Classification Criteria for Primary Systemic Vasculitis (DCVAS) study is a large multinational, observational case control study collecting detailed data from patients with primary vasculitides at inclusion.
Objectives: To describe the prevalence, associations with other disease characteristics and patterns of VN in patients with AAV at initial presentation.
Methods: Patients included in the DCVAS study and having completed 6 months follow-up until December 2016 were screened. All patients with a diagnosis of AAV confirmed by an independent expert team were included. VN was diagnosed by clinical features, neurophysiology and/or nerve biopsy. AAV organ manifestations were identified by described symptoms or by the items from the vasculitis damage index. Laboratory parameters and histology were retrieved from the database. Data were analysed descriptively.
Results: By Dec 2016, 1268 patients with a physician submitted diagnosis of AAV had their case summaries reviewed by an expert panel and the diagnosis of AAV confirmed in 839. 484 (58%) had GPA, 195 (24%) MPA, 150 (18%) EGPA and 10 (1.2%) an unclassified AAV. Of these patients, 247 (29.4%) had findings compatible with VN. Mean age in patients with and without VN was 58.7 (SD 15) and 55.4 (SD 17) years, respectively. 133 (53.9%) of patients with VN and 289 (48.8%) without VN were female. VN was diagnosed by biopsy in 5.7%, by the presence of mononeuritis multiplex in 10.1% and by the description of new onset peripheral neuropathy in the context of AAV in 84.2%. Frequency of VN was 19.4% in GPA, 24.1% in MPA and 68.0% in EGPA. 5.6% of patients had motor, 27.9% sensory, 36.4% had sensorimotor neuropathy, and 7.4% had neuropathy exclusively documented on VDI. VN was associated with older age (p=0.008), the presence of MPO-ANCA (p=0.005), skin ($p \leq 0.001$), musculoskeletal ($p \leq 0.001$), cardiac (p=0.001) and multiorgan (>5 organs) involvement (p=0.05) and with the absence of renal (p=0.002), gastrointestinal (p=0.03) and eye involvement ($p \leq 0.001$).
Conclusions: VN has a high prevalence in patients with AAV. In EGPA, more than half of the patients suffered from peripheral nerve involvement. A typical clinical scenario (e.g. older age, MPO positivity, skin and joint/muscle involvement) may help to identify patients at risk of neuropathy. DCVAS was not primarily designed to assess VN, therefore these data should be interpreted with caution.
References:
[1] Collins MP, Arnold WD, Kissel JT. The neuropathies of vasculitis. Neurol Clin. 2013;31(2):557–595.
[2] Craven A, Robson J, Ponte C, et al. ACR/EULAR-endorsed study to develop Diagnostic and Classification Criteria for Vasculitis (DCVAS). Clin Exp Nephrol. 2013;17(5):619–621.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.4151

THU0307 NMR-BASED SERUM METABOLOMICS OF PATIENTS WITH TAKAYASU ARTERITIS (TA): RELATIONSHIP WITH DISEASE ACTIVITY

A. Jain[1], D. Kumar[2], R. Misra[1], P.A. Bacon[3], A. Guleria[4], D.P. Misra[4], S. Singh[4], D. Dubey[4], S. Chaurasia[4], S. Kumar[4], U. Kumar[4], S.K. Mishra[4], A. Zanwar[4], A. Rawat[4]. *[1]Clinical Immunology, SGPGIMS; [2]CBMR, Lucknow, India; [3]Department of Rheumatology, Birmingham, United Kingdom; [4]Affiliation not provided*

