time T0, previous to the first AI therapy, and after 12 months (time T1). REMS scan only was repeated also at 18 months (T2), since a 6-month interval between two consecutive scans is not recommended for DXA. The bone mineral density (BMD) was measured with both techniques.

Results: Overall, 254 ER+ BC patients were enrolled (127 per group). The effect of denosumab on BMD is reported in Table. The BMD values obtained by DXA and REMS were not significantly different at T0 and T1, whereas the difference between Group A and B at T1 was statistically significant ($p < 0.001$) both for REMS and DXA. At T2, REMS confirmed the increasing trend of BMD for Group A and the decreasing one for Group B, and the difference between groups was statistically significant ($p < 0.001$). For each time point and each group, there were not statistically significant differences between DXA and REMS.

Conclusion: Several studies have shown the effect of denosumab on BMD over a period not less than 2 years from the start of treatment. This study showed the feasibility of short-term follow-up using REMS lumbar spine scans at 6-month time steps.

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Table 1. BMD values, expressed as g/cm², measured by DXA and REMS for Group A (patients receiving AIs only) and Group B (patients receiving AIs and denosumab) at baseline (T0), 12 months (T1) and 18 months (T2) from the start of therapy. Results are presented as median values with 25th and 75th percentiles. P-values are obtained with a Mann-Whitney test.

Scan time	DXA			REMS		
	Group A	Group B	p	Group A	Group B	p
T0	0.840 (0.719-0.959)	0.867 (0.723-0.958)	0.99	0.833 (0.708-0.949)	0.855 (0.714-0.973)	0.77
T1	0.823 (0.702-0.944)	0.889 (0.749-0.990)	0.003	0.819 (0.691-0.927)	0.887 (0.740-1.018)	<0.001
T2	-	-	-	0.801 (0.679-0.909)	0.899 (0.754-1.020)	<0.001

Note: The authors D. Ciardo, M. Ciccarese, F. Conversano, M. Di Paola, R. Forcignanò, A. Girmaldi, F.A. Lombardi, M. Muratore and P. Pisani are listed in alphabetical order

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.3806

SAT0462 ASSESSMENT OF BONE MINERAL DENSITY IN INFLAMMATORY BOWEL DISEASE

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Background: Inflammatory bowel disease (IBD), including ulcerative colitis (UC) and Crohn's disease (CD), is considered as a risk factor of low bone mineral density (BMD). In fact, the prevalence of osteoporosis ranges from 17% to 41% in IBD patients. The possible contributing factors may include malabsorption, glucocorticoid treatment and coexisting comorbidities

Objectives: The purpose of our work was to determine the frequency and the determinants of osteoporosis in patients with IBD and to assess whether there is a difference in BMD status between UC and CD.

Methods: This is a retrospective study, over a period of 5 years (from January 2014 to December 2018) and including patients followed for IBD who had a measurement of BMD by DEXA. Clinical, anthropometric and densitometric data (BMD at the femoral and vertebral site) were recorded. The WHO criteria for the definition of osteoporosis and osteopenia were applied.

Results: One hundred and five patients were collected; among them 45 were men and 60 were women. The average age was 45.89 years old. The average body mass index (BMI) was 25.81 kg/m² [16.44-44.15]. CD and UC were diagnosed in respectively 57.1% and 42.9%. A personal history of fragility fracture was noted in 4.8%. Hypothyroidism was associated in one case. Early menopause was recorded in 7.6%. 46.8% patients were treated with corticosteroids. The mean BMD at the vertebral site was 1.023 g/cm³ [0.569-1.489 g/cm³]. Mean BMD at the femoral site was 0.920 g/cm³ [0.553-1.286 g/cm³]. The mean T-score at the femoral site and the vertebral site were -1.04 SD and -1.27 SD, respectively. Osteoporosis was found in 25.7% and osteopenia in 37.1%. Osteoporosis among CD and UC patients was found in respectively 63% and 37%. The age of the osteoporotic patients was significantly higher compared to those who were not osteoporotic (52.23 vs 43.67 years, $p = 0.01$).

