for fracture who would warrant further evaluation. Further work to implement and validate these findings in the EMR system would be necessary.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6572

FRI0573 OSTEOCYTES ARE INVOLVED IN THE PATHOGENESIS OF OSTEOPOROSIS IN CHRONIC CHOLESTASIS. EFFECTS OF BILIRUBIN AND BILE ACIDS ON OSTEOCYTIC CELL LINES

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Background: Mechanisms underlying osteoporosis in chronic cholestasis are complex and poorly understood. In this setting, osteoporosis mainly results from low bone formation, related to the effects of retained substances of cholestasis, such as bilirubin and bile acids. Thus, in "in vitro" studies, unconjugated bilirubin and serum from jaundiced patients decrease osteoblast viability, differentiation and mineralization. However, the influence of cholestasis on osteocytes, the most ubiquitous cells of the skeleton, is unknown.
Objectives: The aim of this study was to analyze the direct effects of increased molecules of cholestasis, such as bilirubin (Bil) and lithocholic acid (LCA), and the potential protective effect of ursodeoxycholic acid (UDCA) on the osteocytes.
Methods: MLO-Y4 and MLO-A5 osteocyte cell lines treated at different times and concentrations with Bil, LCA and UDCA were used to determine: 1) Viability: WST colorimetric method; 2) Differentiation: quantification of alkaline phosphatase (AP) activity; 3) Mineralization: Alizarin red staining quantification; and 4) Apoptosis: quantification of DNA fragmentation and caspase-3 activity.
Results: LCA (100μM) and Bil (50μM) significantly decreased viability in MLO-Y4 from 72 hours (10%) and 48 hours (11%), respectively ($p \leq 0.01$), and Bil decreased viability (49%) in MLO-A5 from 96 hours ($p < 0.01$). Bil decreased AP activity by 47% after 96 hours, under conditions of differentiation in MLO-Y4 ($p \leq 0.01$). There were no effects on AP activity in MLO-A5. After 14 days, Bil was associated with a significant mineralization decrease, as high as 87%, in MLO-A5 ($p \leq 0.02$). Moreover, Bil and LCA increased apoptosis in MLO-Y4, determined by DNA fragmentation (242% and 119%, respectively) and caspase-3 activity (190% and 251%, respectively) ($p \leq 0.01$) after 24 hours. In contrast, UDCA (100 μM) increased viability after 72 hours (11%) and decreased the deleterious effects of LCA or Bil ($p \leq 0.02$). UDCA increased AP activity in MLO-Y4 after 72 hours under growth conditions ($p = 0.018$), and after 24 hours under differentiation conditions ($p \leq 0.01$).
Conclusions: Bilirubin and lithocholic acid have damaging effects on osteocytic cells decreasing viability, differentiation and mineralization, and increasing apoptosis, effects that are neutralized by the UDCA. These results indicate that substances retained in cholestasis impair osteocytic functions, and therefore may be involved in the pathogenesis of osteoporosis in cholestatic diseases.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.4711

FRI0574 QUALITY OF LIFE ASSESMENT IN POSTMENOPAUSAL OSTEOPOROSIS

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Objectives: To compair two questionaires:a specific one-Osteoporosis Quality of Life Questionnaire (OQLQ) and a general one-Short Form-36 (SF-36),in women with decreased mineral bone density (BMD) and vertebral fractures,and to estimate which one is more useful for everyday work.
Methods: Cross-section study included 50 menopausal women with osteoporosis (OP), who were assessed with the general questionaire,and all known risk factors for osteoporosis were confirmed. Osteodensitometry scan (DXA) was performed on lumbar spine,and based both on T index value and BMD the subjects were divided in two groups:first grour (women with OP, n=25),second group (women with fractures of spinal vertebra due to OP,regardless of BMD, n=25, and with at least 4 months since the last fracture).The quality of life was assessed by two questionaires:a specific one OQLQ- consists of 30 questions divided into 5 areas,which are evaluated from 1 to 7 (the lower the score the more sever function damage and worse quality of life) and the general questionnaire SF-36-containing 36 questions divided into 8 areas (scores from 0 to 100, where the lower value is also a poorer quality of life).Questionnaires were converted to get two summarized scales,so as to obtain the total score for:physical (PCS) and mental functions (MCS).The two questionnaires were compared using appropriate statistical methods in SPSS.
Results: There was no significant differencev between groups regarding: mean age (first=63.3±6.0, second=64.9±7.8),mean age at the start of the menopause (first=46.8±5.3, second=48.2±4.2 years), mean duration of menopause (first=16.4±6.9, second=17.1±6.9 year),but there was statistically significant difference between the number of risk factors for OP (first=1.8±1.2, second=2.8±0.9, $p < 0.01$).Statistically significant between group difference ($p < 0.01$) in mean BMD and T score (first-BMD 0.807±0.057gr/cm^2,T scor -3.12±0.49SD, second- BMD 0.931±0.172 gr/cm^2,T score -2.09±1.45SD).The following DXA values were measured in the second group:8 patients-normal,6-osteopenia,11-osteoporosis,with average number of fractures 2.6±0.8.There was statistically significant between group difference in values of PCS OQLQ questionnaire (first=2.99, 42.7%, second=2.30, 32.8%, $p < 0.01$),as well as in values of MCS OQLQ (first=3.18, 45.4%, second=2.17, 31.0%, $p < 0.01$).Statistically significant difference was also observed regarding values of PCS SF-36 (first=42.2, 42.2%, second=32.5, 32.5%, $p < 0.01$),while regarding MCS SF-36 questionnaire there was no significant between group difference (first=40.2, 40.2%, second=33.3, 33.3%, $p > 0.05$).Mutual comparison of two questionnaires demonstrated correspondence and statistically significant decline in the quality of life in a group with fractures when it comes to PCS and MCS at OQLQ questionnaire and did not record between group difference in MCS SF-36 questionnaire.
Conclusions: It was demonstrated that the specific questionnaire provided more accurate information in all areas of quality of life,with general questionnaire failing to record between group differenc in the field of mental functions.Based on the proven value as an instrument of measurement,its simplicity,accuracy and ease of administration,OQLQ questionnaire is more appropriate for routine use in women with decreasing bone quality and fractures of vertebrae due to osteoporosis.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.3721

