.0%), anaemia (1.0%), rheumatic heart disease (1.0%), cerebrovascular accident (1.0%) and depression (1.0%).

Conclusions: This study shows a high prevalence of comorbidities among indigent patients with RA in South Africa. In particular, hypertension, TB and osteoarthritis were very common. More patients will be included in this study in the next few months. Furthermore, we will assess the association between comorbidities, disease activity and DMARD use. The METEOR tool offers the unique opportunity to study daily practice care as well as research questions in real life setting in a South African clinic. This study will provide information that is necessary to address the burden of comorbidities in patients with RA in South Africa.

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AB0401 ECHO-CARDIOGRAPHIC ABNORMALITIES IN RHEUMATOID ARTHRITIS PATIENTS COMPARED TO AGE AND SEX-MATCHED CONTROLS

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory autoimmune disease of the joints with several extra-articular features. Cardiovascular disease (CVD) mortality accounts for 40%–50% of all deaths in RA. Apart from atherosclerotic heart disease other cardiac abnormalities had been found to be prevalent in RA; including, pericarditis, heart failure, coronary vasculitis and valve disease.

Objectives: Due to scarcity of data regarding cardiac disease in the Middle East population, we studied echocardiographic features in RA patients compared to their age, sex, and traditional CVD risk factors matched controls.

Methods: In a cross-sectional study, we recruited 39 RA patients meeting the 1987 revised criteria of RA and 37 age, sex and traditional CVD risk factors matched controls. Standard trans-thoracic echocardiography examination was carried out by a specialties cardio-sonographer who was blinded to the status of the participants. Left ventricular dimensions, wall geometry, ejection fraction, diastolic parameters, right ventricular size and function, valve structure and function, pericardium, pulmonary pressures and aortic root dimensions were assessed by echocardiography. t-test and chi-2 test were used to compare the echocardiographic findings between the two groups. P value of <0.05 was considered significant.

Results: Thirty-nine RA patients (34 F, 4 M) and 37 controls (32 F, 5 M) were studied. Among RA, 27 (69%) were RF positive. The two groups were similar in terms of age (p=0.86), gender (p=0.71), and traditional cardiovascular risk factors. No significant difference was found between RA and the controls in term of left ventricular ejection fraction, wall geometry, diastolic parameters, right ventricular size and function, valve disease, pulmonary pressures, pericardium and aortic root dimensions. However, left ventricular end-diastolic diameter (43.11±1.14 vs. 39.35±0.84 mm respectively, p=0.01), end-systolic diameter (24.39±0.70 mm vs. 26.96±0.96, respectively, p=0.03) and Left ventricular mass index (79.83±5.11 vs. 63.64±3.15, respectively, p=0.01) were significantly higher in RA patients than in the controls.

Conclusions: Patients with rheumatoid arthritis have higher left ventricular end-diastolic and end-systolic dimensions, and greater left ventricular mass index compared to their age, sex and traditional CVD risk factors-matched controls. As the increase in the left ventricular mass index is a predictor of cardiac sudden death, echocardiography might be a simple non-invasive tool for cardiac risk screening in RA.

Disclosure of Interest: None declared

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AB0402 RECENT ONSET RHEUMATOID ARTHRITIS HAVE AND INCREASED LEFT ANTERIOR DESCENDING CORONARY ARTERY WALL THICKNESS: EVIDENCE OF SUBCLINICAL CORONARY ARTERY DISEASE

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Background: Rheumatoid arthritis (RA) is associated with increased cardiovascular disease (CVD). Using different methods, presence of sub-clinical atherosclerosis changes have been reported in RA. As no previous study has measured left anterior descending (LAD) coronary artery thickness in RA

Objectives: this study aimed to investigate atherosclerotic changes of coronary artery in early RA of 12 months of symptom onset.

Methods: 15 RA patients and 20 control subjects who matched 10 RA participants were included in the study. Demographic details, RA characteristics, and laboratory values of 15 RA patients at first presentation. None of the patients or the control participants had previous CVD/cerebrovascular events or diabetes and matched 10 of the RA group for age and sex. LAD coronary artery wall thickness compared between RA and their matched control. Among early RA patients, Correlation was assessed between LAD coronary artery wall thickness and the demographic features, RA activity features, and cardiovascular risk factors.

