Objectives: We compared clinical features of AAV with renal involvement with patients without renal involvement.
Methods: We conducted an observational study of 104 patients with AAV (12 eosinophilic granulomatosis with polyangiitis, 23 granulomatosis with polyangiitis (GPA), 66 microscopic polyangiitis, 3 renal limited vasculitis) between in 2008 to 2016 in Nagasaki University Hospital. Using medical records, we analyzed the patients' baseline variables, laboratory data, clinical symptoms, and therapeutic outcomes after treatments including episodes of relapses, initiations of dialysis, and death. Renal involvement was defined as the state with estimated glomerular filtration rate <60 mL/min/1.73 m^2 or microscopic hematuria (2+ or greater) which were not caused by renal diseases except for AAV.
Results: Sixty-nine patients had renal involvement. Patients with renal involvement group had higher median age at diagnosis than patients without renal involvement group (75 years vs. 66 years, $p<0.001$). Patients with renal involvement included fewer GPA patients compared to other AAV types. Patients with renal involvement had lower hemoglobin levels (10.3 g/dL vs. 12.3 g/dL) and lower platelet levels ($23.7x10^4/\mu L$ vs. $28.7x10^4/\mu L$). Patients with renal involvement had higher erythrocyte sedimentation rate (78mm/h vs. 20mm/h), MPO-ANCA titers (116 U/mL vs. 58 U/mL) and urine protein levels (0.81 g/gCr vs. 0.15 g/gCr). Patients with renal involvement had lower C3 levels, but CH50 and C4 levels did not differ between in two groups. There were no differences in treatments including doses of prednisolone and use of methylprednisolone pulse and cyclophosphamide between in two groups. Multivariable regression analysis revealed that age at diagnosis is the most significant explanatory variable to renal involvement. Nineteen percent of patients with renal involvement had initiations of dialysis. Multivariable analysis demonstrated estimated glomerular filtration rate at diagnosis is the most significant explanatory variable to initiations of dialysis (p=0.010). Receiver operating characteristic curve showed the cutoff level of estimated glomerular filtration rate to distinguish initiations of dialysis was 37mL/min/1.73 m^2 (sensitivity=79%, specificity=70%, area under the curve=0.80). Assessed by a log-rank test, overall survival rate did not differ between in two groups (p=0.29).
Conclusions: Patients with renal involvement had higher age at diagnosis. Patients with renal involvement included fewer GPA patients. Patients with renal involvement had lower C3 levels. Estimated glomerular filtration rate at diagnosis is the most significant explanatory variable to initiations of dialysis.
Disclosure of Interest: None declared
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THU0304 VASCULITIS PATIENTS ADMITTED TO INTENSIVE CARE UNIT: IMPLICATIONS FROM A SINGLE-CENTER RETROSPECTIVE STUDY

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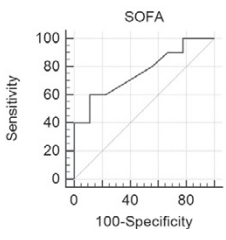
Background: Vasculitides are a heterogeneous group of disorders that are characterized by the inflammation of the vasculature vessels. Vasculitides may present as a life-threatening condition and cause higher rates of morbidity and mortality. There are few studies assessing the outcome and prognosis of patients with vasculitides admitted to the intensive care (ICU).
Objectives: To assess the outcome of vasculitides patients required admission to ICU and to identify factors associated with mortality
Methods: A retrospective study was carried out, including all patients who were diagnosed with vasculitides and admitted to the ICU of the Sheba Medical Center, Tel-Hashomer, throughout the years 2000–2014. Continuous variables were computed as mean±standard deviation, whilst categorical variables were recorded as percentages, where appropriate. Student's t-test and chi-squared analyses were performed for investigating the impact of the clinical variables on mortality.
Results: Twenty-five vasculitides patients admitted to the ICU were included in the present study (mean age 52±14y, sex ratio M/F: 12/13). The mortality rate among these patients was 48%. Leading causes for ICU admission were: infection (64%), vasculitides exacerbation (34%), and hemorrhage (16%). Variables significantly associated with mortality were: the use of Rituximab prior to admission ICU (p=0.039), involvement of the hemodynamic system (p=0.024), the SOFA score (p=0.041), blood infections during the first week at ICU (p=0.018) and persisting after the first week (p=0.007).

