Patients underwent DXA and REMS scans at the lumbar spine, according to the procedures described in Di Paola et al. [1], including an *a-posteriori* quality check of the examinations in order to guarantee the maximum reliability of the diagnostic outputs.

Three groups of patients were considered according to BMI: underweight (BMI<18.5 kg/m²), normal weight (BMI≥18.5 kg/m² and <25 kg/m²), and overweight/obese (BMI≥25 kg/m²). DXA and REMS BMD values were also stratified in 3 diagnostic categories: osteoporotic, osteopenic, or healthy.

The degree of correlation between DXA and REMS BMD values was quantified by calculating Pearson's correlation coefficient (*r*). The diagnostic concordance between REMS and DXA was assessed by Cohen's *K* considering the 3 diagnostic categories. REMS's sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) for discriminating patients with and without osteoporosis were also calculated using DXA outcomes as reference. The same statistics were calculated accepting a 0.3 T-score tolerance on T-score values of borderline cases [1].

Results: Overall, 4282 patients were enrolled and, after the quality check, 3501 couples of scans were included in the analyses. Of these patients, 122 (3.5%) were underweight, 1964 (56.1%) were normal weight, and 1415 (40.4%) were overweight. The results of the diagnostic performance in patients after BMI stratification are reported in Table 1.

Conclusion: We observed an excellent correlation between REMS-based diagnosis with respect to the osteoporosis diagnosis performed by DXA in patients from each BMI category. These results indicate that lumbar spine REMS analysis is a suitable and accurate diagnostic tool for patients with different BMI.

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Table 1. Diagnostic performance of REMS with respect to DXA considered as reference for patients of different body size.

BMI categories	<i>r</i>	No tolerance					0.3 T-score tolerance				
		Sens.	Spec.	PPV	NPV	<i>K</i>	Sens.	Spec.	PPV	NPV	<i>K</i>
Underweight	0.946	97.5	91.5	86.8	98.4	0.89	98.2	93.2	89.2	99.3	0.91
Normal weight	0.946	92.6	94.4	87.0	96.9	0.85	97.5	96.7	92.3	99.0	0.93
Overweight	0.930	86.7	95.8	84.8	96.4	0.82	96.3	97.8	92.1	99.0	0.93

Abbreviations: BMI = body mass index; *r* = Pearson correlation coefficient; Sens. = sensitivity; Spec. = specificity; PPV = positive predictive value; NPV = negative predictive value; *K* = Cohen's *K*. The authors BC, ED, ADP, ML, MM, XN, DOC are equal contributors listed in alphabetical order.

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POS1112 COMPARISON OF TWO APPROACHES IN FRACTURES RISK ASSESSMENT IN WOMEN WITH RHEUMATOID ARTHRITIS AND GLUCOCORTICOID USE

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Background: Nowadays, FRAX is the most useful tool for osteoporotic fracture risk assessment that is included in many guidelines. Rheumatoid arthritis (RA) and glucocorticoid (GC) use are two crucial factors for osteoporotic fractures included in FRAX algorithm. According to the last ACR guidelines for the treatment of GC-induced osteoporosis [1], it was recommended to divide the patients into three groups of fracture risk (high, medium and low) that have a great impact on treatment decision. Recently, we received own Ukrainian thresholds [2] for the national version of FRAX that are age-dependent and now widely used in clinical practice.

Objectives: Our study was aimed to compare two approaches (ACR-2017 and Ukrainian (2019) recommendations) in fracture risk assessment in women with RA and GC use.

Methods: We examined 195 females with RA aged 40-89 years old who took GC (at dose ≥5 mg/d for ≥3 months) due to RA. The 10-year probabilities of major osteoporotic (MOFs) and hip fractures (HFs) were calculated with and without bone mineral density (BMD) using the Ukrainian FRAX model [3]. The DXA was used to measure the lumbar spine, femoral neck and total body BMDs; T and Z scores were calculated (DISCOVERY Wi, Hologic, Inc., USA).

Results: FRAX indexes for MOFs and HFs without BMD in patients with RA and GC were (Me [25-75Q]) 12.0 [8.1-18.0] and 4.2 [1.7-7.2] %. The correspondent FRAX indexes with BMD were 13.5 [8.5-20.0] and 5.1 [1.8-8.7] %.

50 % of examined women had previous fractures and 20 % had previous vertebral fractures. BMD of the femoral neck consisted of 0.62±0.13 and L1-L4 BMD was 0.85±0.15 g/cm². 89 % of females had low BMD at the lumbar spine and / or femoral neck (49 % osteoporosis and 40 % osteopenia).

61 % of women required antioosteoporotic treatment according to ACR-2017 guideline (17.4 % of them a had high risk of MOF and 43.1 % moderate one) without BMD measurement and 64 % of subjects after DXA scan.