FRI0575 SAFETY OF DENOSUMAB IN A MONOCENTRIC COHORT OF KIDNEY TRANSPLANT RECIPIENTS

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Background: The safety of Denosumab, a fully human monoclonal antibody against RANKL, which was developed for treatment of osteoporosis and prevention of fractures, remains unclear in kidney transplanted patients.
Objectives: Our aim was to assess its clinical and biological tolerance in this specific population.
Methods: *Design:* Prospective observational monocentric cohort. *Inclusion criteria:* kidney transplant recipient who received at least one subcutaneous injections of 60 mg denosumab; age $\geq$18 years.
Safety assessment: the following variables were collected every 6 months: infection, reaction at the injection site, plasmatic parameters of renal function and mineral metabolism (estimated glomerular filtration rate, serum creatinine, calcium, 1–25 [OH] vitamin D, PTH).
Results: Patients were recruited from April 2014 to September 2015. All patients received immunosuppression therapy including prednisolone $\geq$5 mg/d. The main baseline characteristics of the 37 kidney transplant recipients were the following [mean]: male: 41%, age: 60.5 years, BMI: 24,1, transplantation duration: 7.1 years, osteopenic patients: 36%, osteoporosis patients: 64%, total lumbar spine T-score: -2.04 SD, total hip T-score: -2.7 SD, T-score femoral neck: 0.676 g/cm^2, serum creatinine: 132.8 mmol/L, calcium: 2.33 mmol/L, 1–25 [OH] vitamin D: 93.5 nmol/L, PTH 95: ng/l. All patients were prescribed vitamin D and calcium supplementation.
During the mean 12-month follow-up period, there were no unexpected adverse event [AE] or severe adverse event, no graft failure and no deaths. No patient experienced fracture. Only one patient presented an infectious AE with recurrent cutaneous abscess. Renal function remained stable with no difference in serum creatinine between baseline and 12 months for the majority of the kidney transplant recipients. However, 9 recipients experienced a decrease in renal function with a mean increased in serum creatinine of 32.5micromol/L between baseline and 12 months. Serum calcium was stable, no hypocalcaemia was observed. Among patients with normal baseline PTH, two presented hyperparathyroidism during the follow-up period. Among the 11 patients with baseline hyperparathyroidism, 7 had an increased PTH level between baseline and 12 months. None were initiated on cinacalcet.
Conclusions: Our results suggest that denosumab is safe in kidney transplant recipients. We did not observe an increase in the infection rates, nor hypocalcemia. However, several patients experienced a decrease in their renal function or an increased hyperparathyroidism.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6899

FRI0576 COMPARING TREATMENT INDICATION BY FRAX AND BMD ALONE IN RHEUMATIC PATIENTS ON LONG-TERM GLUCOCORTICOID IN HONG KONG

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Background: Bone mineral density (BMD) may underestimate fracture risk since most patients with fracture had osteopenia or normal BMD. The WHO Fracture Risk Assessment Tool (FRAX) incorporated BMD and clinical risk factors (CRF) to estimate the 10-year probability of major osteoporotic fractures (MOF) and hip fracture. FRAX has been adopted by various guidelines to assess the need for therapeutic intervention. Whether FRAX is superior to BMD in identifying high-risk patients in need of anti-osteoporotic treatment is worth exploring.