Background: Takayasu arteritis (TA) is a chronic large vessel vasculitis of unknown etiopathogenesis. The serological and radiological parameters currently used to assess the disease activity are not highly specific and there is a pertinent need for a biomarker discovery. In our previous study [1], NMR based serum metabolomics had revealed distinctive metabolic signatures in patients with TA compared to age/sex matched healthy controls. In this study we sought to investigate whether these distinctive metabolites correlate with disease activity.
Objectives: To identify the discriminatory serum metabolic profiles and their correlation with disease activity.
Methods: Patients with TA fulfilling ACR criteria were assessed for disease activity by ITAS 2010, with a score of 4 or more, considered as active. The serum metabolic profiles of active and inactive TA patients were obtained at 800 MHZ NMR spectrometer and were compared using multivariate orthogonal partial least-squares discriminant analysis (OPLS-DA) to identify metabolites that changed in response to disease activity [based on PLS-DA VIP (variable importance on projection) score >2.0 and permutation test, p-value <0.01].
Results: 88 patients were categorized into active (34) and inactive (54) groups. Median age in active and inactive groups was 25 years and 27 years respectively. Female to male ratio was 3.4:1 in the active group and 5:1 in the inactive group. Majority had class V disease. Mean duration of illness was 4.0±3.5 years in active TA and 6.5±5.5 years in inactive TA group. An exquisite separation in OPLS-DA score plot showed metabolic differences between active and inactive TA patients (Fig. 1A). The key metabolite entities identified with highest discriminatory potential (VIP score >2) were glucose, glutamine, glycine, N-acetyl glycoprotein (NAG), choline, and low/very-low density lipoproteins (LDL/VLDL). Of them glucose, glycine, and NAGs were elevated in the sera of active TA patients, whereas glutamine, choline and LDL levels were decreased in these patients. Receiver operating characteristic (ROC) curve analysis revealed NAG has the highest potential to discriminate active from inactive TA patients (area under the ROC curve was 0.75 (p-value <0.0001) (Fig. 1B, 1C).
Conclusions: The study revealed discriminatory metabolites between active and inactive TA patients and evaluated the possibility of NAG as a clinical biomarker for activity judgment in this disease. However, more work needs to be done to validate the results in a large cohort of patients in a longitudinal manner.

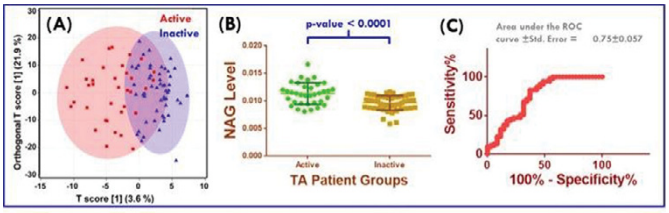

Figure 1: **(A)** 2D score plot obtained from OPLS-DA analysis of 1D ^{1}H NMR spectra. **(B)** Scatter plot showing the serum levels of NAG in active and inactive Takayasu arteritis (TA) patients. The center line refers to the median; whereas the dark lines above and below the center line indicate the 25th and 75th percentiles. **(C)** The receiver operating characteristic (ROC) curve analysis performed to evaluate the specificity, sensitivity, and area under ROC curve (AUC) of NAG peak, showing discriminatory potential of NAG metabolite, based on univariate (box plot) and ROC curve analysis.

References:
[1] Guleria A, Misra DP, Rawat A, Dubey D, Khetrapal CL, Bacon PA, Misra R, and Kumar D, NMR based serum metabolomics discriminates Takayasu Arteritis from Healthy Individuals: A proof of principle study" Journal of Proteome Research (2015), 14 (8), 3372–3381.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6057

THU0308 EXTENSIVE ANALYSIS OF T CELL RECEPTOR GAMMA (TCRG) GENE REARRANGEMENTS REVEALS A SIMILAR REPERTOIRE IN EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS (EGPA) AND IN HYPEREOSINOPHILIC SYNDROME (HES)

C. Baldini[1], S. Galimberti[2], E. Ciabatti[2], I. Petrini[3], G. Tarrini[2], M. Latorre[4], E. Elefante[1], F. Ferro[1], R. Grossi[2], N. Pisanti[2], M. Petrini[2], M. Mosca[1]. *[1]Clinical and Experimental Medicine, Rheumatology Unit; [2]Clinical and Experimental Medicine, Hematology Unit; [3]Translational Research and New Technology in Medicine, General Pathology; [4]Cardio-Thoracic and Vascular Department, University of Pisa, Pisa, Italy*

