Conclusion: The present targeted NMR based metabolomics study demonstrated that the serum metabolic profiles of amino acid may help guide therapy and ratio of Val/Tyr can differentiate active from inactive patients. However, future studies on large patient cohorts are required to establish its clinical utility.

REFERENCES

- [1] Nakagomi D, Jayne D. Outcome assessment in Takayasu arteritis. *Rheumatol. (United Kingdom)* 2016;55:1159–71.
- [2] Misra R, Danda D, Rajappa SM, Ghosh A, Gupta R, Mahendranath KM, et al. Development and initial validation of the Indian Takayasu Clinical Activity Score (ITAS2010). *Rheumatol. (United Kingdom)* 2013;52:1795–801.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.7672

SAT0226 INFLIXIMAB FOR THE TREATMENT OF REFRACTORY POLYARTERITIS NODOSA

Shira Ginsberg¹, Itzhak Rosner¹, Gleb Slobodin¹, Michael Rosenbaum¹, Lisa Kaly¹, Nizar Jiries¹, Nina Boulman¹, Abid Awisat¹, Haya Hussein¹, Irina Novofastovski², Amal Silawy¹, Doron Rimar¹. ¹Bnai-zion medical center, Haifa, Israel; ²Haemek medical center, Afula, Israel

Background: Polyarteritis Nodosa (PAN) is a necrotizing vasculitis predominantly affecting medium and small size arteries (1). Cyclophosphamide, a drug with narrow therapeutic range and poor safety profile, constitutes the treatment of choice for PAN vasculitis with major organ involvement. (2)

Objectives: To describe our clinical experience in treating refractory PAN with infliximab (a TNF inhibitor), a drug with good tolerability and better safety profile than cyclophosphamide.

Methods: Twenty-six PAN patients were admitted to our rheumatology unit between 2006 and 2017, of whom 9 patients, with severe and refractory disease, were treated with infliximab after failure of standard treatment.

We describe herein the patients' characteristics, clinical manifestations, severity and response to infliximab treatment and review the current literature.

Results: Complete remission was defined as the absence of features of active disease and withdrawal of prednisone therapy. Significant improvement was defined as clinical improvement and prednisone dose reduction of at least 50% or a 50% reduction in immune modulatory medications other than prednisone.

After 4 months of treatment, 8/9 (89%) patients achieved significant improvement, with two of them achieving complete remission.

Conclusion: We suggest anti TNF agents, and in particular infliximab, are relatively safe and efficacious treatment options in refractory PAN. A randomized controlled trial should be done in order to objectively evaluate infliximab in PAN.

REFERENCES

- [1] Jennette JC, Falk RJ, Bacon PA, Basu N, Cid MC, Ferrario F, et al. 2012 revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides. *Arthritis Rheum.* 2013; 65:1-11.
- [2] De Virgilio A, Greco A, Magliulo G, Gallo A, Ruoppolo G, Conte M, Martellucci S, de Vincentiis M. Polyarteritis nodosa: A contemporary overview. *Autoimmun Rev.* 2016; 15:564-70.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.342

SAT0227 MYOCARDIAL FIBROSIS IS ASSOCIATED WITH ANCA STATUS, ORGAN INVOLVEMENT AND DISEASE SEVERITY IN PATIENTSWITH GRANULOMATOSIS WITH POLYANGIITIS

Alessandro Giollo^{1,2,3}, Raluca-Bianca Dumitru^{2,3}, Peter Swoboda⁴, Sven Plein⁴, John Greenwood⁴, Maya Buch^{2,3}, Jacqueline Andrews³. ¹Rheumatology Unit, Department of Medicine, University of Verona, Verona, Italy; ²Leeds Institute of Rheumatic and Musculoskeletal Medicine, University of Leeds, Leeds, United Kingdom; ³NIHR Leeds Biomedical Research Centre and Clinical Research Facility, Leeds Teaching Hospitals, Leeds, United Kingdom; ⁴Multidisciplinary Cardiovascular Research Centre, Leeds Institute of Cardiovascular and Metabolic Medicine, University of Leeds, Leeds, United Kingdom

Background: Granulomatosis with polyangiitis (GPA) is a systemic vasculitis with an increased burden of cardiovascular (CV) events compared to

the general population, but the prevalence of primary cardiac involvement in this disease is unknown.

Objectives: The objective of this prospective study was to describe with cardiac magnetic resonance (CMR) the myocardial abnormalities associated with GPA and their correlations with disease characteristics.

