

the clinical and structural results, in particular, the levels improved after the dose was increased to 10 mg bid.

Patient	CDAI BSL	CDAI 3 Mnth All taking 5 mg bid	CDAI 12 Mnth Remain on 5 mg bid	CDAI 12 Mnth Dose Increased 10 mg bid
001	24.9	0.6	6	
002	56.1	20.9		2.7
003	45.9	27.4		2.3
004	65.2	33.8		0
005	56.1	15.5		3.1
006	34.7	38.9		19.4
007	27.9	56		1.5
008	34.3	18.4		1.8
009	43.6	3.3	2.3	
010	33.5	12.6		ET
011	32.7	5.1	ET	
012	25.3	13		0
013	21.2	2.4	ET	
014	21.6	9.9		2.9
015	21.6	5.2		ET
016	27.7	0.4	ET	
018	31.8	16.9		2.1
019	27.3	0.9		5.2
020	14.5	5.2		ET
021	30.5	2.1	1.9	

**Conclusions:** Our results suggest that a significant number of patients treated with the standard dose of 5 mg bid may potentially have improved outcomes including LDA or remission when treated at a higher dose (10 mg bid). As is evidenced by the results in this study, 11 of the 14 patients had significant improved response after treatment with the step up dose. It would appear that this improved result occurs by 3 months of therapy. Furthermore, the structural findings correlate in large part to the clinical findings showing stabilization or improvement in the majority of patients. A larger study is needed to validate these clinical and structural responses as well as to evaluate the safety outcomes using 10 mg bid for intervals of more than 12 months.

**Disclosure of Interest:** None declared  
DOI: 10.1136/annrheumdis-2017-eular.1806

#### AB0262 EVALUATION OF PATIENT REPORTED OUTCOME USING RAPID3 AND HAQ-DI COMPARED TO DAS28: EXPERIENCE FROM ROUTINE CLINICAL PRACTICE IN MALAYSIA

N. Mohd Jamid<sup>1</sup>, B. D'Souza<sup>1</sup>, H.C. Hong<sup>1</sup>, N. Mohd Noor<sup>1</sup>, C.K. Cheah<sup>1</sup>, Y.L. Lee<sup>2</sup>, S.C. Gun<sup>1</sup>. <sup>1</sup>Hospital Tuanku Jaafar, Seremban; <sup>2</sup>Pfizer, Kuala Lumpur, Malaysia

**Background:** Patient reported outcome (PRO) is an important measure to physician in management of patient with rheumatic diseases. Health assessment questionnaire disability index (HAQ-DI) is the most widely used PRO tool in rheumatoid arthritis (RA) clinical trials. Previous studies have shown that HAQ-DI correlates well with disease activity score of 28-joints (DAS28). However, routine assessment of patient index data 3 (RAPID3) is much simpler and faster questionnaire to score.

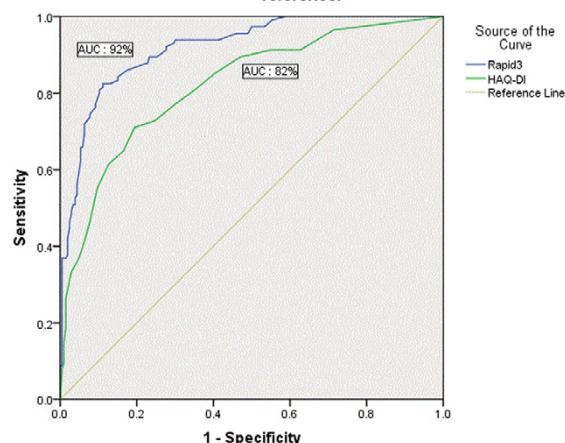
**Objectives:** This study aims to evaluate the correlation between RAPID3 and DAS28 compared to HAQ-DI and DAS28 in our population.

**Methods:** RA patients who received routine treatment in Hospital Tuanku Jaafar from March to November 2016 were included in this study. Validated RAPID3 and HAQ-DI questionnaire were made available in other languages; Malay, Chinese and Tamil, for patients who were not English literate. Descriptive analysis were conducted. Pearson correlation was used to measure the correlation between these PRO tools while area under the curve of the receiver operating characteristic (ROC) curves evaluate the sensitivity to detect disease activity. DAS28-ESR and DAS28-CRP were used as the reference variable in ROC analysis to stratified the disease activity into two groups; low (remission and low) and high (moderate and high) disease activity.

