OP0020

VALIDATION OF NEW SYSTEMIC LUPUS ERYTHEMATOSUS CLASSIFICATION CRITERIA

M. Aringer¹, K.H. Costenbader², R. Brinks³, D. Boumpas⁴, D. Daikh⁵, D. Jayne⁶, D. Kamen⁷, M. Mosca⁸, R. Ramsey-Goldman⁹, J.S. Smolen¹⁰, D. Wofsy⁵, B. Diamond¹¹, S. Jacobsen¹², W.J. McCune¹³, G. Ruiz-Irastorza¹⁴, M. Schneider¹⁵, M.B. Urowitz¹⁶, G. Bertsias¹⁷, B. Hoyer¹⁸, N. Leuchten¹, C. Tan⁸, S. Tedeschi², Z. Touma¹⁶, B. Anic¹⁹, F. Assan²⁰, T.M. Chan²¹, A.E. Clarke²², M.K. Crow²³, L. Czirják²⁴, A. Doria²⁵, W. Graninger²⁶, S. Hasni²⁷, P. Izmirly²⁸, M. Jung²², B. Kiss²⁴, X. Mariette²⁰, I. Padjen¹⁹, J.M. Pego-Reigosa²⁹, J. Romero-Díaz³⁰, I. Rúa-Figueroa³¹, R. Seror²⁰, G. Stummvoll¹⁰, Y. Tanaka³², M. Tektonidou⁴, C. Vasconcelos³³, E. Vital³⁴, D.J. Wallace³⁵, S. Yavuz³⁶, R.P. Naden³⁷, T. Dörner³⁸, S.R. Johnson¹⁶, ¹TU Dresden, Dresden, Germany; ²Harvard Medical School, Boston, MA, USA; ³Hiller Center for Research in Rheumatology, Düsseldorf, Germany; ⁴University of Athens, Athens, Greece; ⁵UCSF, San Francisco, CA, USA; ⁶University of Cambridge, Cambridge, UK; ⁷MUSC, Charleston, SC, USA; ⁸University of Pisa, Pisa, Italy; ⁹Northwestern University, Chicago, IL, USA; ¹⁰Medical University of Vienna, Vienna, Austria; ¹¹Feinstein Institute, Manhasset, NY, USA; ¹²Rigshospitalet, Copenhagen, Denmark; ¹³University of Michigan, Ann Arbor, MI, USA; ¹⁴UPV/EHU, Bizkaia, Spain; ¹⁵Universität Düsseldorf, Düsseldorf, Germany; ¹⁶University of Toronto, Toronto, Canada; ¹⁷University of Crete, Heraklion, Greece; ¹⁸UKSH, Kiel, Germany; ¹⁹University Hospital, Zagreb, Croatia; ²⁰Université Paris Sud, Paris, France; ²¹University of Hong Kong, Hong Kong, China; ²²University of Calgary, Calgary, Canada; ²³HSS, New York, NY, USA; ²⁴University of Pécs, Pécs, Hungary; ²⁵University of Padova, Padova, Italy; ²⁶Medical University of Graz, Graz, Austria; ²⁷NIAMS, NIH, Bethesda, MD; ²⁸NYU, New York, NY, USA; ²⁹University of Vigo, Vigo, Spain; ³⁰INCMSZ, Mexico City, Mexico; ³¹Hospital Dr Negrin, Las Palmas, Spain; ³²University of Occupational and Environmental Health, Kitakyushu, Japan; ³³University of Porto, Porto, Portugal; ³⁴University of Leeds, Leeds, UK; ³⁵Cedars-Sinai, Los Angeles, CA, USA; ³⁶Istanbul Bilim University, Istanbul, Turkey; ³⁷New Zealand Ministry of Health, Auckland, New Zealand; ³⁸Charité University, Berlin, Germany

Background: This 4 phase project¹ jointly supported by EULAR and ACR has led to draft criteria.²

Objectives: To simplify and validate the new criteria in a large international cohort.

Methods: 23 expert centres each contributed up to 100 patients with SLE and with non-SLE diagnoses. Diagnoses were verified by 3 independent reviewers for 1,193 SLE and 1059 non-SLE patients. 500 randomly selected SLE and non-SLE patients formed the derivation cohort and the remainder the validation cohort.

Results: The criteria were fine-tuned and simplified, using ANA of $\geq 1:80$ as entry criterion and a classification threshold of 10.

