SAT0670 REDUCING THE IMPACT OF THE PATIENT GLOBAL ON BOOLEAN REMISSION CRITERIA FOR RHEUMATOID ARTHRITIS

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Background: The patient global assessment (PtGA) is a core set variable to assess disease activity in rheumatoid arthritis (RA). It is strongly linked to patient-reported pain and has shown to be a limiting factor for reaching remission in patients with remittent joint inflammation and normal acute phase response, particularly when the ACR/EULAR Boolean criteria are used. In these, the PtGA may not be greater than 10 on a 0-100 scale to reach remission.
Objectives: To analyse the impact of higher cut-offs for or removal of the PtGA applied in the ACR/EULAR Boolean remission on the consistency with the SDAI remission definition, and with respect to long-term structural and functional outcomes.
Methods: We retrieved data from six clinical trials testing the efficacy of tumor-necrosis factor inhibitors vs MTX or placebo/MTX. Three trials depicted early RA: ASPIRE (infliximab), Go Before (golimumab), PREMIER (adalimumab); and three late RA: ATTRACT (infliximab), DE019 (adalimumab) and Go Forward (golimumab). We increased the cut-off of the PtGA gradually by 5mm (mBoolean15-REM) up to 30mm, and also omitted the criterion completely (Boolean-NO REM, i.e. requiring only CRP, SJC, TJC≤1). We assessed frequencies of remission by these definitions at 6 and 12 months and evaluated agreement with the Index based (SDAI) definition of remission (which does not include an inherent cut-off for PtGA). Further the impact on functional and structural outcomes after 1 year were explored based on achievement of each of these remission definitions at 6 months.
Results: We included 3293 patients in our study, 2121 in early and 1172 in late RA (mean disease duration: 1.5±3.0 and 9.8±8.6 years, respectively). The rates of patients achieving Boolean remission increased with higher allowance for PtGA from 11.9% to 18.8% in early RA, and from 5.9% to 12.4% in late RA at 6 month, and from 19.7% to 29.9% and from 10.7% to 20.9%, respectively, at 1 year. Best agreement with SDAI occurred at a PtGA cut-off of 15mm and 20mm, while with higher allowances for PtGA the disconnect between Boolean and Index based remission increased again (**Figure**). Radiographic progression was very similar in the different Boolean groups (ranging from a mean of 0.27±4.7 to 0.41±5.1). As expected, removing the PtGA increased functional impairment in remission (% of patients scoring HAQ=0 in Boolean 10, 15, 20, 25, 30, and in the "no PtGA" definition were 68.2%, 63.7%, 60.4%, 56.0%, 54.6% and 47.9%, respectively. Functional scores in late RA were generally worse than in early RA. CRP levels across all definitions, including "no PtGA", were similar (data not shown).
Conclusion: Increasing the PtGA cut-off to 15mm would provide highest consistency between Boolean with the Index based remission, while the integer cut-off of 20mm (or 2/10) would also allow the use on numerical rating scales. This new cut-off would discount the overly stringency of the PtGA in the remission context, while keeping the patient perspective in the core of RA disease activity evaluation.

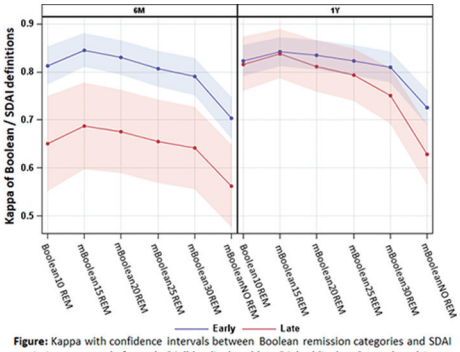

Figure: Kappa with confidence intervals between Boolean remission categories and SDAI remission, separately for early RA (blue line) and late RA (red line) at 6 month and 1 year.

Disclosure of Interests: Paul Studenic: None declared, David T. Felson: None declared, Maarten de Wit: None declared, Tanja Stamm Grant/research support from: TS has received grant support from AbbVie., Paid instructor for: TS has received speaker fees from AbbVie, Janssen, MSD, Novartis, and Roche., Josef S. Smolen Grant/research support from: AbbVie, Eli Lilly, Janssen, MSD, Pfizer Inc, Roche, Consultant for: AbbVie, Amgen, AstraZeneca, Astro, Celgene, Celtrion, Eli Lilly, GlaxoSmithKline, ILTOO, Janssen, Medimmune, MSD, Novartis-Sandoz, Pfizer Inc, Roche, Samsung, Sanofi, UCB, Speakers bureau: AbbVie, Amgen, AstraZeneca, Astro, Celgene, Celtrion, Eli Lilly, GlaxoSmithKline, ILTOO, Janssen, Medimmune, MSD, Novartis-Sandoz, Pfizer Inc, Roche, Samsung, Sanofi, UCB, Daniel Aletaha Grant/research support from: AbbVie, Bristol-Myers Squibb, and MSD, Consultant for: AbbVie, Bristol-Myers Squibb, Eli Lilly, Janssen, Medac, Merck, MSD, Pfizer Inc, Roche, and UCB, Speakers bureau: AbbVie, Bristol-Myers Squibb, Eli Lilly, Janssen, Medac, Merck, MSD, Pfizer Inc, Roche, and UCB
DOI: 10.1136/annrheumdis-2019-eular.5163