**Results:** A total of 400 patients completed PRO assessments were available for analysis. The median age of our cohort was 57 years old (range 22 to 88) and 87.5% were female. Ethnic distribution in this cohort were as follows; 38.5% Indian, 31.8% Malay and 27.8% Chinese. Both RAPID3 ( $r=0.74, p<0.001$ ) and HAQ-DI ( $r=0.57, p<0.001$ ) were correlated with DAS28-ESR. The area under the curve was significantly higher in RAPID3 (83%) compared to HAQ-DI (75%) which implied greater performance in discriminating low and high disease activity using DAS28-ESR as reference. We observed similar performance trend between RAPID3 (92%) and HAQ-DI (82%) compared to DAS28-CRP.

**Conclusions:** In conclusion, RAPID3 is an effective quantitative measure of disease activity compared to HAQ-DI in our population. Furthermore, RAPID3 yield similar disease activity categories as DAS28 without the need of joint counts

#### ROC Curve to discriminate low and high disease activity using DAS28CRP as reference.



and laboratory tests. Hence is an informative assessment of disease activity in busy clinic settings.

#### References:

- [1] Patient Reported Outcome in Rheumatoid Arthritis Clinical Trials. Ana-Maria Orbai, Clifton O. Bingham III. Current Rheumatology Reports. 2015 Apr;17(4):501.
- [2] RAPID3 (Routine Assessment of Patient Index Data) on an MDHAQ (Multidimensional Health Assessment Questionnaire): Agreement with DAS28 (Disease Activity Index) and CDAI (Clinical Disease Activity Index) Activities Categories, Scored in Five Versus More Than Ninety Seconds. T. Pincus, C.J. Swearingen, M.J. Bergman, C.L. Colglazier, A.T. Kaell, A.M. Kunath, E.L. Siegel, Y. Yazici. Arthritis Care Res 2010;62:181.

**Disclosure of Interest:** None declared

DOI: 10.1136/annrheumdis-2017-eular.2166

#### AB0263 PREDICTIVE VALUE OF A SINGLE MEASUREMENT OF THE MULTI-BIOMARKER DISEASE ACTIVITY (MBDA) SCORE FOR DISEASE FLARES WITHIN 6 AND 12 MONTHS IN RHEUMATOID ARTHRITIS PATIENTS USING TUMOR NECROSIS FACTOR INHIBITORS AND CONVENTIONAL SYNTHETIC DMARDS

P.M.T. Klooster<sup>1</sup>, M. Ghiti-Moghadam<sup>1</sup>, F. Lamers-Karnebeek<sup>2</sup>, H. Vonkeman<sup>3</sup>, E. Sasso<sup>4</sup>, P.V. Riel<sup>2</sup>, M.V.D. Laar<sup>3</sup>, T.L. Jansen<sup>5</sup>. <sup>1</sup>Rheumatology, University of Twente, Enschede; <sup>2</sup>Rheumatology, Bernhoven hospital, Uden; <sup>3</sup>Rheumatology, Medical Spectrum Twente, Enschede, Netherlands; <sup>4</sup>Medical & Scientific Affairs, Crescendo Bioscience, San Francisco, United States; <sup>5</sup>Rheumatology, VieCuri MC, Venlo, Netherlands

**Background:** Rheumatoid Arthritis (RA) patients in the maintenance phase should be treated by escalating antirheumatics up to stable low disease activity and then often are treated with tumor necrosis factor inhibitors (TNFi) and conventional synthetic disease modifiers (csDMARD). Once this phase has been reached the risk of flare is an issue once drugs are to be tapered or discontinued.

**Objectives:** To examine the ability of the multi-biomarker disease activity (MBDA) score as predictor for disease flare in rheumatoid arthritis (RA) patients with stable low disease activity using tumor necrosis factor inhibitors (TNFi) and conventional synthetic disease modifiers (csDMARD).

