Conclusions: RA patients have high prevalence of falls and fear of falling. Income was an independent fall risk factor. BBS seems to be higher among fallers and TUG can be considered a fall risk predictor. BBS, TUG and SST5 are related to CDAI and HAQ. CDAI does not seem to be a good instrument to predict falls due to its variability over time. In clinical practice, HAQ can be a valuable tool to recognise patients with an increased risk of falls.

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THU0168

RELATIONSHIPS BETWEEN BODY FAT COMPOSITION ASSESSED WITH BIOELECTRICAL IMPEDANCE ANALYSIS, SERUM ADIPOKINES AND DISEASE ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: High-grade inflammation in patients affected with Rheumatoid Arthritis (RA) leads to an imbalanced body composition characterised by increased fat mass and decreased lean mass, with stable or increased body weight, resulting in little or no change in body mass index (BMI).¹ This condition, known as rheumatoid cachexia, is proven to be reversible once inflammatory process has been shut down. BMI and waist-to-hip ratio (WHR) are used as indirect measurements of visceral fat even if not capable of discriminating it from subcutaneous fat tissue. An alternative method proposed for assessment of fat composition, indicating nutritional status, is bioelectrical impedance analysis (BIA).

Objectives: To analyse body fat composition of patients with RA assessed using either BIA and anthropometric measures, investigating relationships between the related indices, serum adipokines and disease activity.

Methods: The body composition of 87 consecutive patients (72 female, 82.76%) affected with RA according to 2010 ACR/EULAR classification criteria, mean age of 52.42±13.29, mean disease duration of 10.71±8.58 years, treated with DMARDs and/or biologics, was assessed during their visit to our outpatient department. Data including demographic characteristics clinical manifestations, disease activity indices (DAS28-ESR, DAS28-CRP, CDAI, SDAI), Health Assessment Questionnaire (HAQ), lipid profile, as well as radiological findings were collected. Patients underwent to anthropometric measures (WHR and BMI) and BIA for the evaluation of fat-free mass (FFM), fat mass (FM) and the derived indices (fat-free mass index (FFMI) and fat mass index (FMI)). In addition for each patient blood samples were collected to determine serum levels of several adipokines (leptin, adiponectin, visfatin, resistin). Statistical tests as well as linear and logistic regression analysis were carried out.

Results: DAS28-ESR was found to be related to FMI ($p=0.02$; $r=0.22$) and to BMI ($p=0.03$; $r=0.22$). In addition, in patients in whom DAS28-ESR remission was not achieved, FMI but not BMI was found to be related to the latter disease activity index ($p=0.007$, $r=0.37$). FMI was shown to correlate to HAQ ($p=0.01$, $r=0.31$). Higher serum levels of leptin were found to predict higher FMI and BMI ($p<0.0001$ for both, $r=0.68$ and $r=0.57$, respectively) with DAS28 being also related to the latter adipokine ($p=0.02$; $r=0.24$). FFMI was inversely related to adiponectin serum levels ($p=0.0003$; $r=-0.40$). Both male and female patients classified as underweight for BMI were found to have a normal mean FFMI, with both groups presenting a mean DAS28-ESR score indicating remission.

Conclusions: Either body fat composition assessed with BIA-related indices and serum leptin have been noticed to predict disease activity. Moreover nutritional status of patients in remission according to DAS28-ESR may be better assessed by determining indices brought by BIA along with BMI, in order to rule out rheumatoid cachexia on the basis of FMI and FFMI.

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THU0169

RELATIONSHIP OF FRAILTY AND DISEASE ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS: DATA FROM THE CHIKARA STUDY

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Background: Frailty is defined as degradation of physical and cognition function in elderly adult¹. The characteristics of frailty include not only physical problems as co-morbidity and disability, but also mental and social problems. It is unclear of relationship between frailty and disease activity of patients with rheumatoid arthritis (RA).

Objectives: We investigated the relative factors about frailty in patients with RA from a prospective observational study.

Methods: 95 from 100 patients entered the CHIKARA study (Correlation research of sarcopenia, skeletal muscle and disease Activity in Rheumatoid Arthritis) were investigated by frailty check list (maximal score is 25). According to reported article, frailty was defined from 8 to 25 and pre-frailty was from 4 to 7, and normal was from 0 to 3. We investigated relationship of disease activity in frailty, pre-frailty and normal groups, and analysed the relative factors for frailty.

Results: The prevalence of frailty, pre-frailty, and normal was 19%, 39% and 42%, respectively. The character of groups indicated at table 1. Frailty group was the oldest of three groups. Disease activity score 28 erythrocyte sedimentation rate (DAS28ESR) and matrix metalloproteinase 3 (MMP3) of frailty group was higher than those of pre-frailty and normal groups. Whereas, modified health assessment questionnaire (mHAQ) of frailty group was lower than those of pre-frailty and normal groups. Normal was 66.6% and frailty was 6.7% in remission patients. However, Normal was 13.3% and frailty was 46.7% in moderate and high disease activity patients (figure 1). The prevalence of frailty was increased with disease activity. The relative factors for frailty were age, locomotive syndrome, DAS28ESR, mHAQ, and Steinbrocker class, positively and leg muscle score and grip strength, negatively by univariate analysis. Steinbrocker class (odds ratio: 3.25 95% CI: 1.11–9.51, $p=0.031$) and mHAQ (odds ratio: 1.29, 95% CI: 1.13–1.46, $p<0.001$) were independent relative factors by multivariate analysis.