Figure 1. Receiver Operating Characteristic (ROC) analysis of the predictive power of the Sequential Organ Failure Assessment (SOFA) score, in predicting the mortality of vasculitis patients admitted at intensity care unit (ICU), in terms of sensitivity and specificity.



Conclusions: Our study confirms the high mortality rate among vasculitides patients and mainly among those requiring admission to ICU. SOFA score and pre-admission treatment with rituximab have been found to be predictive of mortality.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.4431

THU0305 EPIDEMIOLOGY OF ANCA-ASSOCIATED VASCULITIS IN NORTHERN NORWAY

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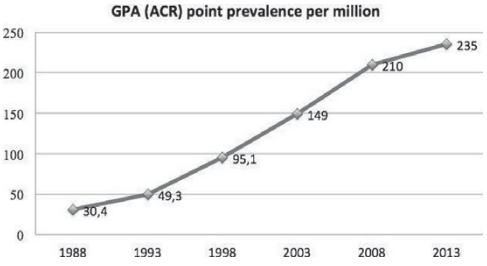
Background: The ANCA-associated vasculitides (AAV) have increased in prevalence since the 1980s, with granulomatosis with polyangiitis (GPA) being most prevalent in Caucasian population in circumpolar areas. This was also shown in a study on GPA in northern Norway between 1984 and 1998, which further showed an increasing incidence [1].
Objectives: The present study aimed to investigate the subsequent 15-year period in the same region, now including all the AAVs.
Methods: The study area has 11 hospitals, no private specialist in rheumatology or nephrology, and an adult population of 371 928. We retrospectively searched all hospital databases, using ICD-10 codes potentially compatible with AAV. Patients diagnosed with AAV from 1999 through 2013 according to the European Medicines Agency (EMEA) algorithm, and for GPA also the subgroup fulfilling the American College of Rheumatology (ACR) 1990 criteria, were included. For prevalence data, patients residing in the area, but with AAV diagnosis prior to 1999, were included too.
Results: Using the EMEA algorithm, 90 incident cases were classified as GPA, 39 as microscopic polyangiitis (MPA) and 14 as eosinophilic granulomatosis with polyangiitis (EGPA). Within the GPA group, 78 patients also met the ACR criteria. The results for incidence and prevalence are given in Table 1:

		Annual incidence/million				Point prevalence at 31. Dec		
		1999–2003	2004–2008	2009–2013	Total period	2003	2008	2013
ACR	GPA	11,4	16,7	12,5	13,6	149	210	235
EMEA	GPA	11,4	19,9	15,7	15,8	149	226	261
EMEA	MPA	2,7	6,5	11,0	6,8	10,8	31,9	63,3
EMEA	EGPA	2,7	2,7	1,6	2,3	13,5	18,6	30,4
EMEA	All AAV	16,8	29,0	28,2	24,9	173	276	354



Conclusions: The GPA incidence and prevalence in this study are the highest reported. Though the incidence has stabilized, prevalence is still increasing, albeit at a decelerating rate (Graph 1). Moreover, the total AAV prevalence doubled in the last 10 years, exceeding previous estimates. Incidence of MPA and EGPA are both within the range found elsewhere. But the MPA incidence appears to be rising reminiscent of GPA before the turn of the century.
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Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.4158

THU0306 PREVALENCE AND CHARACTERISTICS OF NEUROPATHY IN PATIENTS WITH ANCA ASSOCIATED VASCULITIDES: DATA FROM THE DCVAS STUDY

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Background: Epidemiological data on vasculitic neuropathy (VN) in ANCA associated vasculitides (AAV) are scarce and controversial. The Diagnostic and

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.
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[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

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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.

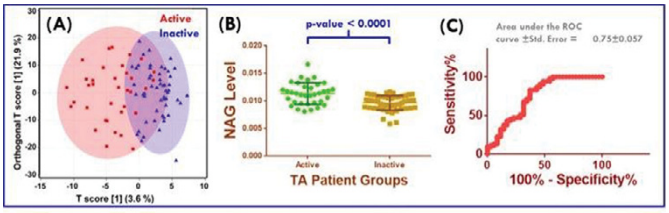

Figure 1: **(A)** 2D score plot obtained from OPLS-DA analysis of 1D ^{1}H NMR spectra. **(B)** Scatter plot showing the serum levels of NAG in active and inactive Takayasu arteritis (TA) patients. The center line refers to the median; whereas the dark lines above and below the center line indicate the 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)

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

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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