**Methods:** Data were used from the continuation control group of the Dutch multicenter, open-label, POET trial, in which patients with stable low disease activity (disease activity score [DAS28] <3.2 for at least 6 months) were randomized to either stop or continue TNFi treatment. Three indicators of disease relapse were assessed: 1) flare based on DAS28 (DAS28 ≥3.2 with ΔDAS28 >0.6), 2) flare based on escalation of any DMARD therapy, and 3) flare based on physician-reported disease activity. Associations between baseline MBDA score and meeting the different criteria for disease flare within 6 or 12 months of follow-up were examined using univariate analysis and multivariate logistic regression adjusting for baseline DAS28 score.

**Results:** For this post-hoc analysis, baseline serum samples to measure MBDA scores were available for 225/286 (78.7%) of the patients randomized to the TNFi continuation group (88.9% also used methotrexate, another 8.0% used another csDMARD and 3.1% used no csDMARD): 86.2% with a first TNFi, 11.6% with second TNFi and 2.2% with a third TNFi. Within 12 months, 19.1% of patients had experienced a DAS28 flare, 12.0% had medication escalation and 8.0% had ≥1 physician-reported flare. Median time to DAS28-based flare was 26 weeks (IQR:13–28). Univariate, patients with high baseline MBDA (>44) scores (n=31) were at increased risk of experiencing a DAS28 flare within 6 (OR =4.39, P=0.001) or 12 (OR =2.78, P=0.015) months. MBDA scores were not associated with increased risk of medication escalation or physician-reported flare. After adjustment for baseline DAS28 scores, high MBDA score remained predictive for risk of flare within 6 months (OR =3.15, P=0.017), but not for flare within 12 months (OR =2.05, P=0.107).

**Conclusions:** MBDA score may be of additional value in predicting DAS28 flares but not in predicting medication escalations or physician-reported flares in RA patients on TNFi in stable low disease activity.

**Acknowledgements:** We wish to acknowledge all POET investigators and all who gave their contributions to the POET project.

**Disclosure of Interest:** P. M. Klooster: None declared, M. Ghiti-Moghadam: None declared, F. Lamers-Karnebeek: None declared, H. Vonkeman: None declared, E. Sasso Shareholder of: Myriad Genetics, Employee of: Crescendo Bioscience, P. Riel: None declared, M. Laar: None declared, T. L. Jansen: None declared

**DOI:** 10.1136/annrheumdis-2017-eular.4998

#### AB0264 THE PERFORIN A91V GENE AND CLINICAL FEATURES ANALYSIS IN CHINESE SO-JIA CASES WITH MACROPHAGE ACTIVATION SYNDROME

P. Wei<sup>1</sup>, H. Zeng<sup>2</sup>. <sup>1</sup>Department of Pediatric Allergy, Immunology and Rheumatology; <sup>2</sup>Department of Pediatric Allergy, Immunology and Rheumatology, Guangzhou Women and Children's Medical Center, Guangzhou, China

**Objectives:** Macrophage activation syndrome (MAS) is a severe, potentially fatal complication of rheumatoid disease, especially in the systemic onset juvenile idiopathic arthritis (SoJIA). we aimed to investigate the clinical characteristics of 31 SOJIA cases with MAS and the perforin A91V gene were detected in part cases

**Methods:** gene-specific polymerase chain reaction (PCR) primers were used to analyze the perforin A91V gene polymorphism.

**Results:** 31 soJIA cases were associated with MAS. 25 out of 31 cases (83%) had infections prior to MAS. Serum ferritin was significantly increased in 27 cases (87.10%). High concentrations of triglycerides (23 cases, 74.19%) and lactic dehydrogenase (27 cases, 87.10%) are observed. What is more, Creatine Kinase (CK) increased in all cases that had been checked. Well-differentiated macrophages phagocytosing hematopoietic elements were found in all cases (100%). 6 cases (19.35%) merged with multiple organ dysfunctions (MODS). The perforin A91V (NCBI: SNP rs35947132) variant gene was detected in twenty cases, but no mutation was found. Corticosteroids, immunosuppressant, cell cycle inhibitors, immunoglobulin, Tumor necrosis factor (TNF) antagonist and plasmapheresis were effective. After treatment, 28 cases (90.32%) children were in remission, while 3 out of 31 cases died with mortality of 9.68%.