Renal	Class III/IV nephritis	10	Class II/V nephritis	8	Proteinuria ≥ 0.5 g/day	4
Specific antibodies	Anti-Sm or Anti-dsDNA	6				
Muco-cutaneous	ACLE	6	SCLE or DLE	4	Alopecia or oral ulcers	2
Serosa	Acute pericarditis	6	Effusion	5		
Musculo-skeletal	Arthritis	6				
CNS	Seizures	5	Psychosis	3	Delirium	2
Blood	Autoimmune hemolysis or thrombocytopenia	4	Leukopenia	3		
Complement	Low C3 and C4	4	Low C3 or C4	3		
Anti-phospholipid	Anti-Cardiolipin or anti- β 2-GPI or lupus anticoagulant	2				
Constitutional	Fever	2				

Sensitivity was close to the SLICC 2012 criteria, specificity maintained at the level of the ACR 1997 criteria. This performance was independently confirmed in the validation cohort.

	ACR 1997 criteria	SLICC criteria	New criteria
Derivation			
Sensitivity	84.63	96.81	98.00
Specificity	95.20	90.00	96.40
Validation			
Sensitivity	82.76	96.70	96.12
Specificity	93.38	83.62	93.38

Conclusions: The new criteria developed with EULAR/ACR support achieved sensitivity close to the SLICC criteria, while maintaining the specificity of the ACR criteria.

REFERENCES:

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- [2] Tedeschi, et al. Ann Rheum Dis 2017;76(S2):50.

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OP0021

DRAFT CLASSIFICATION CRITERIA FOR THE ANCA ASSOCIATED VASCULITIDES

J.C. Robson¹, P.C. Grayson², C. Ponte³, R. Suppiah⁴, A. Craven⁵, S. Khalid⁵, A. Judge⁵, A. Hutchings⁶, D. Gray⁵, J. Rosa⁵, J. Barrett⁵, R.A. Watts⁵, P. A. Merkel⁷, R. Luqmani⁵. ¹Rheumatology Unit, Faculty of Health and Applied Sciences, University of the West of England, Bristol, Bristol, UK; ²NIAMS/National Institutes of Health, Bethesda, USA; ³Lisbon Academic Medical Centre, Lisbon, Portugal; ⁴Auckland District Health Board, Auckland, New Zealand; ⁵University of Oxford, Oxford; ⁶London School of Hygiene and Tropical Medicine, London, UK; ⁷University of Pennsylvania, Philadelphia, USA

Background: Classification criteria for the ANCA-associated vasculitides (AAVs) were developed in the 1980s prior to the use of ANCA testing and newer imaging techniques. The Diagnostic and Classification of the Systemic Vasculitides (DCVAS) study is an international project to update classification criteria for the systemic vasculitides.

Objectives: Development of draft classification criteria for Granulomatosis with Polyangiitis (GPA), Microscopic Polyangiitis (MPA) and Eosinophilic Granulomatosis with Polyangiitis (EGPA).

Methods: Three phases: 1) Expert panel review of cases to identify gold standard set of new cases of small vessel vasculitis; 2) Item reduction of >8000 individual DCVAS items using data-driven and consensus methodology; 3) Lasso logistic regression models within each development set comparing each of the AAV types to other small and medium vessel vasculitides. Final criteria derived through clinical consensus, tested in validation set. The classification project has received financial support from the ACR and EULAR.

Results: The expert review process approved 2072/2871 (72%) of physician diagnosed DCVAS cases, including [724 GPA, 291 MPA, 226 EGPA, 51 polyarteritis nodosa (PAN), 220 other small vessel disease (SVV)]. Data driven and expert consensus resulted in 91 items retained. Draft criteria, and sensitivity and specificity in table 1.

Abstract OP0021 – Table 1. Draft classification criteria for the ANCA-associated vasculitides. *Cartilaginous involvement: Inflamed ear or nose cartilage or hoarse voice/stridor, endobronchial involvement or saddle nose deformity

