Rheumatoid arthritis - comorbidity and clinical aspects

AB0371 PREVALENCE OF CACHEXIA IN A POPULATION OF MOROCCAN WOMEN WITH RHEUMATOID ARTHRITIS

Keywords: Diet and Nutrition, Descriptive Studies
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Background: Prevalence of cachexia in a population of Moroccan women with rheumatoid arthritis.

Objectives: The objective of our study is to assess body composition in women with rheumatoid arthritis (RA) compared to healthy controls.

Methods: We conducted a case-control study of 112 female patients with rheumatoid arthritis according to ACR/EULAR 2010 Rheumatoid Arthritis Classification Criteria; and 224 healthy women of the same age. Body composition and bone mineral density (BMD) results were obtained by Dual-Energy X-Ray Absorptiometry (DXA). Rheumatoid cachexia (RC) was defined as a Lean mass index (LMI) below the 10th percentile and a Fat mass index (FMI) above the 25th percentile compared with the control group. We performed a comparison between RA patients and healthy controls and then performed multiple regression looking for factors associated with rheumatoid cachexia.

Results: The prevalence of rheumatoid cachexia was 42.85% while the mean body mass index (BMI) was the same in both groups. RA patients had higher fat mass and lower lean mass compared with healthy controls. In our population, 78.60% of patients were on methotrexate and 12.50% on TNF inhibitor. Comparison between patients with and without CR showed that patients with CR have high disease activity, with the presence of more bone erosions. Regression showed that CR was significantly associated with bone erosions and disease activity (OR at 33.31 (8.42-131.70) and 8.98 (1.64 - 49.20) respectively) This was independent of age, erythrocyte sedimentation rate, C-reactive protein, duration of disease, cumulative steroid dose, and use of conventional or biologic background therapies.

Conclusion: Our study showed that nearly half of our RA patients have CR even with high BMI. CR in our work is associated with the presence of high disease activity, and the presence of bone erosions.

REFERENCES: NIL.

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

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AB0372 THE IMPACT OF BODY MASS INDEX ON BONE MINERAL DENSITY IN RHEUMATOID ARTHRITIS

Keywords: Rheumatoid arthritis
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Background: It has long been thought that a higher body mass index is protective against osteoporosis. However, recent studies showed an increase in fracture risk in obese individuals.

Objectives: To study the impact of body mass index (BMI) on bone mineral density (BMD) during rheumatoid arthritis (RA).

Methods: Retrospective study including 260 RA patients meeting the ACR/EULAR 2010 criteria. We collected demographic, clinical, biological, and bone densitometric data from patients.

Results: The mean age was 49.91 ± 12.97 years. The sex ratio F/H was 6.6. The mean DAS28-VA was 5.32 ± 1.35. According to the DAS28-VA, 60.7% of the patients were high activity. The mean BMI was 26.26 ± 4.83 Kg/m². 21.9% of patients were obese. 31.5% were overweight and 2.3% were underweight. The mean BMD was 0.856 ± 0.200 g/cm² at the femoral neck and 0.950 ± 0.219 g/cm² at the lumbar spine. The mean T-Score was -1.41 ± 1.48 at the femoral neck and -1.90 ± 1.58 at the lumbar spine. Osteoporosis at one of the two sites was found in 38.4% of patients. Eleven patients (4.8%) had a severe fracture and 6 patients (2.6%) a non-severe fracture. A negative correlation was found between BMI and the presence of osteoporosis at one of the two sites (r=-0.138; p=0.04). BMI was also correlated with T-Score and BMD at the lumbar spine (r=-0.196; p=0.007 and r=-0.278; p=0.001 respectively). No correlation was found between BMI and T-Score and BMD at the femoral neck level as well as fracture occurrence.

Conclusion: In our study, BMI correlated with BMD and T-SCORE at the lumbar spine, and negatively correlated with the presence of osteoporosis.

REFERENCES:

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

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AB0373 DEPRESSION IN RHEUMATOID ARTHRITIS: A CROSS-SECTIONAL STUDY FROM A TERTIARY CARE HOSPITAL IN NORTH INDIA

Keywords: Rheumatoid arthritis, Descriptive Studies, Mental health
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Background: Rheumatoid arthritis(RA) is a chronic inflammatory polyarthritis, with deformities associated with poor functional outcome. Psychiatric comorbidities are common among them, contributing to poor outcome.

Objectives: This study was aimed at determining prevalence of depression in RA and its association with disease severity.

