remodelling, its influence on bone stability and development of osteoporosis is not known.

Objectives: The objective of this project is the analysis of the role of miR-146a in bone metabolism.

Methods: Systemic bone, tibiae and femur, of wt and miR-146a deficient animals was assessed histologically and via μ CT analysis, over a period of 3 to 18 months of age. Serum cytokine levels were analysed by Elisa. mRNA expression levels in bone were analysed by qPCR. To induce osteoporosis, ovariectomy (OVX) induced bone loss was performed.

Results: When we analysed bone volume of long bones histologically as well as with μ CT analysis we detected significantly increased trabecular bone mass in miR-146a deficient compared to wt animals, starting at an age of 6 months. However, cortical thickness of systemic bones from miR-146a knock out animals was significantly reduced compared to control mice. Analysis of serum in aged miR-146a deficient animals displayed elevated activity of bone resorbing osteoclasts as amounts of CTX I in miR-146a^{-/-} mice were significantly increased compared to wt animals. Q-PCR analysis of important osteoclast as well as osteoblast marker genes in bones *ex vivo* displayed elevated expression of signature molecules of both cell types in aged miR-146a deficient mice, suggesting a regulatory role of miR-146a in both osteoclasts as well as osteoblasts. When we induced osteoporosis using the OVX disease model, histological analysis of long bones showed significant trabecular bone loss in ovariectomized wt mice. In contrast, we detected no trabecular bone loss in ovariectomized miR-146a knock out animals, suggesting that loss of miR-146a deficiency protects bone loss induced by oestrogen deficiency.

Conclusions: MiR-146a seems to control bone turnover and miR-146a deficient mice accrue bone over time. Moreover this miRNA has a negative influence on bone loss occurring during oestrogen loss induced osteoporosis. Therefore miR-146a could be possibly used as a therapeutic target in the treatment of osteoporosis.

Disclosure of Interest: None declared

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SATURDAY, 16 JUNE 2018

Rheumatoid arthritis – prognosis, predictors and outcome

SAT0073

ACPA AND RF AS PREDICTORS OF SUSTAINED CLINICAL REMISSION IN RHEUMATOID ARTHRITIS PATIENTS: RESULTS FROM THE ONTARIO BEST PRACTICES RESEARCH INITIATIVE (OBRI)

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Background: Positive anti-citrullinated protein antibody (ACPA) and rheumatoid factor (RF) are included among the 2010 ACR/EULAR classification criteria for rheumatoid arthritis (RA). Previous studies have shown that autoantibodies are positive predictors of response in RA patients treated with some biologics whereas other studies suggest worse prognosis if positive for ACPA and RF.

Objectives: The purpose of this study was to evaluate the interaction of RF and ACPA in predicting sustained clinical response in a large observational registry of RA patients followed in routine practice.

Methods: RA patients enrolled in the Ontario Best Practices Research Initiative (OBRI) registry, with active disease (≥ 1 swollen joint), available autoantibody information, and at least 1 follow-up assessment were included in the analysis. Sustained clinical remission was defined as CDAI ≤ 2.8 in at least 2 sequential visits separated by at least 3 and maximum of 12 months. Time to sustained remission was assessed by plotting cumulative incidence curves and multivariate cox regression.

Results: A total of 970 (30%) out of 3251 patients in the registry were included, of whom 262 (27%) were anti-CCP^{neg}/RF^{neg}, 60 (6.2%) anti-CCP^{pos}/RF^{neg}, 117 (12.1%) anti-CCP^{neg}/RF^{pos}, and 531 (54.7%) anti-CCP^{pos}/RF^{pos}. At baseline, significant differences were observed between groups in age ($p=0.02$), CDAI ($p=0.03$), tender joint count ($p=0.02$), and HAQ-DI ($p=0.002$), with anti-CCP^{pos}/RF^{pos} and anti-CCP^{pos}/RF^{neg} patients being youngest and having the lowest disease activity and disability. No differences were observed in terms of biologic use (20.2% of patients).

Sustained remission was 10% more likely if anti-CCP^{pos}, and was achieved by 43.5% of anti-CCP^{pos}/RF^{pos} patients, 43.3% of anti-CCP^{pos}/RF^{neg} patients, 31.6%

of anti-CCP^{neg}/RF^{pos} patients and 32.4% of anti-CCP^{neg}/RF^{neg} patients ($p=0.01$). Significant differences were observed in the time to achieving sustained clinical response from enrolment in the OBRI based on anti-CCP status ($p<0.001$), RF status ($p=0.06$), and both ($p=0.004$) (figure 1). ACPA^{pos}/RF^{pos} (median: 3.7 years; 95% CI: 3.0–4.3) and ACPA^{pos}/RF^{neg} (median: 3.4 years; 95% CI: 2.4–NE) patients achieved sustained remission earlier than ACPA^{neg}/RF^{neg} patients (median: 5.1 years; 95% CI: 3.7–6.2), respectively (figure 1).

Multivariate cox regression adjusting for baseline CDAI score, age and sex also showed differences between groups; statistically significance in anti-CCP^{pos}/RF^{pos} vs. anti-CCP^{neg}/RF^{neg} patients (HR [95% CI]: 1.30 [1.01–1.67]; $p=0.04$).

Abstract SAT0073 – Figure 1. Cumulative incidence of first sustained remission by ACPA/RF status

Conclusions: These results suggest that anti-CCP but not RF positivity may be associated with a higher chance of remission, possibly due to an improved treatment response.

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SAT0074

IDENTIFICATION OF A PROTEIN PANEL USEFUL FOR THE PREDICTION OF RESPONSE TO METHOTREXATE IN RHEUMATOID ARTHRITIS PATIENTS

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Background: The treatment of rheumatoid arthritis (RA) aims to control a patient's signs and symptoms, prevent joint damage, and maintain his/her quality of life. Among the best known disease-modifying antirheumatic drugs, Methotrexate (MTX) is one of the most effective and widely used medications. It is used as a general first-choice drug, although some patients will not respond to this treatment and it is not free from side effects.

Objectives: To identify circulating proteins that could be useful as predictors of the patient's response to MTX.