AB0101

ASSOCIATION OF FETUIN-A SERUM LEVEL AND GLUCOCORTICOID INTAKE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Fetuin-A (FA) is a pluripotential glycoprotein, which plays an important role in bone turnover [1], inflammation, metabolic diseases [2] and etc. Several studies demonstrated association between FA serum level and rheumatoid arthritis (RA) severity and disease activity [3], however, there was made a suggestion that observed associations were due to glucocorticoids intake [4].

Objectives: To study the association of serum FA levels, glucocorticoids intake and RA activity.

Methods: 81 patients with RA verified by ACR/EULAR 2010 criteria were enrolled in our study. 43 patients were under glucocorticoid therapy with mean cumulative dose 7899±9029,4 mg (hereinafter MaSD) and 38 patients were not. DAS28 index was calculated to determine RA activity. FA serum concentrations were measured by ELISA. Correlations between serum FA levels and RA activity were assessed in each group. Statistical analysis was performed using software package “Statistica 10.0”.

Results: The mean level of serum FA was 760,72±112,56 µg/ml. There was a negative correlation between FA serum level and DAS28 index (r=-0,433; p<0,0001) when calculated among all patients. We observed positive correlation between FA serum level and cumulative dosage of glucocorticoids (r=0,297; p=0,008). At the same time FA serum level and DAS28 index were correlated negatively in patients who were under glucocorticoid therapy (r=-0,419; p<0,0001) and were not under (r=-0,556; p<0,0001).

Conclusion: Serum FA level correlates with RA disease activity and glucocorticoids intake. However, the association between FA serum level and RA disease activity was independent of glucocorticoids intake in our study.

References:

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AB0102

SPECIALIZED PRO-RESOLVING MEDIATOR RECEPTORS AS INFLAMMATORY RESOLUTION BIOMARKERS IN RHEUMATOID ARTHRITIS

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Background: The regulation of inflammation is a dynamic process involving several molecules and mediators. The Specialized Pro-resolving Mediators (SPMs), such as Resolvin (RvD and RvE), Protectins, Maresins and Lipoxin A4 (LXA4), are bioactive metabolites of omega-3 and omega-6 fatty acids which drive inflammatory resolution phase and promote tissue repair. ERV, ALX/FPR2 (LXA4), are bioactive metabolites of omega-3 and omega-6 fatty acids which drive inflammatory resolution phase and promote tissue repair. ERV, ALX/FPR2+ positive cells in ST-derived CD45+ cells (r=-0.42, p= 0.050 and r=-0.41, p= 0.046 respectively) cells. Evaluating the MFI levels of the SPM receptors along all RA stages (naive-to-treatment, resistant-to-treatment, sustained remission) compared with UPIA control group, interestingly ST-derived CD45+ cells of remission RA were depleted of ERV1 compared to naive-to-treatment RA (p=0.04), despite comparable ST inflammation. Furthermore, highest ERV1 expression was found in ST-derived CD45+CD3+ and CD45+CD19+ cells in naïve-to-treatment RA compared with UPIA patients (p=0.045 and p= 0.012 respectively). Moreover, the lowest BLT1 level was found in remission RA CD3+ cells compared with UPIA and naive-to-treatment RA patients (p=0.008 and p= 0.023 respectively).

Conclusion: SPM receptors expression seem to be tightly related to disease activity in the synovial tissue, suggesting an important involvement in the inflammatory process in RA patient.

References:

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AB0103

THE AMBIGUOUS ROLE OF TISSUE CYTOKINES IN THE PATHOGENESIS OF RHEUMATOID ARTHRITIS

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Background: Cytokines stimulate the inflammatory response in the synovial membrane with rheumatoid arthritis (RA), stimulate apoptosis of chondrocytes, activation of osteoclasts. The progression of comorbid diseases is also associated with the influence of cytokines. At the same time, anti-inflammatory cytokines are produced in various tissues. Their role in the pathogenesis of RA and its complications is ambiguous. Adiponectin (A) and Fetuin A (FA) are classified as negative acute phase proteins. Their concentrations decrease with an increase in the level of pro-inflammatory cytokines: TNF-α, IL-1 and IL-6. Molecules A and FA, regardless of various factors and from each other, have similar effects in relation to pro-inflammatory cytokines, lipid and carbohydrate metabolism.

Visfatin (V) and Nesfatin-1 (N-1) are pro-inflammatory adipokines. B is produced by cells of the mononuclear phagocytic system and connective tissue. N-1 is produced by the cells of the intermediate and medulla oblongata and by the cells of the gastric mucosa.

Objectives: To study the correlation of B, H-1, A and FA with the severity of inflammation in RA

Methods: 60 patients with RA and 30 healthy individuals were examined. The level of cytokines was determined by an indirect enzyme-linked immunosorbent assay using commercial test systems (Bio Vendor, cat No. RD195023100, Bio Vendor Human Fetuin-A, RaiBiotech, cat No. EIA-VIS-1, RaiBiotech, cat No. EIA-HIS-1), Assay using commercial test systems (Bio Vendor, cat No. RD195023100, Bio Vendor Human Fetuin-A, RaiBiotech, cat No. EIA-VIS-1, RaiBiotech, cat No. EIA-HIS-1). All patients underwent a full examination. Diagnosed with 2010 EULAR / ACR recommendations.

Results: A decreased level of A (less than 0.8 μg/ml) was detected in 15 patients (25%), F-A (less than 653.55 µg/ml) in 16 (27%), a high level of V (more than 39 ng/ml) in 15 (25%), N-1 (more than 3735 ng/ml) in 36 (60%), which is significantly more often than in healthy individuals. No significant difference in the levels of determined adipokines was found depending on the gender and age of patients.

Conclusion: The greatest correlation with extraarticular manifestations is with

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