AB0265 ASSOCIATION OF CUMULATIVE ANTI-CYCLIC CITRULLINATED PROTEIN ANTIBODIES WITH RADIOGRAPHIC PROGRESSION IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Antibody against cyclic citrullinated proteins (ACPA) is counted as one of the most important biomarkers in diagnosis, classification, and prognosis of rheumatoid arthritis (RA). The clinical implications of change in ACPA level over time remain undetermined.

Objectives: We examined the evolution of ACPA during disease course and assess predictive value of time-weighted cumulative ACPA titer on radiographic progression in patients with RA.

Methods: A group of 734 patients with RA was followed longitudinally over 2 years, with annual measurements of IgM rheumatoid factor (RF) and ACPA. Radiographs of the hands were scored with the modified Sharp score (SHS). Cumulative ACPA antibody titers were calculated using the trapezoidal rule.

Results: The patients with radiographic progression had a higher SHS at baseline; and smoking status, diabetes, RF positivity, and use of biologic DMARDs were independently associated with radiographic progression (all $P < 0.05$). As for ACPA, reversion happened more commonly in men and was associated with younger onset age and lower titer at baseline, but it had no direct relevance to radiographic outcome. In multivariable regression analysis, only high cumulative or baseline titer of ACPA had a predictive power for rapid radiographic progression (all $P < 0.05$), and cumulative ACPA titer was superior in terms of statistical significance (Cohen's d , 0.637 versus 0.583).

Conclusion: High cumulative ACPA titer was an independent predictor for accelerated radiographic progression, especially with initiation of joint damage. Serial measurement of ACPA titer can provide information about its dynamics over the clinical course and can facilitate an additional assessment of radiographic progression.

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AB0266 THREE NOVEL BIOMARKERS PREDICTING THE SHORT-TERM RESPONSE TO IFX + MTX + LEFTRIPLE THERAPY IN RA

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Background: For rheumatoid arthritis (RA), nearly one-third of patients still have poor response to biological agents. In addition, infliximab, methotrexate and leflunomide are the most widely used three drugs in the clinic, but there remains no unified and precise indicators capable to predict the clinical response to their combination therapy.

Objectives: The purpose of this experiment is to identify a protein biomarker panel for predicting the outcome of RA patients who have received a triple therapy combining of infliximab, methotrexate and leflunomide (IFX+MTX+LEF).

Methods: All incorporated RA patients with DAS28-CRP>5.1 accepted IFX+MTX+LEF therapy. At 14th week, they were divided into good responder (GR), moderate responder (MR), and non-responder (NR) in accordance with the EULAR response criteria. After removal of the 14 high-abundance proteins, serum samples from patients (4 GR and 4 NR) at baseline and 14th week, and 4 healthy subjects (HS) were screened for candidate biomarkers via isobaric tags for relative and absolute quantification (iTRAQ). After an in-depth technical feasibility analysis, Parallel Reaction Monitoring (PRM) was performed in 20 RA patients and 20 HS for further validation

Results: A total of 590 proteins were identified by iTRAQ, and 51 proteins of which showed significant differences between NR and GR (Figure 1). PRM showed that levels of catalase, epididymal secretory protein Li 282, and hemoglobin subunit δ of the GR+MR group at baseline was higher than that of the NR group (Figure 1), and they were involved in the process of oxidative stress.

Conclusion: The RA patients with higher pre-treatment levels of the three proteins responded better to IFX+MTX+LEF triple therapy at 14th week; Inhibitor of oxidative stress might be a new therapeutic target of RA in the future.

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Figure 1. Hierarchical cluster. Hierarchical cluster of proteins differentially expressed between good responders and non-responders with an FDR < 1% identified by MaxQuant from iTRAQ. Red, high expression; green, low expression. Two main clusters of proteins can be observed, one up-regulated (left) and other down-regulated (right) in the serum of patients. Abbreviation: GR, good responder; NR, non-responder; Red, high expression; Blue, low expression.

Figure 2. Expression levels of the three protein. Comparison of epididymal secretory protein Li 282, hemoglobin subunit delta and catalase at baseline from PRM among groups of GR+MR, NR and HS, ** $P < 0.05$.

Disclosure of Interests: None declared

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AB0267 ROLE OF FCGAMMA RECEPTORS IIA, IIIA, AND IIIB POLYMORPHISMS IN RHEUMATOID ARTHRITIS SEVERITY

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Background: Fc gamma receptors (FcγR) type IIA IIIA and IIIB play an important role in the recognition of immune complexes (ICs) by