($r=0.313$, $p=0.006$). Furthermore, Hsp90 was increased in patients with interstitial lung disease (ILD) compared to those without ILD [12.8 (10.2–17.9) vs. 10.3 (8.6–16.6) ng/mL, $p=0.045$] and was negatively associated with functional parameters of ILD: FVC ($r=-0.299$, $p=0.011$), FEV1 ($r=-0.256$, $p=0.031$), DLCO ($r=-0.303$, $p=0.009$) and SpO₂ ($r=-0.317$, $p=0.038$). In addition, in patients with dcSSc, Hsp90 levels positively correlated with the mRSS ($r=0.437$, $p=0.006$). Hsp90 concentrations were not significantly affected by other main clinical parameters of SSc.

Conclusions: We demonstrated higher plasma levels of Hsp90 in SSc patients compared to healthy controls. Concentrations of extracellular Hsp90 increase with higher inflammatory activity, with deteriorated lung functions in ILD and also with the extent and severity of the skin involvement in patients with diffuse cutaneous SSc. These data further highlight the role of Hsp90 as a significant regulator of fibroblast activation and tissue fibrosis in SSc.

REFERENCE:

[1] Tomcik M, et al. Ann Rheum Dis 2014;73(6):1215–22.

Acknowledgements: Supported by AZV – 16–33542A and SVV – 2 60 373.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6437

SAT0494

CLINICAL AND ELECTROPHYSIOLOGICAL DIAGNOSIS OF SYMMETRICAL POLYNEUROPATHY IN SYSTEMIC SCLEROSIS: STUDY FROM A SINGLE TERTIARY CENTRE IN MALAYSIA

T. Balaikerisnani¹, K.J. Goh², L.P. Ramanaidu², J. Raja¹. ¹Division of Rheumatology, Department and Faculty of Medicine; ²Division of Neurology, Department and Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Background: Peripheral neuropathy (PN) in systemic sclerosis (SSc) is an under recognised non-lethal burden with its prevalence between 0.01% to 28%¹. Previous studies have been limited by small sample size, variable diagnostic criteria and different populations studied.

Objectives: The aim of this study is to determine the prevalence of symmetrical PN in SSc patients and to identify the associated factors that can predispose to PN in SSc.

Methods: 59 SSc patients from University Malaya Medical Centre participated in this cross-sectional study. Clinical symptoms/signs of PN were assessed using modified Total Neuropathy Score (TNS). Nerve conduction studies (NCS) were carried out on the upper and lower limbs. Diagnosis of symmetrical polyneuropathy was defined as combined TNS score ≥ 2 and abnormal NCS parameters in at least 2 nerves including the sural². Focal neuropathy was defined as abnormal NCS of a nerve other than the sural nerve (radial, median, ulnar, common peroneal).

Results: Majority were females (54, 91.5%) and had limited cutaneous SSc (44, 74.6%). Mean age was 55.7 (SD ± 13.1) years while mean duration of disease (non-Raynaud's disease onset) was 8.74 years (SD ± 8.09) (range 1 to 44 years). Out of 59 patients, 38 (64.4%) had TNS ≥ 2 . On NCS, 17 (31.5%) and 12 (22.2%) had findings of symmetrical polyneuropathy and focal neuropathy respectively. A total of 14 (23.7%) SSc patients were diagnosed to have symmetrical polyneuropathy. Lower haemoglobin level was significantly associated with symmetrical polyneuropathy ($p=0.047$) after adjustment for potential confounding variables. Serum vitamin B12 was normal in all subjects with symmetrical polyneuropathy. No correlation was seen in SSc related comorbidities (diabetes mellitus and kidney disease), serum fasting blood sugar, creatinine and MCV, as well as disease markers such as skin fibrosis (MRSS skin score), specific organ manifestations, Raynaud's or vasculopathy, SSc specific auto-antibodies and treatment received.