Background: Hypereosinophilia-associated syndromes are a heterogeneous group of diseases characterized by sustained and elevated blood eosinophilia with evidence of eosinophil-induced organ damage. Classically, Eosinophilic granulomatosis with polyangiitis (EGPA) and Hypereosinophilic syndrome (HES) present several overlapping clinical and laboratory features, making it challenging to correctly insert patients in restricted and well-defined categories with specific and more effective therapeutic approaches. Therefore, great efforts are ongoing searching for novel biomarkers able to differentiate these two disorders in daily practice.
Objectives: To detect T cell receptor gamma (TCRG) clonal rearrangements in EGPA and HES, comparing the frequency distribution of V region and J region segment utilization in the study population.
Methods: In this single center study, we included consecutive patients with a diagnosis of EGPA and HES. Inclusion criteria were: documentation of a persistent peripheral eosinophilic count of ≥1.5 x109/L and signs or symptoms of organ involvement. Clinical and laboratory data of the patients were collected. Sequence-based determination of the frequency distribution of TCRG Gene Rearrangements was performed using next-generation sequencing with the Illumina MiSeq (LymphoTrack TRG assay, Invivoscribe).
Results: We included 21 patients (9 with EGPA and 12 with HES). Four EGPA patients were MPO-ANCA positive. We detected TCRG clonal rearrangements in 44% (4/9) patients with EGPA and in 42% (5/12) patients with HES (p-value = n.s). No association was observed between TCRG clonal rearrangements and ANCA status in EGPA patients. Recurrent TCRG gene rearrangements were observed; in particular, Vg10JgP1 (5 cases) and Vg4Jg1/2 (4 cases) were detected in both EGPA and HES, whereas Vg9Jg1/2 (2 cases) and Vg10Jg1/2 (2 cases) were found only in patients with HES.
Conclusions: Even if preliminary, this study reveals a similar T cell receptor gamma repertoire in EGPA and HES, thus suggesting a possible antigen-driven inflammatory response underlying hypereosinophilia in both EGPA and HES. Moreover, our results would suggest that the TCR clonality cannot be used as a tool for the differential diagnosis between EGPA and HES.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.4340

THU0309 TREATMENT WITH METHOTREXATE AND RISK OF RELAPSES IN PATIENTS WITH GIANT CELL ARTERITIS IN CLINICAL PRACTICE

D. Freites Núñez, J. Font, C. León, I. Morado, L. Rodríguez-Rodríguez, L. León, Z. Rosales, B. Fernández, J. Jover, L. Abásolo. *Reumatologia, Hospital Clinico San Carlos, Madrid, Spain*

Objectives: To assess the incidence rate of relapses and to analyze the risk of relapses in patients with *Giant Cell Arteritis* (GCA) treated with and without

Methotrexate (MTX), in clinical practice. Other factors associated were also investigated.
Methods: An inception cohort of GCA was assembled in the out-patient clinic at Hospital Clinico San Carlos, including patients from the date of diagnosis (Jan-1991 until Sept-2013), and followed-up until Sept-2014. Main outcome: relapses defined as after an objective improvement, patient has again symptoms or signs of GCA with high ESR and the need to increase corticosteroids at least 10mg. The independent variable was exposure to MTX over time. Covariables: Sociodemographic, clinical, and treatment. Incidence rates of relapses (IR) per 100 patient-years with their 95% confidence intervals [CI] were estimated using survival techniques. Time of exposure comprised the period from diagnosis until: lost of follow-up, main outcome, exposure to MTX or the end of the study. MTX influence on IR was analyzed by multivariable Cox models.
Results: 168 patients were included (675 patient-years). 80% of them were female, with a mean age of 76±7 years. 65% of the patients were on MTX, with mean dose of 10 mg/week. 31% of patients had relapses with an IR of 12 [9.6–14.9]. The median number of relapses was 1 [1–2], with a median lag time of 1.6 [0.6–6.3] years. In the multivariate analysis, exposure to MTX had less risk of flaring compared to those never on MTX ($p<0.05$). Other variables included in the final model were: visual alterations, constitutional symptoms or malaise at clinical presentation of GCA.
Conclusions: The use of MTX seems to decrease the risk of recurrences. We also found other factors influencing on flares.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6118

THU0310 FREQUENCY OF RELAPSES AND TREATMENT DISCONTINUATION DURING LONG-TERM FOLLOW-UP OF PATIENTS WITH GIANT CELL ARTERITIS

C. Tsalapaki, A. Lazarini, K. Antonatou, K. Thomas, K. Klavdianou, C. Koutsianas, D. Vassilopoulos. *Joint Rheumatology Program, Clinical Immunology-Rheumatology Unit, 2nd Department of Medicine and Laboratory, National and Kapodistrian University of Athens School of Medicine, Hippokration General Hospital, Athens, Greece*