According to Ukrainian national guideline, 57 % of patients required antioosteoporotic treatment without BMD measurement and 42 % – after additional DXA examination. After BMD measurement in subjects who required the DXA scan, 78.2 % of females with RA and GC use required antioosteoporotic treatment (additionally to calcium and vitamin D, lifestyle modifications).

Conclusion: Approximately 60 % of subjects with RA and GC use required antioosteoporotic treatment without additional DXA measurement according to correspondent FRAX indexes from both guidelines. The proportion of women requiring treatment after DXA scan is slightly higher according to Ukrainian recommendations. It proves that both of them can be used effectively in daily clinical practice for fracture risk assessment in females with RA.

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POS1113 ANTIRESORPTIVE THERAPY AFTER TERIPARATIDE DISCONTINUATION – WHEN IS THE BEST TIME TO STARTING IT?

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Background: Treatment with teriparatide (TPTD) is associated with reduction of fracture risk in patients with severe osteoporosis. This drug can only be used for up to 2 years. After that a treatment course with antiresorptives should be considered, in order to prevent the rebound of bone turnover observed after TPTD discontinuation. In this regard, interest in sequential osteoporosis therapy has grown in recent years but the ideal timing for starting another treatment after TPTD is not well established.

Objectives: The aim of this study is to assess if the timing of onset of antiresorptive therapy after TPTD discontinuation has implications in total hip bone mineral density (BMD) and in fracture risk.

Methods: We performed a retrospective cohort study that included patients with severe osteoporosis treated with TPTD 20mcg/day for 24 months and followed for at least 2 more years in the rheumatology department of a tertiary university hospital. For analysis, demographic and clinical data and results of dual-energy X-ray absorptiometry (DXA) after cessation of teriparatide were used. For comparison between groups Mann-Whitney U test was used.

Results: Fifty-five patients with osteoporosis, with a median age of 68 (32-85) years, were included. Forty-nine patients were female (89.1%). Nineteen patients (34.5%) had primary osteoporosis and 36 (65.5%) glucocorticoid-induced osteoporosis. The median time for initiating antiresorptive treatment was 7 (0-35) months after cessation of TPTD. Forty-three patients (78.2%) started a bisphosphonate, 6 denosumab (10.9%) and 6 patients did not receive any other treatment. The most prescribed bisphosphonate was zoledronate (69.8%). All patients received calcium and vitamin D supplementation. After completion of TPTD regimen 8 patients experienced at least one fragility fracture (14.5%). At follow-up, 37 (67.3%) of patients underwent DXA on average 30.0±15.4 months after starting antiresorptive agents. The median total hip BMD in patients who started antiresorptive therapy in the first 12 months (inclusive) after cessation of TPTD regime was 0.738 (0.587-0.993) g/cm² and the median total hip BMD of patients who started therapy after one year of discontinuation of TPTD was 0.683 (0.390-0.813) g/cm². This difference is marginally significant (p=0.067). The median time in starting antiresorptive treatment is higher in patients with new fragility fractures after TPTD than in patients without new fractures however this difference was not statistically significant (10.0 [2-35] vs 6.0 [0-35] months; p=0.393, respectively).

Conclusion: Although this study is unable to show that anti-resorptive treatment should be started in the first year after discontinuation of TPTD, it is promising since the difference between the medians in the total hip BMD values obtained until one year and after one year are marginally significant. These results can be linked to the small sample size and highlight the need for further studies in this area.

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POS1114

INFECTION RISK AMONG RHEUMATIC PATIENTS RECEIVING DENOSUMAB THERAPY: SINGLE CENTRE EXPERIENCE

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Background: Osteoporosis (OS) is common in rheumatic diseases (RMD). OS fracture leads to morbidity and premature mortality. The treatment for OS is well established with good long term safety profile. Oral bisphosphonate (BIS) is recommended as initial treatment option for both postmenopausal and glucocorticoid induced OS. Denosumab (DSB), is the noninferior alternative option. Despite its efficacy, DSB was linked with elevated infection risk in non RMD. Yet, data in RMD is lacking.

Objectives: To determine the infection risk and associated factors in RMD patients receiving DSB.

Methods: This is retrospective cohort study. Data was extracted from medical database (between Jan 2010 & Dec 2018) at Selayang Hospital, Malaysia. Descriptive statistical analysis, logistic regression (LR) and cox (proportional hazard) regression [CPHR] were the analysis methods.

Results: 50 cases were analysed. 96% were female. The median age was 72.5 ± 12.7 years. The primary rheumatological disorders were rheumatoid arthritis (48%), OS (24%) and systemic lupus erythematosus (10%). 92% had ≥ 1 comorbidity including metabolic/cardiovascular diseases (74%), chronic lung diseases (CLD) (40%) and diabetes mellitus (DM) (22%). 54% had disease modifying anti rheumatic drug (DMARD) therapy; majority (59.2%) received single conventional synthetic DMARD. Only 7.4% received combination biologic DMARD therapy. 28% had received prednisolone therapy, with dose < 7.5mg OD in 78.6%.