SAT0671 SEROCONVERSION OF AUTOANTIBODIES TO UH-RA.21 PEPTIDE IS ASSOCIATED WITH CDAI REMISSION IN RHEUMATOID ARTHRITIS PATIENTS OF THE CARERA COHORT

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Background: Autoantibodies are present in the majority of rheumatoid arthritis (RA) patients and are used clinically as diagnostic serum biomarkers. Insight in their role in prediction of therapy response and disease progression would provide a useful tool for patient stratification and personalized selection of a suitable treatment. In a previous pilot experiment, autoantibody levels to the University of Hasselt (UH) peptide UH-RA.21 have been correlated with response to DMARD treatment. In patients continuing the same DMARD during a 17 month follow-up period, which was taken as a proxy for treatment success, persistently positive anti-RA.21 antibody levels showed an overall decrease in titers (p=0.0334).
Objectives: Our aim is to determine the association between autoantibodies to the UH-RA.21 peptide and disease remission in early RA patients from the CareRA cohort.
Methods: In the CareRA trial, different COBRA treatment regimens consisting of synthetic DMARDs combined with a step-down glucocorticoid treatment, have been studied. Disease remission was defined as a DAS28CRP<2.6, CDAI<2.8 or SDAI<3.3. Custom peptide enzyme-linked immunosorbent assays were used to screen for the presence of antibodies to the UH-RA.21 peptide in serum samples of the CareRA cohort. Cut-off for seropositivity was defined by 2 x SD above the mean antibody level of the healthy control group. Antibody reactivity to UH-RA.21 was evaluated in baseline samples, collected before the start of treatment, of 223 early RA patients from the CareRA cohort. In patients that were positive for anti-UH-RA.21 antibodies at baseline, follow-up samples collected 16, 40, 52 and 104 weeks after the initiation of treatment were tested.
Results: Antibodies to UH-RA.21 were found in 21% (47/223) of the baseline samples from the CareRA cohort. Compared to baseline levels, combination therapy induced a 50% reduction of anti-UH-RA.21 antibody levels in 30% of patients after 16 weeks and in 47% of patients after 52 weeks. Seroconversion was observed in 16% (7/44) of patients after 16 weeks and 30% (10/34) after 52 weeks. Seroconversion was not correlated with remission according to the DAS28CRP or SDAI remission indices. However, of those patients which were UH-RA.21 positive at baseline, more seroconversion occurred in patients reaching remission (5/14, 36%) than in patients remaining in active disease (2/30, 7%), according to CDAI remission criteria (p=0.025).
Conclusion: A COBRA therapy induces a rapid decrease in anti-UH-RA.21 autoantibody levels in many patients. Moreover, early anti-UH-RA.21 seroconversion is associated with CDAI remission.
Disclosure of Interests: : Silke Loyens: None declared, Patrick Vandormael: None declared, Liesbeth De Winter: None declared, Veerle Stouten: None declared, Piet Geusens Grant/research support from: Research support, consultant and/or speaker fees from: Pfizer, Abbott, Eli Lilly, Amgen, MSD, Roche, UCB, BMS, Novartis, Will-Pharma, Grant/research support from: Pfizer, Abbott, Lilly, Amgen, MSD, Will, Bio Minerals and Roche, Consultant for: Research support, consultant and/or speaker fees from: Pfizer, Abbott, Eli Lilly, Amgen, MSD, Roche, UCB, BMS, Novartis, Will-Pharma, Speakers bureau: Research support, consultant and/or speaker fees from: Pfizer, Abbott, Eli Lilly, Amgen, MSD, Roche, UCB, BMS,

Novartis, Will-Pharma, Speakers bureau: Pfizer, Abbott, Lilly, Amgen, MSD, Will, Bio Minerals and Roche, Patrick Verschueren Grant/research support from: Unrestricted Pfizer Grant for Early RA research, Veerle Somers Grant/research support from: Research support from Bristol Myers-Squibb

DOI: 10.1136/annrheumdis-2019-eular.6250

SAT0672 THE DIAGNOSTIC VALUE OF SERUM KL-6 IN CONNECTIVE TISSUE DISEASE ASSOCIATED INTERSTITIAL LUNG DISEASE

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Background: The connective tissue diseases (CTDs) are a group of inflammatory, immune-mediated disorders. Involvement of the respiratory system, particularly interstitial lung disease (ILD), is common and is an important contributor to morbidity and mortality.Currently, high-resolution computed tomography (HRCT), bronchoscopic examination and surgical lung biopsy (SLB) are the basic methods for the diagnosis of ILD,But these tests require specific inspection machines,are less repeatable and cause considerable discomfort to the subject.