Background: There are limited data regarding the long term outcomes of patients with giant cell arteritis (GCA) in the modern therapeutic era.
Objectives: To evaluate relapse, treatment discontinuation and complication rates in GCA patients during long term follow-up.
Methods: A retrospective systematic chart review of GCA patients who were followed in an Academic Rheumatology Unit between 2002 to 2016 was performed. Demographic, clinical, laboratory and treatment data were collected and analyzed.
Results: 53 GCA patients were included in the study. 62% (n=33) were women with a mean age at diagnosis of 73±8.8 years and median duration of symptoms of 1.3 months. 41 patients (77%) had biopsy proven GCA while in 5 patients (9%) there was evidence of large vessel involvement. At presentation, the most common symptoms were headache (60%), fever (51%), scalp tenderness (47%), jaw claudication (39%), visual disturbances (23%), polymyalgia rheumatica symptoms (9%) and vision loss (6%). Regarding laboratory data at baseline, the median ESR and CRP were 101 mm/h and 50 mg/dl respectively while the mean hemoglobin (Hb) and platelet (PLT) count was 11.3±1.2 g/dl and 381.000±134.000, respectively. All patients were initially treated with tapering doses of pos steroids (mean start prednisolone dose: 42±12 mg/day) while 2 patients (4%) were given IV steroid pulses. During follow-up (3.1±2.7 years), for patients with did not adequately respond or could not tolerate steroids, non-biologic (n=12, 23%) or biologic DMARDs (n=4, 7%) were added. Relapses requiring change in immunosuppressive therapy occurred in more than half of patients (n=28, 53%); among these 67% were laboratory and 56% clinical relapses. Osteoporosis (17%), cataracts (7%), fractures (4%) and avascular necrosis (2%) developed during chronic steroid treatment. At the last follow-up visit, 39% (n=21) of patients had discontinued steroids and 31% (n=17) all treatments. Comparing the group of patients who had discontinued treatment (D/C group) to those who were unable to stop therapy (continued therapy group), there were no statistically significant differences (age, duration of symptoms at diagnosis, initial steroid dose, baseline and follow-up ESR, CRP, Hb and platelet values, relapses, co-administration of DMARDs, comorbidities), except from gender (females: D/C group=41%, continued therapy group=72%, p=0.03). Kaplan-Meier analysis also showed that the median time to discontinuation of treatment was longer in females compared to males (log rank p=0.018).
Conclusions: In this long-term follow-up study, relapses occurred in more than half of GCA patients while only one out of three patients were able to discontinue all therapies. Among different variables, only male sex was associated with earlier treatment discontinuation.
Acknowledgements: Supported by research grants from the Special Account for Research Grants (S.A.R.G.), National and Kapodistrian University of Athens, Athens, Greece.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6115

THU0311 FECAL MICROBIOTA IN BEHÇET'S SYNDROME PATIENTS WITH MUCOCUTANOUS AND UVEITIS INVOLVEMENT

D. Tecer[1], F. Gogus[1], A. Kalkancı[2], M. Erdogan[2], S. Coban[3], M. Hasanreisoglu[4], T. Karakan[5]. *[1]Department of Physical Medicine and Rehabilitation, Division of Rheumatology; [2]Department of Medical Microbiology; [3]School of Medicine phase 3 student; [4]Department of Ophthalmology; [5]Department of Gastroenterology, Gazi University, Faculty of Medicine, Ankara, Turkey*