Methods: Twenty-six patients with GPA and no prior CV disease (CVD) or diabetes mellitus underwent contrast-enhanced CMR, including late gadolinium-enhancement (LGE), T1 mapping for native T1 and extra-cellular volume (ECV) quantification for assessment of myocardial fibrosis and tissue tagging for assessment of left ventricular (LV) function. Characteristics of disease, treatments and CV risk factors were collected; disease relapse was defined as reappearance or worsening of vasculitis symptoms requiring an increase of the current treatment or introduction of additional immunosuppressive medication. Twenty-five healthy volunteers (HV) with comparable age, sex, BMI and arterial blood pressure served as controls.

Results: Patients with GPA (median age 58 years, disease duration 8 years, BVAS 2; females 46%, PR3 ANCA 58%) had similar cardiovascular risk profile to HV. A focal, non-ischemic LGE pattern of fibrosis was detected in 24% of patients and no controls (p=0.010; Table 1). Patients with myocardial LGE were more frequently PR3 ANCA negative (93% vs 7%, p=0.007), and they presented more frequently with involvement of the lower respiratory tract (75% vs 25%, p=0.097) and skin (63% vs 38%, p=0.087). Values of LGE-related fibrotic mass were higher in patients presenting with renal involvement (p=0.036). Native T1 and ECV were higher in patients with GPA than HV (Table 1); ECV was higher in those with relapsing disease, and native T1 was inversely associated with PR3 ANCA ($\beta=-0.664$, p=0.001). Peak systolic strain was slightly reduced in GPA than controls (Table 1); LV ejection function (LVEF) was inversely correlated with disease duration ($\beta=-0.454$, p=0.026).

Table 1. CMR measures†

LV volumes and mass			
LV end diastolic volume index, mL/m ²	69 (61, 84)	79 (70, 89)	0.105
LV end systolic volume index, mL/m ²	28 (23, 37)	32 (28, 39)	0.122
LV mass index, g/m ²	37 (42, 47)	50 (42, 56)	0.014
LV mass/LV end diastolic volume, g/mL	0.59 (0.48, 0.66)	0.59 (0.54, 0.66)	0.486
LV function			
LV ejection fraction, %	59 (56, 63)	58 (53, 62)	0.351
LV peak systolic strain			
Base	-0.19 (-0.21, -0.16)	-0.21 (-0.22, -0.19)	0.017
Mid	-0.21 (-0.23, -0.20)	-0.22 (-0.23, -0.20)	0.298
Apex	-0.21 (-0.23, -0.16)	-0.23 (-0.25, -0.20)	0.101
Torsion, deg	12.3 (9.2, 14.5)	13.8 (11.6, 16.0)	0.086
Peak twist	14.1 (9.0, 15.7)	14.1 (11.7, 17.7)	0.222
Myocardial tissue characterization			
Native T1 (ms)	1225 (1199, 1255)	1203 (1185, 1233)	0.006
Extracellular volume, %	25.0 (23.3, 27.2)	23.6 (20.5, 25.1)	0.009
LGE, n (%)	6/25 (24)	0/25 (0)	0.010
LGE scar tissue, g	1.25 (0.81, 2.63)	0 (0, 0)	NA

†Continuous data are presented as median (interquartile range).

Conclusion: Patients with GPA had significant myocardial abnormalities on CMR compared to HV. ANCA status, systemic organ involvement and disease severity were associated with CMR markers of myocardial fibrosis. CMR could be a useful tool for identification and future risk stratification of myocardial involvement of GPA.

Disclosure of Interests: Alessandro Giollo: None declared, Raluca-Bianca Dumitru: None declared, Peter Swoboda: None declared, Sven Plein: None declared, John Greenwood: None declared, Maya Buch Grant/research support from: Pfizer LTD, UCB, Consultant for: AbbVie, Eli Lilly, EMD Serono, Pfizer Ltd., Sanofi, Jacqueline Andrews: None declared

DOI: 10.1136/annrheumdis-2019-eular.4966

SAT0228 LEUKOCYTE DYNAMICS IN GIANT CELL ARTERITIS AND POLYMYALGIA RHEUMATICA PATIENTS BEFORE, DURING AND AFTER TREATMENT

Jacoba Graver, Yannick van Sleen, Wayel Abdulahad, Kornelis van der Geest, Annemieke Boots, Maria Sandovici, Elisabeth Brouwer. University of Groningen, University Medical Center Groningen, Groningen, Netherlands

Background: Giant cell arteritis (GCA) and polymyalgia rheumatica (PMR) are inflammatory diseases requiring long-term treatment with

glucocorticoids. Currently, only limited data on dynamics of peripheral leukocytes and leukocyte subset composition before, during and after treatment is available.