**Conclusions:** MAS is a life-threatening complication of systemic onset juvenile idiopathic arthritis. Most cases were preceded by infection. Unremitted fever, progressive hepatosplenomegaly, lymphadenopathy, cytopenias, elevated serum liver enzymes significantly increased serum ferritin are the main feature. Early diagnosis and treatment is the key to improve prognosis. The perforin gene mutations in our patients have not found yet.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.2061

#### AB0265 THE SIGNIFICANCE OF EARLY DIAGNOSIS AND PROGNOSTIC EVALUATION OF FOUR KINDS OF ANTI-CCP ANTIBODIES IN VARIOUS TYPES OF JUVENILE IDIOPATHIC ARTHRITIS

P. Zeng<sup>1</sup>, H. Zeng<sup>2</sup>. <sup>1</sup>Department of Pediatric Allergy, Immunology and Rheumatology; <sup>2</sup>Department of Pediatric Allergy, Immunology and Rheumatology, Guangzhou Women and Children's Medical Center, Guangzhou, China

**Objectives:** To investigate the relationship between immunological parameters AKA, anti-CCP, the RF-IGG, RF-IGM and the early diagnosis and prognosis in sub-JIA patients.

**Methods:** Collection of 76 JIA patients in our hospital with system treatment and adhere to the follow-up treatment for at least six months, detect the immunological parameters of AKA, anti-CCP, RF-IGG, RF-IGM in the early diagnosis, compare the Positive rate in different subtypes and prognosis, and make the statistical analysis of sensitivity, specificity and relevant risk, compare to the normal control group of blood of 49 healthy children.

**Results:** There is a significant difference between polyarticular group and normal control group in positive rate of AKA, anti-CCP, RF-IGG, RF-IGM, there is no significant difference between the type of systemic, oligoarticular, enthesitis and the normal control group in autoantibody-positive detection rate. Polyarticular group's sensitivity AKA > anti-CCP, RF-IGG > RF-IGM and four kinds of joint detection, specificity RF-IGM, four kinds of joint detection > AKA > RF-IGG > anti-CCP. There is a significantly different between refractory JIA and general JIA patients in AKA positive rate, relative risk OR is 3.514%.

**Conclusions:** The effect of AKA, anti-CCP, RF-IGG, RF-IGM in the different subtypes of JIA about early diagnosis are different, it is found that AKA, anti-CCP has good sensitivity and specificity in polyarticular JIA, AKA appears relate with refractory JIA, it is a large sample of the study to be confirmed that whether it can be a serological marker in the early diagnosis and prognosis of Polyarticular JIA.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.2054

#### AB0266 EFFECTS OF PERIODONTAL BASIC TREATMENT ON PERIODONTAL CONDITION, CLINICAL RESPONSE AND SERUM INFLAMMATORY PARAMETERS IN RHEUMATOID ARTHRITIS (RA) PATIENTS WITH MODERATE TO SEVERE PERIODONTITIS

F. Xiao, P. Zhang, X. Li, Y. Mou, H. Chen, Y. Cai. The Third Affiliated Hospital of Sun Yat-Sen University, Guangzhou, China

**Background:** Periodontal disease (PD) shares several clinical and pathogenic characteristics with Rheumatoid Arthritis (RA). Some intervention studies have suggested that periodontal treatment can reduce serum inflammatory biomarkers such as C-reactive protein, or erythrocyte sedimentation rate. Periodontal diseases are not only a threat to dentition, but may also be an aggravating factor in patients with RA, its treatment may improve the RA outcomes. In this study we assessed the effect of periodontal basic therapy in relieving the PD symptoms and the clinical signs of RA in order to evaluate the importance of periodontal treatment in the control of inflammation.

**Objectives:** To evaluate the effects of periodontal basic treatment on periodontal condition, clinical response and serum inflammatory parameters in RA patients with moderate to severe periodontitis.

**Methods:** A total of 46 subjects with confirmed diagnosis of RA and moderate to severe periodontitis were included in the study. 18 subjects completing the study received periodontal basic treatment consisting of scaling/root planing and oral hygiene instruction at baseline and at 6 weeks; 28 subjects completing the study received no treatment as control group. Participants continued their usual disease-modifying medications for RA without any changes in DMARD therapy during the study period. Periodontal indices and RA measurements, such as probing depth (Pd), clinical attachment level (CAL), bleeding on probing (BOP), high-sensitivity C-reactive protein (hsCRP), erythrocyte sedimentation rate (ESR), disease activity score in 28 joints (DAS28) and subjective symptom were recorded at baseline, 6 and 12 weeks for each participant.

