Keywords: Osteoporosis, Comorbidities, Rheumatoid arthritis

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Background: Osteoporosis is a major co-morbidity to screen for in patients with RA. Inflammation, low activity level, and treatments, particularly glucocorticoids, increase the risk of osteoporosis in RA patients and expose them to a high fracture risk. Few studies examined glucocorticoid-induced osteoporosis in patients with RA, especially in Africa.

Objectives: Our study aimed to compare the densitometric profile of RA patients receiving glucocorticoids with that of patients not receiving glucocorticoids, and to assess the fracture risk by the FRAX.

Methods: We conducted a retrospective observational study including patients with RA according to the ACR EULAR criteria in the rheumatology department of Kassab Institute of orthopaedics. General data, demographics, inflammation markers (sedimentation rate (SR) and C reactive protein (CRP)), and disease activity (DAS28 (CRP)) were collected. We compared the parameters of bone mineral density (BMD) and FRAX score for two groups: G1 patients who received glucocorticoids and G2 patients who did not.

Results: A total of 207 patients with RA (169 women and 38 men) were included. The mean age was 57±12.2 years [29-86]. The mean duration of disease progression was 7.1±7 years [0-41]. Sixty percent of RA patients had positive RF and/or ACPA. Obesity was noted in 34% of cases. The mean SR and CRP were 476±27nm, and 21.5±28mg/l, respectively. The mean DAS28 (CRP) was 6.23±4.49. Seventy percent of the patients (n=144) were using systemic corticosteroid therapy with a mean dose of 6.26mg±4.5 [0-15] prednisone equivalent. Forty-two percent of the patients had osteoporosis (T scores < -2.5 DS), 37% had osteopenia (-2.5 DS < T scores < -1 DS), and 18% had normal BMD (T score > -1 DS). The Table 1 summarizes BMD parameters and Frax score in the two groups.

Conclusion: Patients receiving glucocorticoids had a lower bone density, T-score, and a higher fracture risk. Osteoporosis and the high incidence of osteoporotic fractures are dramatic consequences of glucocorticoid therapy in RA patients, leading to marked impairment of their quality of life.

Table 1: Comparison of the BMD parameters and Frax score in the two groups

<table>
<thead>
<tr>
<th>Fracture type</th>
<th>BMD</th>
<th>Vertebral site</th>
<th>T-score</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>0.91±0.19</td>
<td>-2.11± -1.51</td>
<td>1.022</td>
<td>0.008</td>
</tr>
<tr>
<td>G2</td>
<td>1.09±0.19</td>
<td>-2.53± -1.51</td>
<td>1.022</td>
<td>0.002</td>
</tr>
</tbody>
</table>

References: NIl.

Acknowledgements: None Declared.

Disclosure of Interests: None Declared.


Keywords: Osteoporosis, Imaging

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Background: Osteoporosis is one of the main public health problems, leading to the appearance of fragility fractures. Within these, there are vertebral fractures, which in their vast majority have an asymptomatic course, which is why they are presented as incidental findings in imaging studies.

Objectives: To estimate the prevalence of insufficiency fractures in the thoracic vertebrae in patients hospitalized for any cause in a Hospital in Bogotá (Colombia).
Objectives: The aim of this research is to evaluate association between effect of Rmab on BMD and BTMs in patients with PMO.

Methods: Between March 2019 and August 2021, 34 patients with PMO, who were naïve to treatment of osteoporosis were included. The correlation between baseline characteristics, changes (Δ) in BMDs in lumbar (L) and total hip (TH) at 12 months (ΔM), and absolute values of P1NP and TRACP-5b and %P1NP and %TRACP-5b at 1, 3, 6M was calculated, respectively. Multiple regression analysis was performed on the factors that showed significant correlations to L- and TH-BMD, respectively.

Results: The mean age was 72.5 years old, mean BMI was 20.6 kg/m², mean vertebral fractures were 2.1, mean L- and TH-BMD were 0.762 g/cm² and 0.589 g/cm², and mean P1NP and TRACP-5b were 107.0 μL/L, and 640.3 mU/dL. %L- and %TH-BMD at 12M were 18.1% and 9.1%. %P1NP at 3M was positively correlated with %L-BMD at 12M, while %TRACP-5b at 1 and 6M and TRACP-5b at each time point showed no significant correlation with %L-BMD at 12M. Multiple regression analysis confirmed that a great increase in P1NP at 3M was associated with a great increase in L-BMD at 12M. No correlation between either P1NP or TRACP-5b at each time point and %TH-BMD at 12M was observed.

Conclusion: We showed that a great increase in P1NP at 3M was a predictive factor of a great increase in L-BMD at 12M in patients with PMO treated with Rmab. On the other hand, there was no association between an increase in TH-BMD and BTMs including P1NP and TRACP-5b.

REFERENCES:

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

DOI: 10.1136/annrheumdis-2023-eular.5854

AB1226

CLINICAL SIGNIFICANCE OF A PATIENT COMPLIANCE IN PREVENTION OF SECONDARY FRACTURES

Keywords: Osteoporosis

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Objectives: to evaluate the effect of compliance in patients with osteoporosis on the incidence of new fragility fractures.

Methods: The study was performed in two stages. At the 1st stage, a retrospective analysis of outpatient records for the period from December 2019 to December 2021 was completed in the Volgograd Center of Osteoporosis. During Phase II of the study, in December 2022, researchers conducted a telephone survey to identify new fractures.

