RA and DAS28-CRP (p= 0.0104), Fig. 2. No significant correlation was seen between sPD-L1, birth weight and preterm delivery. For sPD-1 we focused on 3rd trimester and postpartum, however, there was no difference between healthy controls and RA patients and no correlation with disease activity or pregnancy outcome.

Conclusion: In healthy pregnancy, we observed an increase of sPD-L1, which decreases after delivery. This supports the hypothesis, that PD-1 pathway may be involved in shaping the physiological fetal-maternal tolerance. In RA higher sPD-L1 values are measured already in non-pregnant patients compared to healthy controls and there is no physiological decrease post-partum. Intriguing, sPD-L1 correlates positively with RA disease activity, reflecting a possible functional antagonism towards the inhibitory function of membrane bound PD-L1 molecules. However, the detailed function of sPD-L1 need to be further delineated. Nevertheless, sPD-L1 may have the potential to serve as prognostic marker for flares in RA pregnancy. Regarding the rather rarely observed adverse pregnancy outcome, larger cohorts need to be investigated.

References:

Fig 1 sPD-L1 in pregnant healthy donors and RA patients compared with controls (non-pregnant healthy donors and RA patients). Control = non pregnant; 1TT = 1st trimester; 2TT = 2nd trimester; 3TT = 3rd trimester; pp = postpartum. * p < 0.05; ** p ≤ 0.01

Fig. 2. sPD-L1 correlates positively with DAS28-CRP in RA pregnancy and postpartum.

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AB0106 THE SERUM N-ACETYLGUCOSAMINE CONCENTRATIONS IN RHEUMATOID ARTHRITIS PATIENTS ARE ASSOCIATED WITH JOINT DESTRUCTION AND RELATED METABOLISM MORE THAN INFLAMMATORY CONDITION

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Background: In rheumatoid arthritis (RA) patients, synovitis causes severe articular cartilage damage. N-acetylgucosamine (NAc-Glc) is a component of glucosaminoglycans (GAG) such as hyaluronic acid (HA) and keratan sulfate (KS), heparan sulfate (HS). NAc-Glc concentration in plasma is thought to reflect the balance between biosynthesis and destruction of articular cartilage, however, few studies had examined the relationship between plasma NAc-Glc concentration and RA activity.

Objectives: NAc-Glc concentrations in RA patients were measured, and association with clinical indicators was assessed.

Methods: A cross-sectional study was carried out including 60 RA cases. Using N-acetylgucosamine-d3 as standard, the serum of subjects were deproteinized by protein precipitation method with acetonitrile, then concentration of NAc-Glc was measured with high-speed liquid chromatography mass spectrometer (LC-MS / MS). Clinical evaluation items: basic metabolism, presence or absence of exercise habit, Larsen score of knee and wrist joint, therapeutic agents (csDMARDs, biologics and PSL), DAS28, CRP, MMP-3, modified HAQ score (mHAQ). Statically analyzed by Spearman non parametric test.

Results: The age of 60 RA cases was 59.7±16.4 years, and the duration of the disease was 10.4±8.7 years. Biologics were used in 29 cases (TNF inhibitors in 16 cases, IL-6 inhibitors in 4 cases, Abacacetab in 9 cases), MTX in 32 cases, and prednisolone in 15 cases.

Plasma NAc-Glc concentration was 113±41 (ng/dl), DAS28CRP was 3.04±1.2, and mHAQ was 0.863±0.91. Plasma NAc-Glc concentration showed positive correlation with age (correlation coefficient 0.644), knee joint destruction (0.425), HAQ score (0.340), BUN (0.412), and RF (0.287). Plasma NAc-Glc concentrations also negatively correlated with eGFR (-0.597), basal metabolism (-0.313), and sex difference (-0.272). There was no correlation between plasma NAc-Glc concentration and body weight, BMI, DAS28, CRP, MMP-3, NTX, serum creatinine, hand joint disease, and transaminase.In this study, plasma NAc-Glc concentration had increased with age, and had a negative correlation with basal metabolism. Considering these results, it is unlikely that NAc-Glc is released into plasma as a metabolite of synthesis promotion. Further, since NAc-Glc had a negative correlation (-0.389) with MTX as a folic acid inhibitor, it was supposed to be affected by protein synthesis reduction. Because no correlation between NAc-Glc and inflammation or bone metabolism markers was observed, NAc-Glc may represent removal of GAG from the cell membrane (sheding).

In previous GAGs studies, in RA patients, HA, KS, CRP, DAS28, was very associated with arthritis, such as MMP-3. The concentration of NAc-Glc in plasma was more relevant to dysfunctions such as destruction and HAQ due to arthritis such as HAQ than inflammatory indicators such as DAS28, MMP-3 and CRP. It is appearing in the plasma by destruction by shedding, as an index to see the joint destruction, it was presumed to be a better indicator than the GAGs. It was also thought that there is a possibility that MTX affects cartilage substrate metabolism.

Conclusion: Serum NAc-Glc concentration in rheumatoid arthritis patients may represent cartilage metabolism and joint destruction.

References:

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AB0107 INVESTIGATION OF THE EFFECTS OF KYNURENIC ACID ANALOGS IN RHEUMATOID ARTHRITIS

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