Results: Within early RA, LAD coronary artery wall thickness was related to Disease Activity Score (p=0.025, β -coefficient 0.066, CI:0.010–0.122) and to the patient global assessment of disease activity at RA onset (p=0.006, β -coefficient 0.003, CI:0.001–0.005), in a positive linear relationship. LAD wall thickness was

thicker among RA patients with rheumatoid factor (RF) positive ($p=0.015$, CI:0.53–0.66). LAD coronary artery wall thickness was increased in early RA compared to controls (0.61 ± 0.04 mm (CI:0.52–0.70); and 0.48 ± 0.08 mm (CI:0.44–0.51) respectively, $p=0.001$.

Conclusions: Early RA patients have increased coronary arteries atherosclerotic burden compared to controls matched for age, and sex. Rheumatoid factor positivity, high Disease Activity Score and Patient Global Assessment of disease activity were associated with coronary wall thickness.

Disclosure of Interest: None declared

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AB0403 FACTORS CONTRIBUTE TO THE LEVEL URIC ACID IN RHEUMATOID ARTHRITIS

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Background: Uric acid (UA) is a strong correlate of renal dysfunction in rheumatoid arthritis (RA), even in the absence of crystal deposition, by causing endothelial dysfunction, intrarenal vascular disease and renal impairment. In hyper or normo-uricaemia RA, UA was the strongest independent predictor of GFR, even after adjustments for most of the potential confounding factors. Additionally, in RA patients UA had been found to be an independent predictor of hypertension and cardiovascular disease (CVD).

Objectives: this study aimed to investigate what could be the determinants of the UA level in RA patients.

Methods: RA patients with no clinically evident gout, CVD, thyroid disease, liver or renal disease were studied. Serum UA was obtained for all the patients. Renal function parameters, RA disease characteristics, inflammatory markers, and traditional CVD risk factors relation to uric acid level was examined using simple linear regression analysis. To test for the independence association between uric acid and the variables of interest, multiple model was built for the same dependent and independent variables. Statistical significance was accepted at $p\text{-value}<0.05$.

Results: The study recruited 86 consecutive patients meeting the 1987 RA revised ACR criteria, attending routine outpatient clinics at the Department of Rheumatology. Basic demographics and clinical characteristics of were obtained. Of the total 86 patients, 10 (11%) were men and 77 (89%) were women. The mean age of the participants was 47 ± 14 years, with mean RA duration of 68 ± 87 months. 64 out of 86 participants (74%) had rheumatoid factor positive.

The mean UA value was 255 ± 86 $\mu\text{mol/L}$ (NR: 180–340). The mean GFR, calculated using modified MDRD (Modification of Diet in Renal Disease) formula was 133 ± 52 ml/min/1.73m^2 .

Using univariate analysis revealed a positive linear relationship between uric acid level and each of the age of the participants ($p<0.016$, CI: 0.31, 2.92), age at RA symptoms onset ($p<0.04$, CI: 0.025, 0.039), age at RA diagnosis ($p<0.03$, CI: 0.101, 2.565), systolic blood pressure ($p=0.04$, CI: 0.054, 2.167), diastolic blood pressure (DBP) ($p=0.02$, CI: 0.322, 3.777), monocytes absolute count ($p=0.014$, CI: 2.510, 4.801), monocytes percentage ($p=0.005$, CI: 34.599, 193.595), cholesterol level ($p=0.008$, CI: –39.934, –6.286), Triglyceride level ($p=0.04$, CI: 0.064, 56.546), urea level ($p<0.001$, CI: 9.356, 28.743), creatinine ($p\leq0.001$, CI: 2.345, 3.960), urinary microalbumin ($p=0.024$, CI: 0.0296, 0.399), urinary microalbumin/creatinine ratio ($p=0.006$, CI: 0.791, 4.616), and ferritin level ($p=0.025$, CI: 0.044, 0.633).

As well, univariate analysis revealed a negative linear relationship between UA level and GFR ($p<0.001$, CI: –1.127, –0.486)

Building a multiple model, including the entire variable with significant association with the UA in the univariate analysis showed that the UA level in RA is determined by GFR, microalbumin creatinine ratio, cholesterol level, monocytes count and DAS score. The adjusted R^2 of the model was 54

Conclusions: Whether serum uric acid is merely a marker that reflects the integration of co-morbidities and subclinical renal impairment or a true risk-causative factor for CVD outcome remains as an important question, therefore it is important to know the determinant of UA level and control it.