Objectives: To gain insight into the dynamics of leukocytes during the entire disease course and to determine whether patients in treatment-free remission resemble healthy controls.

Methods: Newly-diagnosed, treatment-naïve GCA (N=42) and PMR (N=31) patients were prospectively followed for up to 7 years. Absolute numbers of leukocyte subpopulation, both myeloid (neutrophils, monocytes) and lymphoid (CD4 and CD8 T-cells, B-cells and NK-cells) were measured at fixed time points. Laboratory inflammation markers (CRP, ESR, platelets and haemoglobin) were assessed as well. Values were compared with age-matched healthy controls (N=51) and infection controls (N=13). A stable treatment-free remission group for at least 6 months was defined.

Results: Neutrophil and monocyte numbers were higher in baseline GCA and PMR patients compared to healthy controls, whilst NK-cell numbers were reduced. In baseline GCA patients, CRP correlated positively with monocyte numbers. In baseline PMR patients, B-cell numbers were lowered and B-cell and NK-cell numbers correlated negatively with CRP. During glucocorticoid treatment, fluctuations in numbers of all leukocyte subsets were observed but neutrophil and monocyte numbers remained elevated and NK-cells numbers remained lowered during the entire treatment period (fig. 1). CRP and ESR were reduced by GC treatment and only moderately elevated during relapses. GCA patients in treatment-free remission still had elevated neutrophil and monocyte numbers. In addition, ESR and platelet numbers, were elevated whilst haemoglobin was lowered. PMR patients in treatment-free remission still had elevated monocytes while NK-cell and CD8+ T-cell numbers were decreased. Inflammatory markers and haemoglobin was normal.

Conclusion: In baseline GCA and PMR patients a shift towards the myeloid lineage is observed. This myeloid bias persisted in spite of GC treatment and also in treatment-free remission, suggesting a long-term effect of inflammation (an inflammatory imprint) on the peripheral blood compartment. Only GCA patients showed persistently elevated inflammatory markers; whether this reflects ongoing subclinical disease remains to be investigated.

Figure 1. Dynamics in leukocyte subset numbers during follow-up in GCA (A) and PMR (B) patients. Numbers at baseline (GCA n=42, PMR n=31), treatment phase I (GCA n=38, 69 samples; PMR n=25, 54 samples), phase II (GCA n=32, 43 samples; PMR n=23, 33 samples) and phase III (GCA n=29, 65 samples; PMR n=19, 56 samples) are expressed as median fold-change compared to healthy controls (n=51). +: sign difference between HC and baseline, x: sign difference between HC and treatment phase I, #: significant differences between HC and phase II and #: significant differences between HC and phase III (Mann-Whitney U test, P<0.05).

Disclosure of Interests: Jacoba Graver: None declared, Yannick van Sleen: None declared, Wayel Abdulahad: None declared, Kornelis van der Geest: None declared, Annemieke Boots Grant/research support from: grant from MSD in 2010-2015, Consultant for: I was a consultant for Grunenthal Germany 2016-2017, Employee of: I was an employee of Organon, Shering-Plough and MSD from 1991-2011, Maria Sandovici: None declared, Elisabeth Brouwer Speakers bureau: Dr. Brouwer as an employee of the UMCG received speaker fees and consulting fees from Roche which were paid to the UMCG

DOI: 10.1136/annrheumdis-2019-eular.4589

SAT0229 INTESTINAL PERMEABILITY IN IGA-VASCULITIS IN ADULTS

Sergei Guliaev¹, Leonid Strizhakov¹, Sergey Moiseev¹, Ivan Gmshinskii², Vladimir Mazo². ¹I.M. Sechenov First Moscow State Medical University, Rheumatology, Moscow, Russian Federation; ²Scientific Research Institute of Nutrition, Moscow, Russian Federation

Background: Primary IgA-vasculitis and inflammatory bowel diseases (IBD) share many clinical signs, such as abdominal syndrome, skin purpura and IgA-nephropathy. It may indicate a common pathogenetic background for both pathological conditions. One of the hypotheses to explain a common IgA abnormalities and clinical similarities between two conditions is rupture of intestinal barrier resulting in defective antigen exclusion at mucosal level and increased antigen absorption into systemic

circulation. While increased intestinal permeability has been well established in IBD there are few reports addressing this issue in IgA-vasculitis. **Objectives:** Evaluation of small intestinal permeability in IgA-vasculitis. We have also looked for correlation between this parameter and clinical activity of the disease.

