Background: Cardiovascular (CV) mortality and morbidity is increased in rheumatoid arthritis (RA). Studies found a more than two- to three-fold higher prevalence of ischaemic heart disease in RA patients compared to controls. However, a number of studies indicate that RA is also associated with various non-atherosclerotic CV manifestations. The inflammatory processes in RA may affect different structures of the heart: the most characteristic lesions are conduction defects, cardiomyopathy and valve disease.

Objectives: The aim of this study was to evaluate left ventricular myocardial function with two-dimensional speckle tracking echocardiography (STE), in addition to conventional Doppler and tissue Doppler echocardiography, in order to detect subclinical left ventricular myocardial dysfunction in patients with RA.

Methods: The study involved 30 outpatients who fulfilled the 2010 ACR/EULAR criteria for RA (11 males and 19 females; mean age 54.63±9.36 years, median disease duration 2 years), at baseline at after 18 months of treatment with anti-TNF drugs and 30 healthy controls matched in terms of age, gender and other anthropometric characteristics. All patients underwent a complete physical examination and routine laboratory analysis. CV risk profiles were assessed by means of standard ECG, conventional and stress trans-thoracic echocardiography with the measurement of CFR, cardiac ultrasonography and pulse wave velocity (PWV). Two-dimensional echocardiographic images were obtained using the apical 4-chamber view at a high frame rate of 70–80 frames/s, and three cardiac cycles were stored in cine-loop format for off-line analysis using commercially available QLAB 9 software (Philips Medical System, USA) in order to assess global longitudinal strain (GLS).

Results: None of the patients showed any signs or symptoms of CV disease, pulmonary involvement, or any other complication. The results of the speckle tracking analysis were significantly different between the two groups, with GLS being significantly lower in the RA patients compared to healthy controls (GLS%: 18.51±9.63 vs 20.23±2.71; p<0.05). Right and left PWV (PWV right, m/sec: 7.52±1.64 vs 6.85±2.02; p=0.06 and PWV left, m/sec: 7.56±1.60 vs 6.88±2.11; p=0.07) and right and left coronary intima media thickness (cIMT) (cIMT right mm: 0.90±0.22 vs 0.75±0.13; p=0.05 and cIMT left, mm: median 0.89±0.18 vs 0.75±0.09; p=0.05) values were all higher in the RA patients and the differences of cIMT were statistically significant. Furthermore, a significant improvement in GLS in RA patients at 18 months of anti-TNF treatment was observed (GLS%: 18.51±9.63 vs 19.09±9.72; p<0.01).

Conclusions: GLS measured by means of speckle tracking echocardiography was impaired in RA patients in the absence of any clinical evidence of CV disease and echocardiographic evaluations negative. This data supports an early myocardial alteration.

Disclosure of Interest: None declared

Methods: This study included patients with RA according to the ACR/EULAR 2010 classification criteria (American College of Rheumatology/European League Against Rheumatism) followed up in the Rheumatology Department of Rouen University Hospital and who had a haemoglobin >12.5 g/dl. Patients were either from the single-centre monocentric longitudinal cohort or from the seventh visit of the VERA (Very Early Arthritis) High-Norman regional cohort. For each patient of the longitudinal cohort, DAS 28 ESR (Disease Activity Score – erythrocyte sedimentation rate) the FACIT – version 4 fat score (Functional Assessment of Chronic Illness Therapy) and a depression score (Hospital Anxiety and Depression Scale) were collected. Serum ferritin, transferrin, serum iron and saturation coefficient of transferrin were measured for each patient. ID was defined as serum ferritin <50 μg/L.

Results: One hundred and forty-one patients were included in the longitudinal cohort (78.7% women, mean age 13.50±9.51 years, positive rheumatoid factor and anti-citrullinated peptide antibodies in 83.6% and 86.5% of patients) and 74 RA patients from the VERA cohort (70.3% women, mean disease duration 2.74 ±0.24 years). The prevalence of ID was 15.6% in the longitudinal cohort (n=22/141) and 14.9% in the VERA cohort (n=11/74). In the longitudinal cohort, there were no significant differences between ID patients and non-deficient patients in fatigue (mean FACIT of 27.80±12.4 vs. 32.3±12.0; p=0.14), disease activity (mean DAS 28 of 2.85±1.38 vs. 2.96±1.48; p=0.74) and depression (mean HAD score 5.86±4.12 vs. 5.80±3.84; p not calculated).

Conclusions: The prevalence of ID without anaemia was similar between early and old RA and was similar to that of the general French adult population (15.5%). ID does not appear to be a major cause of fatigue in RA and does not affect the activity of the disease. The search for an ID is of limited value in exploring fatigue of RA patients.

REFERENCE:

Disclosure of Interest: None declared