cardiovascular disease (CVD) mortality, which accounts for over 50% of premature deaths in RA. Obesity contributes to the development of inflammation via changes in metabolism and function of adipose tissue and it appears to coexist with other CVD risk factors such as hypertension, insulin resistance and dyslipidemia.

**Objectives:** For the first time, this study looks at the effect of the BMI on echocardiography parameters in established RA cases.

**Methods:** A cross section study was carried out to recruit patients meeting the 2010 ACR/EULAR criteria during 2019. Standard trans-thoracic echocardiography examination was performed by a specialist cardio-sonographer who was blinded to the status of the participants. The echocardiography parameters studied included left ventricular dimensions, wall geometry, systolic and diastolic parameters, ejection fraction, right ventricular size and function, valve structure and function, aortic root dimensions, pulmonary pressures and pericardium. Antropometric measurements of BMI were carried out as weight in kilograms divided by the square of height in meters (kg/m²). Data was analysed using the BMI as the explanatory variable and repeating the simple linear regression analysis using the echocardiography parameters as outcome variables. P value of <0.05 was considered significant.

**Results:** During the one-year period, 44 RA patients were recruited, of which 91% (40) were female and 4 (9 %) male. The mean (SD) of age was 50±13 years (Min 28, Max 72). The mean (SD) of BMI was 30.87± 6.348 Kg/m² (Min 21, Max 44.38). As per BMI classification of obesity, only 11% patients were found to have normal BMI. Echocardiography revealed that 14% patients had aortic regurgitation, 2% had aortic stenosis, 2% had mitral stenosis, and 7% had tricuspid regurgitation.

Using BMI as an explanatory variable, with echocardiography parameters as outcome variables, it was found that BMI contributed positively in a linear manner to the Interventricular Septal thickness in diastole (mm) (p=0.004, CI: 0.048-0.227), LV End Diastolic Diameter (mm) (p=0.033, CI: 0.033-0.722), LV mass (g) (0.04, CI: 0.022-6.339), Early Diastolic Velocity, E, by PW mitral inflow measurement (cm/s) (p=0.02, CI: 0.150-1.933), E/E' ratio by Tissue Doppler study (p=0.01, CI: 0.025-0.225), and to Right Ventricle function measured by Tricuspid Annular Plane Systolic Excursion (TAPSE) (mm) (p=0.02, CI: 0.035-0.346).

**Conclusion:** Obesity and Inflammation overlap syndrome may interplay to produce various cardiovascular abnormalities. Body Mass Index is shown to be associated with significant echocardiographic abnormalities including left ventricular dimension, diastolic parameters and right ventricular function. In view of the complex interrelation between obesity, rheumatoid arthritis and cardiovascular disease, measuring Body Mass Index might help predict adverse cardiovascular events in rheumatoid arthritis patients.

**REFERENCES:**


**Disclosure of Interests:** None declared

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**RHEUMATOID ARTHRITIS ASSOCIATED LUNG DISEASE: EXPERIENCE IN A BIOLOGICAL THERAPY UNIT**

AB0170

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**Background:** Rheumatoid arthritis (RA) associated lung disease is a relatively frequent extra articular disease manifestation, with a prevalence between 5% and 30%. The rather wide range of estimated prevalence is a result of differences in study designs and studied populations, as well as lacking diagnostic and classification criteria for lung disease in patients with RA.

**Objectives:** To evaluate the prevalence of RA associated lung disease in patients with biological therapy (BT), as well as its severity, treatment changes and possible associated factors.

**Methods:** Review of clinical records of 257 patients with RA treated with BT (TNFi, non-TNFi) between January 2015 to December 2020 in a single center. Patients with preexisting lung disease for other causes (asthma, smoking) have been excluded. RA diagnosis was performed according to ACR 2010 classification criteria. Epidemiological variables, clinical characteristics, type of pulmonary involvement, evolution, type of BT, changes in treatment and concomitant treatment were collected. For the analysis frequencies and percentages are used in qualitative variables, and mean ± SD in the quantitative ones. Statistical analysis was performed with IBM SPSS v 23.