Objectives: To evaluate the diagnosis of the serum Krebs von den Lungen-6 (KL-6 for the interstitial lung disease(ILD) associated with connective tissue diseases(CTD).

Methods: Patients with CTDs who visited our Hospital between January, 2016 and December, 2017, and whose serum KL-6 level was measured were included. We analyzed 175 patients with CTDs,84 CTDs associated ILD,91 CTDs patients without ILD. Record age,gender,diagnosis,serum KL-6 levels,pulmonary function tests and performed in parallel were reviewed. Statistical analysis was performed using SPSS (version20.0) statistical package

Results: The significantly higher levels of KL-6 were determined in the CTD-ILD group than in the CTDs without pulmonary involvement group (P<0.05 (figure 1 .By the ROC curves of serum KL-6 levels in 175 patients. The optimal cutoff value of serum KL-6 for a diagnosis of CTD-ILD was 409U/ml, and the sensitivity and specificity were82.1% and 86.8%, respectively. The AUC was 0.905(figure 2).Serum KL-6 correlated negatively with vital capacity(VC) (%predicted),forced vital capacity(FVC%) (%predicted),forced expiratory volume in one second(FEV1%)(%predicted) and diffusing capacity of the lung for carbon monoxide (DLcoSB) (% predicted) (Table 1).

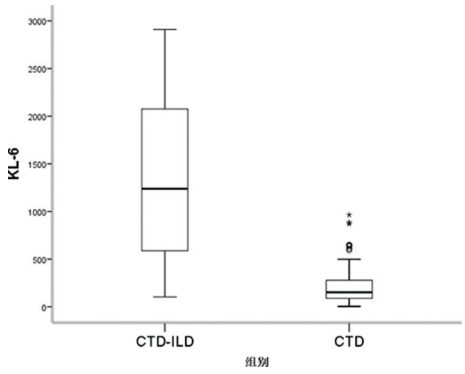

Fig1: Comparison of serum KL-6 concentrations in CTD-ILD group and CTD-ILD group.

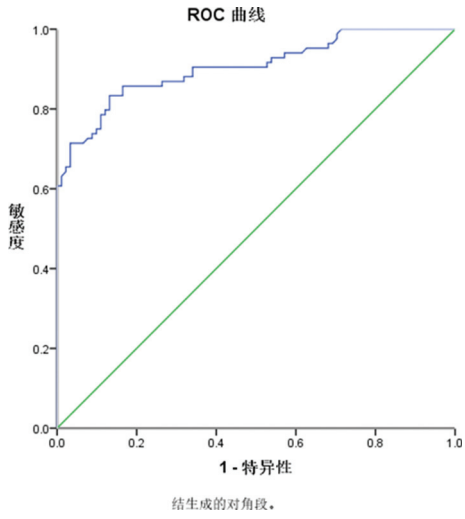

Fig.2 Receiver-operating characteristic curve(ROC) of KL-6 for the diagnosis of CTD-ILD

Table 1 Correlation. between KL-6 level and pulmonary function

	KL-6	
	r	*P*
VC%	-0.196	0.009
FVC%	-0.158	0.037
FEV1%	-0.173	0.022
FEF25%	-0.090	0.237
FEF50%	-0.058	0.447
FEF75%	-0.044	0.560
MMEF%	-0.075	0.323
DLcoSB %	-0.470	0.000

Conclusion: The serum KL-6 is a valuable biomarker for CTD-ILD diagnosis , and it is an important serum marker for detection of CTD-ILD activity.

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Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.7673

SAT0673 ANTI-C1Q ANTIBODIES HAVE HIGHER CORRELATION WITH LUPUS NEPHRITIS DISEASE ACTIVITY

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Background: Systemic lupus erythematosus (SLE) is the prototype of autoimmune disease and is characterized by the production of a variety of autoantibodies. and lupus nephritis continues to be a principal cause of morbidity and mortality.The focus is to finding biomarkers that can monitor renal activity and predict prognosis for early diagnosis and treatment. Complement C1q is the starter molecule of the classical pathway