Methods: This is a cross-sectional study carried out in the OPD/IPD of Rheumatology in a tertiary care hospital in India. This study recruited 272 patients classified as RA, fulfilling 2010 ACR/EULAR criteria, with minimum duration of illness of at least 1 year. Patients with prior psychiatric illness were excluded. Informed consent was taken from all participating patients, after institute ethical clearance. RA disease activity was measured using DAS28 ESR, and these patients were screened for depression with PHQ-2 questionnaire. Patients with depression were further assessed with Depression, Anxiety and Stress Scale (DASS) for depression severity.

Conclusion: The functional status was assessed with Health Assessment Questionnaire-Disability Index(HAQ-Di). Data were interpreted by descriptive statistics, and correlation assessed using Spearman correlation coefficient. Regression analysis was used to find odds of significant variables associated with depression.

Results: Twenty-three percent of these patients had depression according to PHQ-2 screen. Forty-four (69.8%) of these had depression on further assessment using DASS questionnaire. The median DAS-28 in mild, moderate, severe and extremely severe depression groups were 4.6, 4.9, 6.4 and 5.3, respectively. There was a significant difference between the 5 groups in terms of DAS-28 (X² = 42.209, p < 0.001), with the median DAS-28 being highest in severe depression group. It had a strong association with DASS depression score and with significant p value of <0.001. There was a weak positive correlation between DAS-28 and DASS depression score, though this correlation was not statistically significant (rho = 0.18, p = 0.167). With further regression analysis, it was clear that, TJC, SJC, and ESR, were significantly associated with depression. All of these parameters had an odds ratio of >1, indicating that if each of them increased, odds of having depression would significantly increase.

Conclusion: Depression, though very common, is yet an underestimated co-morbidity in RA and contributes to their functional impairment/ morbidity. RA patients with high TJC, SJC, ESR and disease activity were found to have depression of more severity, which favors the inflammatory hypothesis of depression. Depression is indeed an under-estimated yet significant comorbidity in patients with RA. This is often missed or overlooked by rheumatologists/ clinicians. Early identification with subsequent referral to concerned specialty will definitely improve functional outcomes.

REFERENCES:
Increased serum myostatin levels have been linked to chronic inflammation, specifically in the context of rheumatoid arthritis (Baig MH, Front Physiol. 2022). Myostatin, expressed in skeletal muscles, plays a negative feedback role in myogenesis and is involved in the regulation of muscle growth and maintenance.

**Methods:**

A cross-sectional study of 30 post-menopausal women with RA was conducted to analyze whether disease activity in the early stages of RA could influence progression to a more difficult-to-treat RA (D2T-RA). Disease activity was assessed using the Disease Activity Score in 28 joints (DAS28) based on EULAR criteria (treatment failure, signs suggestive of currently active/progressive disease, and management being perceived as problematic by the rheumatologist and/or patient).

**Results:**

In this cohort of patients newly diagnosed with RA, our results do not allow us to prove the influence of active disease according to DAS28. However, we did find that younger patients and those with elevated initial disability scores were more likely to develop D2T RA regardless of other factors.

**Conclusion:**

In post-menopausal women with rheumatoid arthritis, serum myostatin levels are independent of disease activity, patient functionality, inflammatory burden, RF or ACPA seropositivity. Except for inflammation per se, other disease parameters associated with RA influence the regulation of myostatin.

**References:**


### Table 1. Association of serum myostatin with disease parameters in RA patients (statistical significance: p<0.05)

<table>
<thead>
<tr>
<th>Parameter Coefficient</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.084</td>
</tr>
<tr>
<td>BMI</td>
<td>0.156</td>
</tr>
<tr>
<td>Disease duration</td>
<td>0.131</td>
</tr>
<tr>
<td>Seropositive disease</td>
<td>-0.190</td>
</tr>
<tr>
<td>ESR</td>
<td>-0.081</td>
</tr>
<tr>
<td>CRP</td>
<td>0.041</td>
</tr>
<tr>
<td>DAS28 (ESR)</td>
<td>-0.190</td>
</tr>
<tr>
<td>HAQ-DI</td>
<td>-0.322</td>
</tr>
</tbody>
</table>

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Disclosure of Interests: None Declared.

