SAT0669

DISCRIMINANT ABILITY OF THE PARENT VERSION OF THE JUVENILE ARTHRITIS DISEASE ACTIVITY SCORE IN A LARGE MULTINATIONAL COHORT OF PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: The assessment of disease activity plays a pivotal role in the management of children with juvenile idiopathic arthritis (JIA). Most recent recommendations require that parents’ and children’s perception is incorporated in the evaluation of the disease course and of effectiveness of therapeutic interventions. A new disease activity tool, named parent JADAS, was recently published (1). The aim of the study was to find out if the parJADAS could be relevant in routine clinical practice.

Methods: In the present study, the parJADAS was administered to a large multinational cohort of 2,173 JIA patients (8,656 JADAS profiles) from 49 centers in 27 countries. The parJADAS was calculated according to the recently published recommendations (1). The parJADAS shows 4 measures: 1) parent assessment of disease activity and pain; 2) assessment of morning stiffness (MS); 3) proxy assessment of joint disease; 4) assessment of swelling and pain.

Results: The parJADAS was calculated in 2,173 of 2,177 patients (99.7%). The parJADAS levels were strongly correlated with those of the JADAS (Spearman’s correlation: 0.82, p < 0.001). The parJADAS was not different in children with inactive disease and in children with low disease activity or in children in remission, continued activity or flare according to the attending physician; patients whose parents were satisfied or not satisfied with disease state. To assess the discriminant ability of the parJADAS, a large multinational cohort of JIA patients, the discriminant ability of the parJADAS was evaluated by comparing parJADAS levels (median, [IQR]) among patients with inactive disease (ID), low disease activity, and high disease activity (HA) according to the cJADAS10; patients in remission, continued activity, or flare according to the attending physician (2). The discriminant ability was evaluated by calculating the area under the receiver operating characteristic curve (AUC).

Conclusion: The parJADAS showed excellent discriminate ability in a large multinational cohort. The score did not show to be relevantly influenced by disease damage in JIA patients in remission with or without damage measured with the JAD (Mann-Whitney test p = 0.08).

Disclosure of Interests: Francesca Ridella: None declared, Giedre Januskeviciute: None declared, Chiara Trincianti: None declared, Gabriella Giancane: None declared, Alessandra Alongi: None declared, Soamarat Vilayuk: None declared, Gaëlle Chédeville: None declared, Chris Prunssild: None declared, Pekka Lahdenne: None declared, Niculino Ruperto Grant/research support from: The Gaslini Hospital, where NR works as a full-time public employee, has received contributions (> 10.000 USD each) from the following industries in the last 3 years: BMS, Eli-Lilly, GlaxoSmithKline, F Hoffmann-La Roche, Janssen, Novartis, Pfizer, Sobi. This funding has been reinvested for the research activities of this study in a fully independent manner, without any commitment with third parties., Consultant for:Received honoraria for consultancies or speaker bureaus (< 10.000 USD each) from the following pharmaceutical companies in the past 3 years: Ablynx, AbbVie, AstraZeneca-Medimmune, Biogen, Boehringer, Bristol-Myers Squibb, Eli-Lilly, EMD Serono, GlaxoSmithKline, Hoffmann-La Roche, Janssen, Merck, Novartis, Pfizer, R-Pharma, SanofiServier, Sobi and Takeda., Speakers bureau: Angelini, AbbVie, Bristol-Myers Squibb, Johnson & Johnson, Novartis, Pfizer, R-Pharma, SanofiServier, Sobi and Takeda. .

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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<5). 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 remission in patients continuing the same DMARD during a 17 month follow-up period, which was taken as a proxy for treatment success, positively and significantly correlated with cut-off for PtGA (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 anti-RA.21 antibody levels of the healthy control group. Antibody levels to UH-RA.21 were 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% (47/233) 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 (5/74, 13% vs 14/146, 9.6%) than in patients remaining in active disease (3/70, 2%) 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: AbbVie, Eli Lilly, Amgen, MSD, Roche, Pfizer, Abbott, BMS, Novartis, Will-Pharma. Consultant 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.
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 diagnostic value 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 (version 20.0) 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 409 U/ml, and the sensitivity and specificity were 82.1% 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).

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

<table>
<thead>
<tr>
<th>KL-6</th>
<th>VC%</th>
<th>FVC%</th>
<th>FEV1%</th>
<th>FEF25%</th>
<th>FEF50%</th>
<th>FEF75%</th>
<th>MMEF%</th>
<th>DLcoSB</th>
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<td>-0.158</td>
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<td>0.022</td>
<td>-0.090</td>
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<td>-0.044</td>
<td>0.560</td>
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<td>FEV1%</td>
<td>-0.090</td>
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<td>0.560</td>
<td>-0.075</td>
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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.

REFERENCES

Disclosure of Interests: None declared

of complement activation and plays an important role in the clearance of immune complexes and apoptotic cell debris. Hereditary homozygous deficiency of C1q has been described to be the strongest risk factor for developing SLE. There are some cross-sectional studies on anti-C1q in which the antibody was found to have a significant association with renal involvement but the association of anti-C1q antibodies (antiC1q) with lupus nephritis (LN) still a matter of debate.

**Objectives:** We assessed the association between lupus nephritis disease activity and anti-C1q antibodies

**Methods:** We retrospectively analyzed the medical records of 88 patients with lupus nephritis, aged 35.7±10.8 years on the average, with SLE of average duration 12 (3, 57) years. In all examines the levels of anti-dsDNA and anti-C1q antibodies were measured using the ELISA, C3, C4, 24-hour urinary protein performed in parallel were reviewed. The clinical manifestations of SLE was also collected. Lupus nephritis disease activity was measured by The SLICC Renal Activity Score of 2004. All biopsied tissues were scored based on the ISN/RPS2003 lupus nephritis pathological typing standards. Acute Index, Chronic Index Score were used to evaluated the activities of lupus, All the analyses were performed by SPSS 20.0 software.

**Results:** Patients with active lupus nephritis had a higher levels of anti-C1q antibodies than inactive lupus nephritis (68.9(34.1, 140.1) vs. 11.6(5.5, 44.1); p<0.001) (Figure 1). Anti-C1q antibody levels were positively correlated with levels of 24-hour urinary protein (r=0.605; P=0.000), AI score (r=0.337; P=0.001), and negatively correlated with serum C3 (r=-0.573; P=0.000) and C4 (r=-0.509; P=0.000) (Figure 2).

**Conclusion:** Anti-C1q antibodies are more closely correlated with renal disease activity.

**REFERENCES**


**Disclosure of Interests:** None declared