The median age at DSB initiation was 71 ± 12.4 years. 38% had fracture history and 88% had received previous OS treatment.

In total, 13 infection episodes were recorded. The infection risk was 26% & incidence rate was 134 cases per 1000 person-years. 84.6% required hospitalisation and 38.5% were severe cases. The mortality rate was 23.1%. The mean DSB treatment duration to first infection was 15.46 ± 11.9 months.

Univariate LR showed infection risk and hospitalisation were higher with longer DSB treatment duration, OR 1.062 (95% CI: 1.010 - 1.117), p = 0.018 & OR 1.057 (95% CI: 1.003 - 1.114, p = 0.037), respectively. These risks were lower in absence of steroid use, OR 0.2 (95% CI: 0.051 - 0.784, p = 0.021) and OR 0.215 (95% CI: 0.052 - 0.889, p = 0.034), respectively. Additionally, infection risk was lower in absence of CLD, OR 0.188 (95% CI: 0.048 - 0.742, p = 0.017) and hospitalisation was lower without concomitant DM, OR 0.050 (95% CI: 0.050 - 0.950, p = 0.043). Yet, multivariate LR did not infer the above predictions, after adjustment made for age, gender, rheumatological diseases, comorbidity, DMARD therapy and steroid dosing. For severe infection and case fatality, no predictive factors were identified.

CPHR showed patients without steroid use had lower fatality risk, HR 0.077 (95% CI: 0.007 - 0.864, p = 0.038). With confounding factors (age, gender, previous infection and comorbidity), the observed difference was insignificant.

Conclusion: Risk of infection and hospitalisation could be higher in rheumatic patients receiving longer DSB treatment duration. Concomitant comorbidities (CLD and DM) might increase the risk of infection and/or hospitalisation.

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POS1115

DESCRIPTIVE STUDY OF THE PERCEPTIONS AND PREVENTIVE PRACTICES OF POSTMENOPAUSAL TUNISIAN WOMEN REGARDING OSTEOPOROSIS

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Background: Due to their serious consequences affecting quality of life, prevention of osteoporosis is considered a priority. Thus, identifying the level of knowledge is useful in developing effective interventions and in guiding public health programs to prevent osteoporosis.

Objectives: The aim of this study is to describe beliefs and practices of menopausal Tunisian women related to health and osteoporosis in order to develop effective and targeted interventions for the prevention of this disease.

Methods: A descriptive cross-sectional study was conducted among menopausal Tunisian women who consult the basic health center in the area of Sfax region in Tunisia. Data collection include socio-demographic characteristics, the "osteoporosis health belief scale" developed by Kim and his colleagues and the daily calcium intake which was calculated by a questionnaire developed by Patrice Fardellone.

Results: We have included 170 women. The mean age was 58.92 ± 9.07 years. Seventy-seven percent of women were housewives, 14.7% were active and 8.3% were retired. Seventy-five percent were married. Forty-two women (24.7%) were illiterate, sixty-three (37.1%) were at primary level and 33.5% were at secondary level. One hundred twelve women (65.3%) live in an urban environment, against 34.7% who belong to a rural environment.

The level of perception of osteoporosis was very altered in 22.9%, altered in 32.4% and moderately altered in 31.8% of women. Women's perceptions of the benefits of physical exercise and calcium intake were moderately altered in 42.4% and 51.2%, respectively. For obstacles to the practice of physical exercise, the level of perception was altered in 43.5% of women. Regarding the obstacles to calcium intake, the perceptions of our population were altered in 32.9% of cases.

The daily intakes of calcium vary from 215 to 1444 mg per day with an average of 620.20 ± 204.523 mg / day. Only eight women (4.7%) had sufficient daily intake.

Conclusion: Our study showed that all subscale of the "osteoporosis health belief scale" were altered. Promotion programs should aim at creating a supportive physical and social environment for the adoption of safer behaviors and especially education must be targeted.

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POS1116

ENHANCING OSTEOPOROSIS MANAGEMENT: THE CONTRIBUTION OF FRAX® AND VFA IN TUNISIAN WOMEN

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Background: The FRAX® is a tool proposed by the World Health Organization (WHO) to calculate 10-year fracture risk of hip fracture and major osteoporotic fractures. The utility of this tool is to help treatment decision when it is litigious. Previous low trauma fracture represent a factor in FRAX® calculation. However, asymptomatic osteoporotic vertebral fractures (VF) identified on X-rays or Vertebral Fracture Assessment (VFA) scans are rarely included. To the best of our knowledge, there was no previous evaluation of fracture risk in Tunisian women.