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**Figure 1.**

**Table:** showing characteristics of RA patients in this study

<table>
<thead>
<tr>
<th>n=272</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs)</td>
<td>47.77 (11.55)</td>
</tr>
<tr>
<td>Gender</td>
<td>45 (18.3%)</td>
</tr>
<tr>
<td>Female</td>
<td>223 (81.7%)</td>
</tr>
<tr>
<td>Duration of illness (mon)</td>
<td>60 (34)</td>
</tr>
<tr>
<td>RF (+)</td>
<td>208 (76.2%)</td>
</tr>
<tr>
<td>ACPA (+)</td>
<td>219 (80.6%)</td>
</tr>
<tr>
<td>ESR</td>
<td>3.87 (1.42)</td>
</tr>
<tr>
<td>CRP</td>
<td>10.8 (3.7)</td>
</tr>
<tr>
<td>DAS28 (max score of 3)</td>
<td>0.58 (0.70)</td>
</tr>
<tr>
<td>Depression by PHQ-2</td>
<td>63(23.1%)</td>
</tr>
<tr>
<td>DAS28 (ESR)</td>
<td>5.9 ± 1.3 μg/ml</td>
</tr>
<tr>
<td>Depression</td>
<td>44(16.1%)</td>
</tr>
<tr>
<td>Mild</td>
<td>16 (5.9%)</td>
</tr>
<tr>
<td>Moderate</td>
<td>15 (5.5%)</td>
</tr>
<tr>
<td>Severe</td>
<td>12 (4.4%)</td>
</tr>
<tr>
<td>Extremely severe</td>
<td>1 (0.4%)</td>
</tr>
</tbody>
</table>

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

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**AB0374**

**A STUDY OF MYOSTATIN LEVELS IN A GREEK COHORT OF POST-MENOPAUSAL WOMEN WITH RHEUMATOID ARTHRITIS**

**Keywords:** Osteoporosis, Rheumatoid arthritis

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**Background:** Myostatin is expressed in skeletal muscles and exerts a negative-feedback role in myogenesis. Chronic inflammation has been associated with rheumatoid arthritis.

**Methods:** A cross-sectional study of 30 post-menopausal women with RA was conducted from 2009 to 2018. Patients were followed up until January 2021. D2T RA was defined based on EULAR criteria (treatment failure, signs suggestive of currently active/progressive disease, and management being perceived as problematic by the rheumatologist and/or patient). The main variable was disease activity in the early stages. The covariates were sociodemographic, clinical, and treatment-related factors. We ran a multivariable logistic regression analysis to investigate risk factors associated with progression to D2T RA.

**Results:** The study population comprised 631 patients and 35 (5.87%) developed D2T RA. At the time of diagnosis, the D2T RA group were younger, with a higher disability, DAS28 score, tender joint count and pain scores. In our final model, DAS28 was not statistically significantly associated with D2T RA. No differences were found between groups for therapy. Disability was independently associated with D2T RA (OR: 1.89; p=0.01).

**Conclusion:** In this cohort of patients newly diagnosed with RA, our results do not allow us to prove the influence of active disease according to DAS28. However, we did find that younger patients and those with elevated initial disability scores were more likely to develop D2T RA regardless of other factors.

**References:** NIL.

**Acknowledgements:** NIL.

Disclosure of Interests: None Declared.

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**AB0376**

**CARDIOVASCULAR RISK STRATIFICATION ACCORDING TO SERUM NON-HDL CHOLESTEROL LEVELS IN PATIENTS WITH RECENTLY DIAGNOSED RHEUMATOID ARTHRITIS.**

**Keywords:** Biomarkers, Comorbidities, Rheumatoid arthritis

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**Background:** Myostatin is expressed in skeletal muscles and exerts a negative-feedback role in myogenesis. Chronic inflammation has been associated with rheumatoid arthritis.

**Methods:** A cross-sectional study of 30 post-menopausal women with RA, classified according to the 1987 ACR criteria. Blood samples were collected and inflammatory markers (erythrocyte sedimentation rate, ESR, and C-reactive protein, CRP) were calculated. Serum myostatin levels were assessed using the ELISA method. Seropositive disease was defined according to a positive history of antibodies against rheumatoid factor (RF) or against citrullinated proteins (ACPA). Disease activity and patient functionality were expressed by using the DAS28 (ESR) and the HAQ-DI scores respectively.

**Results:** In our cohort, 47% (n=14) had seropositive disease. Mean values for ESR, CRP, DAS28 (ESR) and HAQ-DI were 29 ± 20 mm, 1.6 ± 2.6 mg/dl, 3.9 ± 1.7 and 0.9 ± 0.6 respectively. The mean serum myostatin levels were 5.9 ± 1.3 μg/ml. According to the DAS28 (ESR) score, 17% (n=5) patients were in disease remission, 20% (n=6) had low disease activity, 40% (n=12) had medium disease activity and 23% (n=8) had high disease activity. Serum myostatin was not associated with disease activity (p=0.32), patient functionality (p=0.08) or the inflammatory burden attributed to active disease (p=0.67 for ESR and p=0.83 for CRP). Seropositive disease did not correlate with serum myostatin levels (p=0.08).

**Conclusion:** In post-menopausal women with rheumatoid arthritis, serum myostatin levels are independent of disease activity, patient functionality, inflammatory burden, RF or ACPA seropositivity. Except for inflammation per se, other disease parameters associated with RA influence the regulation of myostatin.