**Results:** After periodontal basic treatment, significantly lower Pd, CAL and BOP were observed in the treatment group ( $P < 0.01$ ), hsCRP, ESR, DAS28 and patients' subjective symptom improved significantly ( $p < 0.05$ ). Besides, the Pd and BOP were statistically significant between treatment subjects after therapy and controls ( $P < 0.001$ ). Although hsCRP was significantly lower in the treatment group after therapy than controls ( $P < 0.01$ ), there was no significant difference in the DAS28 level between the two groups after periodontal basic therapy ( $P > 0.05$ ). Visual analog scale (VAS) was used to evaluate patients' subjective symptom, the results show that the improvement was much better in patients received periodontal therapy than controls ( $P < 0.001$ ).

**Conclusions:** Periodontal basic treatment can effectively improve periodontal status, patients' subjective symptom and circulating inflammatory status.

**References:**

- [1] Al-Katma MK, Bissada NF, Bordeaux JM, Sue J, Askari AD. Control of periodontal infection reduces the severity of active rheumatoid arthritis. *J Clin Rheumatol*. 2007 Jun;13(3):134-7.
- [2] Ortiz P, Bissada NF, Palomo L, Han YW, Al-Zahrani MS, Panneerselvam A, Askari A. Periodontal therapy reduces the severity of active rheumatoid arthritis in patients treated with or without tumor necrosis factor inhibitors. *J Periodontol*. 2009 Apr;80(4):535-40.
- [3] Calderaro DC, Corrêa JD, Ferreira GA, Barbosa IG, Martins CC, Silva TA, Teixeira AL. Influence of periodontal treatment on rheumatoid arthritis: a systematic review and meta-analysis. *Rev Bras Reumatol*. 2016 Nov 26. pii: S0482-5004(16)30144-9.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.6098

#### AB0267 TREATMENT PARADIGMS IN REAL-WORLD PRACTICE: BIOLOGIC AGENT USE PRIOR TO AND AFTER DISCONTINUATION OF ABATACEPT IN THE ACTION STUDY

R. Alten<sup>1</sup>, H.-M. Lorenz<sup>2</sup>, X. Mariette<sup>3</sup>, H. Nüßlein<sup>4</sup>, M. Galeazzi<sup>5</sup>, F. Navarro<sup>6</sup>, M. Chartier<sup>7</sup>, Y. Elbez<sup>8</sup>, C. Rauch<sup>9</sup>, M. Le Bars<sup>7</sup>. <sup>1</sup>Schlosspark-Klinik University Medicine, Berlin; <sup>2</sup>University Hospital, Heidelberg, Germany; <sup>3</sup>Université Paris-Sud, Paris, France; <sup>4</sup>University of Erlangen-Nuremberg, Nuremberg, Germany; <sup>5</sup>University of Siena, Siena, Italy; <sup>6</sup>Hospital Universitario Virgen Macarena, Seville, Spain; <sup>7</sup>Bristol-Myers Squibb, Rueil-Malmaison; <sup>8</sup>Excelya, Boulogne-Billancourt, France; <sup>9</sup>Bristol-Myers Squibb, Munich, Germany

**Background:** ACTION is a 2-year, observational study of patients (pts) with moderate-to-severe RA who initiated IV abatacept (ABA) in Canada and Europe (NCT02109666).

**Objectives:** To determine pt biologic (b)DMARD use prior to initiation and after discontinuation of ABA overall and by treatment line in ACTION.

**Methods:** Pts with RA initiated IV ABA as first- or second-/further-line therapy. Biologic-naïve and biologic-failure pts were enrolled during three periods between May 2008 and December 2013. Pts could switch administration routes (IV to SC) during treatment. Crude retention rates (Kaplan-Meier) were compared by log-rank test.

**Results:** Of the 2364 pts enrolled, 2350 were evaluable for analysis: 673 (28.6%) were biologic naïve and 1677 (71.4%) biologic failures. Baseline characteristics differed: biologic-failure pts had longer RA duration, higher CRP levels and prevalence of radiographic erosions, and lower rates of chronic obstructive