We found a significantly higher percentage of osteoporosis among men compared to women (35.6% vs 18.3%, $p = 0.046$). The BMI was significantly lower in the osteoporotic patients (23.87 vs 26.48 kg/m², $p = 0.035$) and we found a significant correlation between BMI and BMD at the femoral site ($p = 0.01$). No increase in the frequency of osteoporosis was noted in patients treated with corticosteroids (27.9% vs 21.6%, $p = 0.479$). Comparing the UC and CD patients, no difference was found in baseline characteristics, use of steroids or history of fracture. No statistically significant difference was found between UC and CD patients for osteoporosis ($p = 0.478$), BMD at the femoral site ($p = 0.529$) and at the vertebral site ($p = 0.568$).

Conclusion: Osteoporosis was found in 25.7% of IBD patients without any difference between CD and UC. This decline does not seem to be related to the treatment with corticosteroids but rather to the disease itself. Hence the interest of an early screening of this silent disease.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.6007

SAT0463 SEVERE OSTEOPOROSIS IN COLOMBIAN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Osteoporosis predominantly affects post-menopausal women. There is an important percentage of the population that have additional risk factors that decrease bone mineral density. Patients with Systemic Lupus Erythematosus (SLE) have an increased risk for osteoporosis due to corticosteroid use and chronic inflammation. This population could have a higher prevalence of osteoporosis when compared to post-menopausal women of equal or older age. There is a paucity of information regarding bone mineral density and SLE in Latin America.

Objectives: To describe the prevalence and incidence of osteoporosis and osteoporotic fractures in a Colombian population with Systemic Lupus Erythematosus

Methods: We collected 464 clinical records of patients who met either the American College of Rheumatology 1997 or Systemic Lupus International Collaborating Clinics (SLICC) 2012 classification criteria for systemic lupus erythematosus between January 2015 and June 2019. The clinical and immunoserological characteristics, and damage accrual were monitored for one year. The diagnosis of osteoporosis was confirmed with densitometry by energy x-ray absorptiometry (DXA) and the presence of fragility fractures according to the rheumatologist's report in the clinical history. The description of proportions and incidence rate of osteoporosis and fragility fracture is performed.

Results: The mean age was 45 years, 96.5% were women and the mean disease duration was 12 years. Others clinical characteristics in table 1. The prevalence of osteoporosis was 13.8% with an incidence of 1.1 fractures / 100 person-months in the general population with SLE. In postmenopausal women, over 50 years the prevalence of osteoporosis was 28.4% with an incidence of 0.8 fractures / 100 months person. In the densitometric characteristics, the mean bone mineral density was 0.772 gr / cm², T-score spine -2.9 and T-score femoral -2.6. SLEDAI mean 1.5 (SD 2.92) and SLICC mean 1.

Table 1. clinical characteristics

	n	%
Active Smoking	83	17.9
Premature gonadal failure	8	1.7
Lupic Nephritis	178	38.4
Proteinuria >2.5grams/24hours	34	7.3
End Stage Renal Disease	16	3.4
Anti-dsDNA	146	31.4
Anti-Sm	110	23.7
Anti-Ro	138	29.7
Prednisone Cumulative Dose	2.8gr	
Antimalarial	57	12

Conclusion: Low bone mineral density and severe osteoporosis are prevalent in our cohort with SLE. We have found a fracture rate of 1080 per 100.000 people, which is well over what has been reported in the general population (53-443 per 100.000 people in women). Osteoporotic fractures are part of damage accrual

and thus have an association with morbidity and mortality. Data regarding osteoporotic fractures are necessary in order to develop guidance and health policy in the region. SLE is an important risk factor for severe osteoporosis and must be kept in mind when developing guidance and health policy