Granulomatosis with polyangiitis (GPA)	Microscopic polyangiitis (MPA)	Eosinophilic granulomatosis with polyangiitis (EGPA)
Blood nasal discharge, ulcers, crusting, congestion or blockage, or septal defect/perforation+3 Cartilaginous involvement*+2	Pauci-immune glomerulonephritis+3	Obstructive airways diseases+3
Conductive or sensorineural hearing loss+1 Pauci-immune glomerulonephritis+1 cANCA or PR3-antibody+5	Bloody nasal discharge, ulcers, crusting, congestion or blockage, septal defect/perforation –3 pANCA or MPO-antibody positive+6 Fibrosis or ILD on chest imaging+3 cANCA or PR3-antibody –1	Nasal polyps+3 Mononeuritis multiplex or motor neuropathy+1 Eosinophil count $\geq 1 \times 10^9/L$ +5 Extravascular eosinophilic predominant inflammation/eosinophils in bone marrow+2 cANCA or PR3-antibody –3 Microscopic haematuria –1
pANCA or MPO-antibody –1	Eosinophil count $\geq 1 \times 10^9/L$ –4	
Eosinophil count $\geq 1 \times 10^9/L$ –4 Granuloma, extravascular granulomatous inflammation, or giant cells on biopsy+2 Nodules, mass, cavitation on chest imaging+2 Inflammation, consolidation, or effusion of the nasal/paranasal sinuses on imaging+1		
Total score of ≥ 5 is needed for classification Sensitivity 93%, Specificity 94%	Total score of ≥ 6 is needed for classification Sensitivity 87%, Specificity 96%)	Total score of ≥ 5 is needed for classification Sensitivity 88%, Specificity 98%

Conclusions: Draft classification criteria for GPA, MPA and EGPA have been created which reflect current practice and have good sensitivity and specificity.

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From NSAIDs to bDMARDs in SpA: what is new?___

OP0022

IS A PRIMARY GOOD RESPONSE TO NSAIDS PREDICTIVE OF THE SUBSEQUENT RESPONSE TO THE FIRST TNF INHIBITOR IN PATIENTS WITH RECENT AXIAL SPONDYLOARTHRITIS?

L. Couvaras¹, D. Wendling², V. Pauly³, V. Pradel³, A. Moltó⁴, P. Lafforgue¹, T. Pham⁵. ¹Aix-Marseille University, APHM, Marseille; ²Bourgogne-Franche-Comté University, CHRU Besançon, Besançon; ³APHM, Marseille; ⁴Cochin Hospital, Paris; ⁵Aix-Marseille University, APHM, Marseille, France

Background: Good response to NSAIDs is a SpA feature included in classification criteria for axial spondyloarthritis (axSpA). Among patients eligible for a TNF inhibitor (TNFi), some patients may have never responded to NSAIDs (non-responders to NSAIDs) while others initially responded (responders to NSAIDs) but have secondarily escaped and need to be treated with biologics.

Objectives: Our aim was to determine if the initial response to NSAIDs is an independent predictive factor of a subsequent good response to the first TNFi in axSpA.

Methods: Patients: Patients from the prospective observational DESIR cohort of early axSpA cohort who started a TNFi over the 5 years of follow-up.

NSAIDs response and TNFi response definitions

NSAIDs response was defined by the item 'good response to NSAIDs according to Amor's criteria' at the inclusion visit. TNFi response was defined by the BASDAI50 response between the 'baseline' visit (last cohort visit before TNFi initiation) and the 'follow-up' visit (visit taking place after at least 8 weeks of TNFi treatment).

Analysis: We compared the characteristics of the NSAIDs responder to the non-responders and their response to the first TNFi.

We performed a multivariate logistic regression modelling the impact of an NSAID response to the TNFi response. We included known predictive factors of TNFi response in this model (age, gender, HLAB-B27, activity of the disease [ASDAS-CRP], CRP, X-ray and MRI sacroiliitis). To account for selection bias and for confirmation purpose, we applied a propensity score with Inverse Probability Weighting (IPW) method to predict TNFi response (SAS, version 9.2).

Results: Among the 708 patients of the cohort, 236 were included in the analysis. At the inclusion, the main characteristics were the following: 106 (44.7%) males, mean age 33.8±3.9 years, mean BASDAI 54.5±17.3 and 202 (85.6%) were NSAIDs responders.

The NSAIDs responder and non-responder groups were comparable at M0 except for HLA-B27 positive status: 59.9% vs 40.1%, $p=0.041$, CRP level: 13.4±20.3 mg/L vs 6.3±6.6 mg/L, $p=0.027$, history of psoriasis: 17.8% vs 35.3%, $p=0.001$ and BASDAI: 53.0±18.1 vs 61.8±13.2, $p=0.001$, in responder and non-responder patients, respectively.

The percentage of TNFi responders was 32.2% (65/202) and 23.5% (8/34) in the NSAIDs responder and non-responder groups, respectively (univariate analysis [OR 1.54 [95% CI: 0.7 to 3.6], $p=0.313$).