**Results:** Visible registered 21 patients (85.7% women) mean aged 70.3±11.9 years, 52.4% were never smokers. RF was positive in 100% and 20 patients were anti-CCP positive. Erosive disease was present in 13 (61.9%) patients. At the time of lung disease diagnosis, 15 patients (66.7%) were receiving TNFi (Etanercept 7, Adalimumab 6, Infliximab 1, Golimumab 1), 2 were with non-TNFi (Rituximab) and 4 had never received BT previously. Symptoms (cough and/or dyspnea) were reported in 10 (47.6%) patients. The median time of treatment with BT until lung disease diagnosis was 33 [15.5-95.5] months. Conventional synthetic DMARDs (csDMARDs) were used in 85.7% of cases (methotrexate 72.2%, leflunomide 22.2%, other 5.6%). The inflammatory activity was mild (DAS28: 3.2±2.6). The median time until lung disease diagnosis was 104 [56.2-156] months.

After the lung disease diagnosis, BT treatment was only modified in 1 patient. In the 4 patients who had not previously received BT, non-TNFi was started (Rituximab 2, Abatacept 1, Tocilizumab 1). csDMARD was discontinued in 1 patient.

Interstitial lung disease (ILD) was the most frequent pulmonary involvement (16 patients, 76.2%): 8 usual interstitial pneumonia (UIP), 6 non-specific interstitial
Disclosure of Interests: None declared

Conclusion: In our series, prevalence of RA associated lung disease is similar to that described in the literature. However, the growing use of ultrasonography (US) increased our opportunity to encounter enthesitis in rheumatoid arthritis (RA). The involvement of Achilles tendon and the plantar fascia is not rare in RA patients.

Objectives: The aims of this study were to determine the prevalence of Achilles enthesitis and plantar fasciitis in RA patients, and to identify association with clinical data.

Methods: We conducted a cross-sectional study including patients with RA (ACR/EULAR 2010). Demographic and clinical data were collected. Three groups were defined according to the BMI: normal (BMI<25kg/m²), overweight (BMI25-30kg/m²) and obese (BMI≥30kg/m²). US examination of Achilles tendon and plantar aponeurosis was performed by a blinded radiologist experienced in musculoskeletal US using a Philips HD11 device with a high-frequency linear transducer. Enthesitis was defined as hypechoic and/or thickened insertion of the tendon close to the bone (within 2 mm from the bony cortex) which exhibits Doppler signal if active and that may show erosions, enthesophytes or calcifications as sign of structural damage. A p-value <0.05 was considered significant.

Results: Sixty-two feet were examined in 31 RA patients (25 women and 6 men) with a mean age of 54.8±10.8 years old [32-70]. The mean disease duration was 8.5±7.2 years [1-37]. Rheumatoid Factor (RF) and Anti-Citrullinated Peptide Antibodies (ACPA) were positive in 61.3% and 83.8% of cases. The mean DAS28-ESR was 3.8±1.5 [0.6-7]. The mean BMI was 27.7±5.4kg/m² [18.3-45.8]. Obesity was noted in 22.7 % of patients and overweight in 45.5% of patients. Clinical examination revealed pes planus valgus (PPV) in 55.6% of cases and pes cavus varus (PCV) in 18.5% of cases. Heel US revealed Achilles enthesitis in 79.6% of cases. The following elementary lesions were noted in the enthesis: thickness (24.1%), hypoechogenicity (37%), erosions (9.3%), enthesophytes (75.9%), and Doppler signal (3.7%). Plantar fasciitis was noted in 81.5% of cases. The following elementary lesions were found in the insertion of plantar aponeurosis: thickness (75.9%), hypoechogenicity (77.8%), erosions (16.7%), enthesophytes (13%), calcifications (1.9%), and Doppler signal (1.9%).

Conclusion: Compared to the data published in the literature, in our cohort the rate female:male was higher (4:1). A distinct feature was the high proportion of patients with seropositive RA. ACPA being found in 84% of the patients with seropositive RA. The mean DAS28-ESR at the diagnosis was 4.4±(1.54). A proportion of 40% of the patients had moderate disease activity, 35 patients (32.73%) - high disease activity.

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