Background: Innate immunity has a major role in the pathogenesis of Behçet's syndrome. The gut microbiota is an active component of the immune system. It plays an important role in the formation of the immune system in the early life and in the continuation of immune homeostasis through the life. Dysbiosis, imbalance in the gut microbiota, can lead to many serious metabolic and inflammatory pathologies
Objectives: We aimed to investigate the gut microbiota structure in Behçet's syndrome patients with mucocutanous and uveitis involvement only.
Methods: 6 patients with Behçet's syndrome with uveitis, 12 patients with familial Mediterranean fever (FMF) and 9 patients with Crohn's disease (CD) and 10 healthy controls were included. Patients, positive and healthy controls were excluded if they had one of the following combined diseases/situations: a) gastrointestinal surgical history (e.g. bariatric surgery, gastrectomy or colectomy), b) antibiotic or probiotics use in the last 3 months, c) specific dietary restriction, d) malignancy, e) additional autoimmune disease or inflammatory bowel disease. Total DNA was extracted from fecal samples using the QIAamp DNA stool Mini Kit following the manufacturer's instructions (Qiagen). Next generation sequencing of 16SrRNA gene was performed using Ion Torrent Technology. Partial 16S rRNA ene sequences were amplified from extracted DNA using the 16S Metagenomics Kit (Life Technologies). The integrity of the PCR amplicons was analyzed by gel electrophoresis. PCR products were purified using AMPure XP DNA purification beads and Invitrogen DynaMaq magnet apparatus. DNA concentration of the amplified sequence was equalized through the Qubit System (Life Technologies). The libraries was created by using the Ion Plus Fragment Library Kit. Barcodes were also added to each sample using the Ion Express Barcode Adapters Kit. Emulsion PCR was carried out using the Ion One Touch 2 machine. Sequenciing of the amplicon libraries was carried out on a 318 chip the Ion Torrent Personal Genome Machne System and Ion PGM Hi-Q kit. 16S rRNA sequences were analyzed by Ion Reporter Software.
Results: In healthy subjects, fecal microbiota consisted predominatly of Bacteroidetes (53.2%) including Bacteroides and Prevotella genuses. Firmicutes such as Bacilli, Clostridia, followed, consisting 31.2% of the bacterial community. Fecal bacterial flora of patients with Behçet's syndrome consisted of Firmicutes (45%), Proteobacteria (23%) such as Enterobacteriaceae and Prevotellaceae, and Bacteriodetes (10%). FMF cases were found to be colonized by Firmicutes (39.3%), Bacteriodetes (32.2%) and Proteobacteria (13.6%) predominantly. CD cases were colonized by Enterobacteriacea (43%), and other Proteobacteria groups, followed by Bacteriodetes (15.4%) and Firmicutes (8.8%).
Conclusions: Fecal flora of patients with Behçet's syndrome and of positive control groups (FMF and CD) differed significantly from that of healthy controls. In a subgroup of patients with Behçet's disease with uveitis and muscucutaneaous involvement only, firmicutes species seem to be the dominant bacterial fecal flora.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.6541

THU0312 PERFORMANCE CHARACTERISTICS AND PREDICTORS OF TEMPORAL ARTERY ULTRASOUND AND BIOPSY FOR THE DIAGNOSIS OF GIANT CELL ARTERITIS IN A REAL WORLD POPULATION; A PROSPECTIVE COHORT STUDY

R. Conway[1], S. Di Bello[1], L. O'Neill[1], G.M. McCarthy[2], C.C. Murphy[3], D.J. Veale[1], U. Fearon[4], R.P. Killeen[5], E.J. Heffernan[5], E.S. Molloy[1]. *[1]Rheumatology, St Vincents University Hospital; [2]Rheumatology, Mater Misericordiae University Hospital; [3]Ophthalmology, Royal College of Surgeons in Ireland; [4]Molecular Rheumatology, Trinity College Dublin; [5]Radiology, St Vincents University Hospital, Dublin, Ireland*

Background: The diagnosis of giant cell arteritis (GCA) remains a clinical one. Temporal artery (TA) ultrasound (US) has been proposed as a new diagnostic tool in GCA.
Objectives: To assess the performance characteristics of TA US and biopsy in routine clinical practice.
Methods: All patients presenting with suspected GCA to our institutions are recruited to a prospective registry. Patients who had both a TA US and biopsy performed at the time of presentation were included in the current study. US was performed by 2 radiologists. The performance characteristics of both tests were compared to physician diagnosis at six months following presentation. Predictive factors for positive US and biopsy were explored in univariate and multivariable logistic regression analyses.
Results: 162 patients were included, 123 (76%) with GCA. Mean (SD) duration of glucocorticoids was 6.6 days (19.4) at the time of TA US and 6.2 days (8.4) at the time of TA biopsy. US had a sensitivity of 52.8% (95% CI 43.7, 61.9) and specificity of 71.8% (95% CI 54.9, 84.5). There were 11 false positive US results; 5 with migraine, 2 other vasculitides, 2 local infections, 2 malignancies. Biopsy