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Disclosure of Interests: Juan camilo Diaz-Coronado: None declared, Sebastian Herrera Speakers bureau: academic conference, Deicy Hernandez-Parra: None declared, Laura Betancur-Vasquez: None declared, Daniel Gonzalez-Hurtado: None declared, Juanita Gonzalez-Arango: None declared, laura Uribe-Arango: None declared, Maria Fernanda Saavedra Chacón: None declared, Jorge Lacouture-Fierro: None declared, Sebastian Guerra-Zarama: None declared, Santiago Monsalve: None declared, Jose David Serna Giraldo: None declared, Juan david Serna: None declared, Julian Barbosa: None declared, Ricardo Pineda Tamayo: None declared

DOI: 10.1136/annrheumdis-2020-eular.6582

SAT0464

MULTIPLE REBOUND-ASSOCIATED VERTEBRAL FRACTURES AFTER DENOSUMAB DISCONTINUATION IN RHEUMATOLOGY CLINIC

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Background: Denosumab, a monoclonal antibody against RANKL, is an effective treatment for osteoporosis. Discontinuation of denosumab has been shown to lead in multiple vertebral fractures in some patients due to a severe acceleration of bone resorption (rebound-associated vertebral fractures-RAVFs). Limited data published during the last 2 years highlighted this issue.

Objectives: The aim of this case series is to describe features of the denosumab-associated RAVFs and the characteristics of these patients.

Methods: Patients from our outpatient rheumatology clinic who were diagnosed with recent vertebral fractures after denosumab discontinuation from January 2019 to December 2019 were included. Diagnosis was based on x-ray and/or magnetic resonance imaging (MRI) of thoracic (T) or lumbar (L) spine. All cases were the result of reduced compliance of the patients to the treatment regimen. A baseline x-ray examination was available in all patients included and was compared in order to exclude prevalent osteoporotic fractures. Demographic and clinical parameters were recorded.

Results: Nine patients (8 females) with a mean±SD age of 71.3±11.9 years were included (Table 1). A total of 32 fractures occurred, affecting median 4 (range 1-6) vertebrae (Figure 1). The mean±SD duration of denosumab treatment prior to discontinuation was 54.0±30.1 months, while the mean±SD time that RAVFs occurred after the last denosumab injection was 8.8±2.4 (range 7-12) months. The most commonly affected vertebra was L3 (Table1). Most patients (66.7%) did not have any prevalent osteoporotic fracture. Four patients (44.4%) were receiving drugs that affected bone metabolism (mainly corticosteroids and aromatase inhibitors). Only 33.3% of the patients had a history of previous treatment with bisphosphonates.

Table 1. Characteristics of RAVFs and patients affected. L: Lumbar, T: Thoracic, SD: Standard Deviation

Females (%)	88.9%
Age (years) (mean±SD)	71.3±11.9
Affected vertebrae (median, range)	4, 1-6
Treatment duration (mean±SD) (months)	54.0±30.1
Time after last injection (mean±SD) (months)	8.8±2.4
Vertebral fracture site	13
T10 T11 T12	2
L1	5
L2	5
L3	8
L4	5
L5	5
Patients with prevalent osteoporotic fractures (%)	33.3
Patients receiving drugs affecting bone metabolism (%)	44.4
Patients with previous treatment with bisphosphonates (%)	33.3

Figure 1. Multiple vertebral fractures (yellow arrows - T11, T12, L2-L5) in a patient 7.5 months after the last denosumab injection. T: thoracic, L: Lumbar

Conclusion: Denosumab-associated RAVFs usually occur within 7-12 months after the last denosumab injection and affect multiple vertebrae. Most cases are associated with long-term (>2 years) denosumab administration without previous treatment with bisphosphonates. Rheumatologists should be alert of this complication since the reported compliance in patients under denosumab treatment is only 46% (1) and the expected incidence of RAVFs after denosumab discontinuation has been reported to be 10% (2).

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.660

SAT0465

FRACURE RISK ASSESSMENT BY FRAX IN A SYSTEMIC LUPUS ERYTHEMATOSUS PORTUGUESE COHORT

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Background: Osteoporosis is commonly seen in patients with Systemic Lupus Erythematosus (SLE), even in pre-menopausal patients. The etiology is multifactorial and chronic glucocorticoid therapy seems to play a central role.