Methods: Intestinal permeability was assessed in 34 adult patients having primary IgA-vasculitis. EULAR/PRINTO/PRES criteria [1] were used for making of diagnosis after thorough laboratory and instrumental screening aiming to exclude a secondary nature of disease, including upper and lower endoscopy. Skin purpura was present in all patients being mandatory diagnostic criterion. Arthritis/arthralgia were seen in 20 patients (58%). There were no patients with evident abdominal damage just before and during investigation, although 15 (44%) patients had transient abdominal pain in the history. Mild to moderate signs of renal involvement (hematuria and/or proteinuria) were seen in 16 (47%) patients without renal impairment.

We have evaluated the gut permeability using ovalbumin (OVA) which has been measured in serum 3 hours after fasting oral intake of the two raw chicken eggs. The level of OVA in serum was measured using bivalent solid-phase immune-enzyme assay ("Sandwich-ELISA"). An increase of OVA in serum above 4 ng/ml was considered as the evidence of increased intestinal permeability.

Results: Totally, intestinal permeability to OVA was found to be increased in 20 of 34 patients (59%). In seventeen of twenty patients (85%) with increased intestinal permeability there were clinical signs of disease activity (skin purpura and/or arthritis and/or urinary abnormalities).

To find out which pattern of clinical activity is best associated with increased intestinal permeability we have separately analyzed the level of OVA in patients with skin purpura, arthritis and urinary abnormalities correspondingly during remission and exacerbation of the process.

Statistically significant difference (p<0,05) of OVA level was found only in patients selected on the basis of skin purpura activity: at the moment of clinically evident skin purpura the median OVA level was much higher (50 ng/ml) than during periods with no skin purpura (5 ng/ml).

The difference between the rate of increased intestinal permeability in patients with and without abdominal syndrome in the history was not statistically significant (p=0.87).

Conclusion: Results of our study may indicate a subclinical abdominal involvement in considerable part of patients with IgA-vasculitis, characterized with transient episodes of increased intestinal permeability. This phenomenon is chronologically related to disease activity, particularly to flare-up of the skin purpura. It could be speculated that this transient increase of intestinal permeability may result from mucosal inflammation which needs to be clarified in further investigations.

REFERENCE

- [1] Ozen Set al., EULAR/PRINTO/PRES criteria for Henoch-Schönlein purpura, childhood polyarteritis nodosa, childhood Wegener granulomatosis and childhood Takayasu arteritis: Ankara 2008. Part II: Final classification criteria. Ann Rheum Dis. 2010 May;69(5):798-806.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.3722

SAT0230 GIANT CELL ARTERITIS WITH INTRACRANIAL VASCULITIS: A CASE SERIES

Alexander Hawkins¹, Catalina Sanchez Alvarez², Matthew Koster², Cynthia S. Crowson³, Kenneth J. Warrington². ¹Mayo Clinic, Internal Medicine, Rochester, MN, United States of America; ²Mayo Clinic, Rheumatology, Rochester, MN, United States of America; ³Mayo Clinic, Biomedical Statistics and Informatics, Rochester, MN, United States of America

Background: Giant cell arteritis (GCA) is a large vessel vasculitis that primarily affects the aorta and its branches. Extracranial branches of the carotid artery are frequently affected; however, intracranial involvement in GCA is rare [1].

Objectives: To determine the clinical features and outcome of patients with intracranial giant cell arteritis (IC-GCA).

Methods: A retrospective medical record review was performed to identify all patients with IC-GCA from 1/1996 through 5/2018. Demographic, clinical, laboratory, radiographic, and treatment data at baseline and subsequent follow-up visits were collected. Data was summarized using descriptive statistics.

Results: The study cohort included 9 patients with IC-GCA (78% male, mean [±SD] age 72.1 [±7.9] years). 8 of 9 patients had positive temporal artery biopsies. One patient with negative biopsy had evidence of large-vessel GCA on thoracic CT angiography.