Disclosure of Interest: None declared

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AB0404 APELIN CONCENTRATIONS ARE ASSOCIATED WITH A REDUCED LEFT ATRIAL VOLUME INDEX AND IMPROVED SYSTOLIC FUNCTION IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: We recently reported that apelin concentrations are associated with reduced atherosclerosis and plaque vulnerability as well as improved aortic function in rheumatoid arthritis (RA)^{1,2}. These relations were influenced by RA characteristics^{1,2}. Besides protecting against atherosclerosis, apelin is also a vasoactive peptide that improves cardiac contractility. In this regard, patients with RA experience a 2-fold increased risk of developing heart failure³. RA patients often demonstrate diastolic dysfunction and heart failure with a preserved ejection fraction (HFpEF). Traditional cardiovascular risk factors do not fully explain the increased heart failure incidence in this population. Metabolic risk factor driven inflammation is highly implicated in HFpEF.

Objectives: This study aimed to determine whether apelin can impact left ventricular function in RA and whether disease characteristics can modify this potential effect.

Methods: Relationships of apelin concentrations with echocardiographically determined markers of systolic and diastolic function including stroke volume, endocardial fractional shortening, midwall fractional shortening, ejection fraction, relative wall thickness, left ventricular mass, mitral inflow (E/A), filling pressure (E/e') and left atrial volume index (LAVI) were determined in multivariable regression models among 169 patients without established cardiovascular disease.

Results: In demographic characteristic adjusted analysis, rheumatoid factor (RF) positivity, joint deformity counts, and CRP were associated with increased apelin concentrations ($p=0.01$, 0.02 and 0.05, respectively). Apelin was associated with a reduced LAVI [β (SE)=-4.6 (2.2); $p=0.04$] but not with E/A, lateral e' or E/e' ($p>0.05$ for all). RA characteristics including disease duration, CRP, erythrocyte sedimentation rate (ESR), RF positivity, and joint deformity counts did not impact apelin concentration-diastolic function marker relationships (interaction p values >0.05). Apelin levels were associated with increased endocardial fractional shortening [β (SE)=5.99 (2.97); $p=0.04$] and midwall fractional shortening [β (SE)=6.92 (3.0); $p=0.03$]. The ESR and anti-citrullinated peptide antibody (ACPA) status impacted the apelin level-endocardial fractional shortening relationships (interaction $p=0.05$ and 0.01, respectively). In stratified analysis, apelin concentrations were associated with improved endocardial fractional shortening in those with [β (SE)=14.1 (3.9); $p=0.001$] but not without an ESR >12 mm/hr (median value), and in those with [β (SE)=8.2 (3.7); $p=0.03$] but not without ACPA positivity.

Conclusions: In RA, apelin concentrations are associated with a reduced LAVI irrespective of RA activity and severity characteristics. Apelin concentrations are also associated with improved endocardial fractional shortening in patients with RA, particularly in those with high-grade inflammation and ACPA positivity. Whether apelin can improve left ventricular systolic and diastolic function in RA merits further exploration in longitudinal studies.

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AB0405 CLINICAL FEATURES AND PROBLEMS OF ELDERLY ONSET RHEUMATOID ARTHRITIS IN ULTRA-AGEING SOCIETY – SINGLE CENTRE RETROSPECTIVE COHORT STUDY-

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Background: Japan is the ultra-ageing society ahead of any other country in the world, which ageing rate (the ratio of the population aged 65 and older to the total population) was reported to be 27.3% on October 1, 2016. The rate of aged patients, who followed up at the division of rheumatology in Saitama medical centre, had exceeded 40%.

Objectives: The aim of our study is to reveal recent clinical features and problems of elderly onset rheumatoid arthritis (EORA) patients for better management.

Methods: Patients had a diagnosis by 1987 classification criteria or 2010 ACR/EULAR criteria. We firstly listed up RA patients who were followed up our hospital from April 1 to September 30, and above aged 65 years old as of September 30. Then we retrospectively collected clinical information of EORA patients who onset