

### THU0118 WHAT IS THE ROLE OF STEROIDS IN INDUCING DIABETES MELLITUS IN PATIENTS WITH RHEUMATOID ARTHRITIS? AN OBSERVATIONAL COHORT STUDY

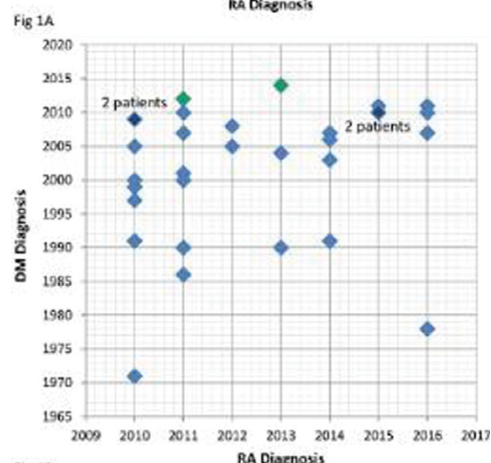
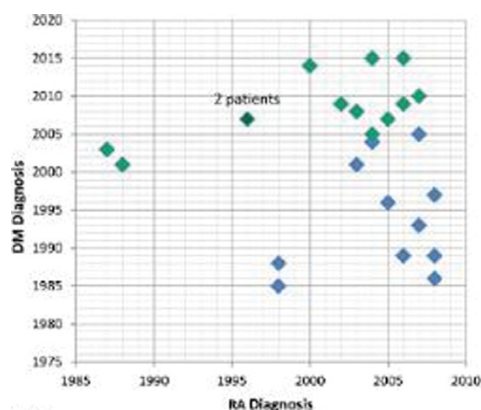
A. Emamifar<sup>1</sup>, R. Hviid Larsen<sup>2</sup>, R. Asmussen Andreassen<sup>1</sup>, I.M. Jensen Hansen<sup>1,3</sup>. <sup>1</sup>Rheumatology; <sup>2</sup>Medicine, Svendborg Hospital, Odense University Hospital, Svendborg; <sup>3</sup>DANBIO, Copenhagen, Denmark

**Background:** Patients with Rheumatoid Arthritis (RA) are at increased risk of Diabetes Mellitus (DM) probably due to immune system activation or RA treatment with steroids.[1] However the pathology of DM in RA is not fully understood.

**Objectives:** To define the prevalence of DM in our RA patients population. Furthermore, to clarify the role of steroid treatment to induce DM in the RA patients.

**Methods:** All patients with diagnosis of RA who were registered in Danish Danbio Registry at time of study, Nov 2016, were included. To find the concurrent DM, patients' medical records including past medical history and lab tests (Hemoglobin A1c and Blood Sugar) were reviewed. In addition, year of DM as well as RA diagnoses were extracted from Fyns Diabetes Database and Danbio respectively to the extent that data were available. Patients' drug histories were searched for information about steroid treatment if diagnosis of RA was made prior to diagnosis of DM.

**Results:** Of 1035 patients with diagnosis of RA, 104 (10%) patients had DM. Of 104 RA patients with DM, data regarding the year of diagnosis for both RA and DM was found in 55 patients which of them 15 patients were diagnosed with RA before DM, one patient was diagnosed with both DM and RA at the same year and 39 patients were diagnosed with RA after DM. However, only one patient, of those who were firstly diagnosed with RA, was prescribed prednisolone during the time period between diagnoses of RA and thereafter DM. Of 15 patients with prior diagnosis of RA to DM, 13 patients were diagnosed according to 1987 classification criteria (Old) for RA and 2 patients were diagnosed according to 2010 classification criteria (New). Out of 39 patients where DM was diagnosed before RA, 10 patients was diagnosed based on the old criteria and 29 patients was diagnosed based on the new RA criteria [Fig 1A and 1B]. Patients with firstly diagnosed DM were more often diagnosed according to the new RA criteria and, on the contrary, patients with latterly diagnosed DM were more often diagnosed with old RA criteria ( $p < 0.001$ ).



**Figure 1A:** In 13 Rheumatoid Arthritis (RA) patients who were diagnosed according to 1987 classification criteria for RA, diagnosis of RA was made earlier than Diabetes Mellitus and **Figure 1B:** In 2 Rheumatoid Arthritis (RA) patients who were diagnosed according to 2010 classification criteria for RA, diagnosis of RA was made earlier than Diabetes Mellitus.

**Conclusions:** The prevalence of DM in this RA population (10%) was about twice of Danish population (5.7%). The role of steroid treatment in which to what extent

increases the risk of DM is not clear, however in this study it was negligible, why we propose that the pathology of DM in RA patients most importantly deals with the role of immune system activation namely Tumor Necrosis Factor alpha and not the treatment modality i.e. steroids.

#### References:

[1] Jiang P, Li H, Li X. Diabetes mellitus risk factors in rheumatoid arthritis: a systematic review and meta-analysis. *Clin Exp Rheumatol* 2015;33:115–21.