The multivariate logistic regression found the following independent factors of the TNFi response: gender [adjusted OR (aOR)=2.9 [CI95%: 1.4–6.0], $p=0.004$], age [aOR=0.9 [95% CI: 0.91 to 0.99], $p=0.026$], HLA-B27 status [aOR=2.5 [CI95%: 1.2–5.3], $p=0.02$], ASDAS-CRP score [aOR=1.6 [95% CI: 1.1 to 2.4], $p=0.016$], and MRI sacroiliitis [aOR=2.0 [CI95%: 1.0–4.2], $p=0.054$]. Response to NSAIDs was not significantly associated to the response to the TNFi [aOR=1.93 [95% CI: 0.6 to 6.3], $p=0.275$]. The IPW aOR confirmed the non-association between NSAIDs good response and TNFi good response: 1.60 [CI95%: 0.7–3.3], $p=0.20$.

Conclusions: The good response to NSAIDs according to the Amor's criteria does not seem to be an independent predictive factor of a good response to the first TNFi in early axSpA patients.

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OP0023

EFFECT OF ANTERIOR UVEITIS, PSORIASIS AND INFLAMMATORY BOWEL DISEASE ON DRUG-SURVIVAL FOR TNF-INHIBITORS IN ANKYLOSING SPONDYLITIS

U. Lindström¹, T. Olofsson², S. Wedrén¹, I. Qirjazo³, J. Askling¹, on behalf of ARTIS. ¹Rheumatology Unit and Clinical Epidemiology Unit, Department of Medicine, Karolinska Institutet, Stockholm; ²Department of Clinical Sciences, Lund University, Lund; ³Rheumatology Department, Linköping University Hospital, Linköping, Sweden

Background: Tumour necrosis factor inhibition (TNFi) is the mainstay treatment for ankylosing spondylitis (AS) with a high disease activity. Whereas disease activity and sex have been shown to affect drug-survival for TNFi in AS, the impact of typical AS-comorbidities, such as anterior uveitis, psoriasis and inflammatory bowel disease (IBD), on the drug-survival of TNFi in AS is less well understood.

Objectives: To determine the impact of comorbidity with anterior uveitis, psoriasis and IBD on drug-survival in patients with AS starting treatment with a first TNFi.

Methods: Swedish biologics-naïve patients with AS starting a 1st TNFi July 1 2006 – December 31 2015, were identified in the Rheumatology Quality Register, and followed from treatment start until treatment discontinuation. Censoring occurred at the first of: December 31 2015, death, emigration, or loss of follow-up. Comorbidities, and potential confounders, were identified through linkage to six other national registers.

We calculated survival curves and hazard ratios (HRs) for each comorbidity and the risk of TNFi discontinuation. HRs were adjusted for sex, age, CRP, peripheral arthritis, type of TNFi and BASDAI at baseline. Additional models were also adjusted for other chronic morbidities (cardiovascular disease, affective disease, diabetes, malignancies, chronic lung disease and chronic kidney failure), and for socioeconomic status (length of education, household income, sick-leave, country of birth and civil status), respectively.

Results: 2577 patients (71% men) were identified, 27% had a previous history of anterior uveitis, 7% IBD and 6% psoriasis. A history of anterior uveitis was associated with a lower risk of TNFi discontinuation (HR 0.72; 0.62–0.83), whereas presence of psoriasis was associated with an increased risk (HR 1.48; 1.18–1.86). No association was found between presence of IBD and risk of TNFi discontinuation. Models adjusting for disease activity, morbidities, and socioeconomic status resulted in an attenuated association for psoriasis (table 1). The impact of each comorbidity on drug-survival is visualised in figure 1.

Abstract OP0023 – Table 1. HR for association between inflammatory comorbidities and risk of discontinuation of TNFi treatment in AS

Comorbidity	A	B	C	D
Anterior uveitis	0.72 (0.62–0.83)	0.71 (0.60–0.84)	0.72 (0.61–0.85)	0.75 (0.62–0.90)
Psoriasis	1.48 (1.18–1.86)	1.35 (1.04–1.76)	1.28 (0.98–1.67)	1.33 (0.99–1.78)
IBD	0.91 (0.71–1.16)	0.84 (0.65–1.09)	0.82 (0.63–1.07)	0.83 (0.62–1.10)

A)univariable; B-D) adjusted for baseline measures; C) also adjusted for other morbidity and D) also adjusted for socioeconomic status.

Abstract OP0023 – Figure 1 Survival probability (Kaplan-Meier plots) for persisting on a first-line TNFi, for patients with ankylosing spondylitis, dependant on having a history of (A) anterior uveitis, (B) psoriasis or (C) inflammatory bowel disease.