Results: The analysis included outpatient records of 2236 patients aged 40 to 99 years with DXA scan. (1897 women and 339 men). 715 out of 2236 patients (31.98% of all included in the study) were found to have an abnormal DXA, but lost follow up, among 715 patients from the control group, 509 (71%) patients were diagnosed with osteoporosis, 115 patients had a history of fragility fractures. But these patients refused to attend the school for patients with osteoporosis and offered treatment. 158 patients in this group (26.51%) reported new low-traumatic fractures on a telephone survey. The remaining 1521 patients out of 2236 (68.02% of all included in the study) were followed up and treated in our Osteoporosis Center. Of these, 1262 patients (82.97%) were diagnosed with osteoporosis and treated with anti-resorptive therapy [2], 784 out of 1262 patients (62.12%) were compliant with physician's recommendation, these patients constituted the II group of the study (highly compliant patients). Among these patients, only 11 new low-traumatic fractures (1.4%) were registered. Group III of the study (low compliance patients) consisted of 478 patients (37.88%) with a low physician's compliance.[3]. In this group, 42 new fragility fractures (8.79%) were identified.

Conclusion: 26.51% fragility fractures were registered in patients who refused monitoring and treatment. In the group of low compliance patients, 8.79% of new fractures were detected. While in the group of highly compliant patients, only 1.4% of new fractures were registered.

REFERENCES:

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

DOI: 10.1136/annrheumdis-2023-eular.5857

AB1227

MINDFULNESS OF THE RISK OF FRACTURE IN OSTEOPOROSIS AND THERAPEUTIC ADHERENCE

Keywords: Patient reported outcomes, Osteoporosis, Outcome measures

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Background: Therapeutic adherence especially in chronic pathologies such as osteoporosis is of enormous importance, the foundation of which is based on close doctor-nurse-patient interaction, functional in informing the patient about the reasons for the proposed treatment and the possible side effects of a therapy that lasts for long periods of time.

Objectives: aim of this longitudinal study was to evaluate whether awareness of one’s own fracture risk calculated using the DeFRA algorithm could improve adherence and persistence in anti-fracture treatment in an Italian population affected by osteoporosis and possibly reduce the fracture risk itself.

Methods: during 2018-2019, 309 menopausal women with osteoporosis (mean age 75 years ± 4.8) were enrolled in the present longitudinal study. The fracture risk was calculated with Defra algorithm and all were prescribed oral anti-resorptive therapy for the first time (alendronate 70mg 1 tablet/week or risedronate 35mg 1 tablet/week). Two groups were therefore created: group A (154 subjects) represented by patients managed according to the Standard Clinical Practice and who were NOT given further information about their fracture risk and who were NOT given the risk card; group B (175 subjects) represented by patients who were provided with all the information regarding the risk of fracture according to the variables collected in the Defra algorithm and with whom physically given the fracture risk score (Figure 1). After 18 months the patients had a new DXA densitometric data examined, the DeFRA fracture risk was recalculated and a therapy adherence questionnaire, the OS-MMAS (Osteoporosis-Specific Morisky Medication Adherence Scale). Patients with an OS-MMAS score <6 were categorized as “low adherence” otherwise as “high adherence”.

Results: Mean age was not significantly different in the two groups: Group A 75±5 ± 4.7, Group B 74.7±4.7 (p=0.05). The mean Defra value at baseline was 26.7 and 26.8 in Group A and Group B, respectively (p=0.05), while at the control it was 27.4 and 25.6 (p=0.01). The mean OS-MMAS score was significantly lower in group A than in group B (4.95±2.75 vs 8.25±2.85, p<0.001) (Figure 2 and Figure 3). 38.5% of the subjects fell into the “low adherence” category with an OS-MMAS score <6, 61.5% fell into the “high adherence” category with a score ≥6. We found a significant correlation between the belonging group and the punchual values of DeFRA at 18 months and those of variation of DeFRA between baseline and 18 months (correlation between belonging to group B and DeFRA at 18 months -2.74, with the delta values of DeFRA at 18 months -2.72 respectively, p<0.01). The OS-MMAS score was shown to be correlated to belonging to group B (coefficient Beta 0.5 <p<0.001) in a linear regression model including the other variables collected during the DeFRA algorithm and all were prescribed oral anti-resorptive therapy for the first time (alendronate 70mg 1 tablet/week or risedronate 35mg 1 tablet/week). Two groups were therefore created: group A (154 subjects) represented by patients managed according to the Standard Clinical Practice and who were NOT given further information about their fracture risk and who were NOT given the risk card; group B (175 subjects) represented by patients who were provided with all the information regarding the risk of fracture according to the variables collected in the Defra algorithm and with whom physically given the fracture risk score (Figure 1). After 18 months the patients had a new DXA densitometric data examined, the DeFRA fracture risk was recalculated and a therapy adherence questionnaire, the OS-MMAS (Osteoporosis-Specific Morisky Medication Adherence Scale). Patients with an OS-MMAS score <6 were categorized as “low adherence” otherwise as “high adherence”.

Conclusion: The data collected in our study, although preliminary and with obviuous limitations related to the smallness of the sample analysed, suggest that a greater awareness on the part of the patient of his or her risk of fracture (in the specific case providing detailed information about the result of the DeFRA algorithm provided during the baseline evaluation), may be associated with a greater long-term adherence to the suggested therapy and above all with a reduction in the risk of fracture over time, as evidenced by a reduction in the risk of DeFRA fracture at the 18-month follow-up. References: none.

Acknowledgements: NIL.

Disclosure of Interests: None Declared.

DOI: 10.1136/annrheumdis-2023-eular.5934