**Acknowledgements:** We thank Mrs. Maryam Mousavi for her contribution to data collection.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.3167

### THU0119 ASSESSMENT OF RHEUMATOID CACHEXIA AND ITS ASSOCIATION WITH CLINICAL, FUNCTIONAL AND THERAPEUTIC OUTCOMES

A.L.D. Moro<sup>1</sup>, V. Hax<sup>1</sup>, R.C.E. Santo<sup>2</sup>, T. Figuera<sup>3</sup>, W. Kisaki<sup>2</sup>, C.V. Brenol<sup>1</sup>, R.M. Xavier<sup>1</sup>. <sup>1</sup>Rheumatology Service, Hospital de Clínicas de Porto Alegre; <sup>2</sup>Universidade Federal do Rio Grande do Sul; <sup>3</sup>Endocrinology Service, Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil

**Background:** Rheumatoid arthritis (RA) is a chronic and inflammatory disease that besides articular symptoms leads to loss of muscle mass in presence of stable or increased fat mass (FM), condition defined as rheumatoid cachexia (RC). RC is associated with a worse prognosis, but it is still overlooked in clinical practice.

**Objectives:** To evaluate the prevalence of rheumatoid cachexia (RC) in patients with rheumatoid arthritis (RA) and determine its correlation with the features of RA, the level of physical activity and with the current therapy.

**Methods:** Ninety one RA patients in a cross-sectional study underwent total body dual-energy x-ray absorptiometry (DXA) for measurement of total and regional fat mass index (FMI; Kg/m<sup>2</sup>), lean mass index (LMI; Kg/m<sup>2</sup>), bone mineral content (BMC; Kg/m<sup>2</sup>) and fat free mass index (FFMI; Kg/m<sup>2</sup>) to assess the prevalence of RC. The associations of measures of body composition with RA features - age, diagnosis time, Health Assessment Questionnaire (HAQ), Disease Activity Score in 28 joints (DAS 28), C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) -, level of physical activity (measured by International Physical Activity Questionnaire - IPAQ) and current therapy were explored.

**Results:** Mean age was 56.8±7.3, disease duration 9 years (3 – 18), DAS28 3.65±1.32, HAQ 1.12 (0.25 – 1.87) and use duration of biological agents was 25 months (17.8 – 52.5). 17% of the patients had FFMI below the 10th percentile and FMI above the 25th percentile of a reference population and 33% of the patients had FFMI below the 25th percentile and FMI above the 50th percentile, condition known as RC, according to the more recently used definitions. FFMI correlated negatively only with age ( $r = -0.219$ ;  $p = 0.037$ ) and disease duration ( $r_s = -0.214$ ;  $p = 0.042$ ). FMI correlated positively with CRP ( $r_s = 0.229$ ;  $p = 0.029$ ), ESR ( $r_s = 0.235$ ;  $p = 0.025$ ), DAS 28 ( $r_s = 0.273$ ;  $p = 0.009$ ) and HAQ ( $r_s = 0.297$ ;  $p = 0.004$ ). Among patients under biologics, 3.8% (n=1) had RC versus 23% (n=15) of those not taking biologics ( $p = 0.033$ ), according to the stricter definition.

**Conclusions:** The prevalence of RC was considerable and deserves additional research. Besides that, patients under biological therapy had lower prevalence of RC, suggesting a protective effect of biological agents.

#### References:

[1] Hugo M, Mehseu-Cetre N, Pierreisnard A, Schaeverbeke T, Gin H, Rigalleau V. Energy expenditure and nutritional complications of metabolic syndrome and rheumatoid cachexia in rheumatoid arthritis: an observational study using calorimetry and actimetry. *Rheumatology*. 2016; 55(7): 1202–09.

[2] Masuko K. Rheumatoid cachexia revisited: a metabolic co-morbidity in rheumatoid arthritis. *Front Nutr* 2014; 24: 1–20.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.1894

### THU0120 PREVALENCE OF CHRONIC KIDNEY DISEASE IN RHEUMATOID ARTHRITIS PATIENTS AND ITS ASSOCIATION WITH MULTIMORBIDITY

A.Y. Zakharova<sup>1</sup>, E. Galushko<sup>1</sup>, Y. Uskova<sup>2</sup>, A. Gordeev<sup>1</sup>. <sup>1</sup>Nasonova Research Institute of Rheumatology, MOSCOW, RUSSIA; <sup>2</sup>Central Clinical Hospital of Russian President Administration, Moscow, Russian Federation

**Background:** RA pts commonly present with multiple concurrent chronic disease. The great importance is attached to cardiovascular diseases due to their proven association with high frequency of morbidity and death. Much attention has been paid to the potential role of high-grade systemic inflammation and classical modifiable CVD risk factors – such as hypertension, dyslipidaemia, insulin resistance/metabolic syndrome, obesity, physical inactivity and smoking. A recent meta-analysis has shown that renal impairment is a strong independent cardiovascular risk factor in the general population [1].

**Objectives:** To assess the prevalence and associations of CKD in RA pts (ACR/EULAR 2010y.) and relate with pts multimorbid background, RA activity and duration.

**Methods:** 209 RA pts (F-70,6%, mean age 67,0±11,3y), admitted to rheumatology division from 1999 to 2015, were included into analysis. RA duration was 19