Demography	No polyneuropathy n=45 (76.3%)	Polyneuropathy n=14 (23.7%)	p value
Mean age (y.o $\pm$)	53.6 $\pm$ 13.22	62.57 $\pm$ 10.69	0.025
Sex			
Female	45 (76.3)	14 (23.7)	0.325
Male	5 (100)	0 (0)	
BMI kg/m ² (mean)	22.9 $\pm$ 5.94	21.0 $\pm$ 5.13	0.736
Diffuse SSc	10 (22.2)	4 (28.5)	0.722
Limited SSc	35 (77.7)	10 (71.4)	0.316
MRSS score (mean)	10.29 $\pm$ 8.02	8.36 $\pm$ 4.23	0.594
SSc duration (mean)	8.97 $\pm$ 8.78	8.00 $\pm$ 5.51	0.803
Haemoglobin (mean) (g/L)	12.36 $\pm$ 1.33	11.2 $\pm$ 1.25	0.010
MCV _{>97} (fl)	4 (8.9)	3 (21.4)	0.175
Creatinine (median) (umol/L)	55 $\pm$ (IQR 45–60)	61.5 $\pm$ (IQR 49–75)	0.111

Fasting blood sugar (mean) (mmol/L)	4.32 $\pm$ 1.16	5.67 $\pm$ 2.46	0.095
ESR (mean) (mm/hr)	33.7 $\pm$ 20.65	44.23 (19.6)	0.068

Neurological Components

Conclusions: The prevalence of PN in a Malaysian SSc cohort is similar to other studies (23.7%). Lower haemoglobin level was significantly associated with symmetrical polyneuropathy in SSc.

REFERENCES:

- Paik JJ, et al. Symptomatic and Electrodiagnostic Features of Peripheral Neuropathy in Scleroderma. Arthritis Care Res (Hoboken) 2016;6(8):1150–57.
- England JD, et al. Distal symmetrical polyneuropathy: a definition for clinical research. A report of the American Academy of Neurology, the American Association of Electrodiagnostic Medicine, and the American Academy of Physical Medicine and Rehabilitation. Arch Phys Med Rehabil 2005 Jan;86(1):167–74.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1874

SAT0495

PLASMA D-DIMER CONCENTRATION, MACROVASCULAR DISEASE AND MORTALITY IN PATIENTS WITH SYSTEMIC SCLEROSIS

J.J. Alegre-Sancho, M. Robustillo-Villarino, M. Aguilar-Zamora, L. Montolio-Chiva, E. Valls-Pascual, D. Ybáñez-García, Á. Martínez-Ferrer, I. Torner-Hernández, V. Núñez-Monje, A.V. Orenes-Vera, A. Sendra-García. Rheumatology, Hospital Universitario Doctor Peset, Valencia, Spain

Background: Plasma d-dimer (DD) has proven to be a reliable marker of a systemic prothrombotic state and its measurement might be helpful in predicting cardiovascular events and even mortality across a broad variety of diseases. An association between high levels of DD and macrovascular disease, diffuse cutaneous involvement and active disease has been suggested in patients with SSc.

Objectives: To determine the usefulness of DD measurement as a marker of macrovascular disease and mortality in patients with SSc. To explore its relation with other features and biomarkers of SSc.

Methods: Descriptive ambispective observational study. We included, consecutively from 2010 to 2015, SSc patients controlled in a tertiary hospital. We gathered demographic, clinical, and analytical variables, including DD levels measured by turbidimetric immunoassay (ACL TOP 700 CTS, Werfen Spain). Other variables were collected retrospectively from the electronic medical record. We explored the extracranial branches of the carotid artery (ESAOTE MyLab XV70, 7–12 MHz linear probe, software ^{RF}QIMT) measuring intima media thickness (IMT) by radiofrequency, and the presence of atheroma plaques, as per the Mannheim consensus, was registered. The ankle-brachial index (ABI) was measured by a Vascular Surgeon. We considered an IMT>900 μ and/or presence of atheroma plaque and/or an ABI <0.9 as macrovascular damage. We prospectively collected mortality until dec-2017. Statistical analysis was performed using SPSS 17.0 software.

Results: 115 patients were included consecutively, of which finally 100 were studied (91 women, 9 men), with a mean age of 60.2 years (SD 15). Mean SSc evolution time was 13.9 years (SD 11.2). LSSc was most frequently diagnosed (50%), followed by DSSc (18%), SSc without scleroderma (17%), overlap syndrome (9%) and pre-SSc (6%). 37% of patients were hypertensive, 45% dyslipidemic, and 7% were diabetic. Overall, 40% had macrovascular damage. The mean values of DD were 437.6 ng/mL (SD 683.5), 60% of the patients having levels of DD (>250 ng/mL). During follow up, there were 16 deaths, 50% due to vascular events. Baseline high levels of plasma DD were associated to macrovascular damage and ischaemic digital ulcers, together with advanced age, arthritis, inflammation biomarkers, HTA, sPAP, lower DLCO% and coexistence of

an inflammatory disease (overlap, infection, neoplasia), and showed a tendency to an association with mortality. This association became statistically significant when considering DD plasma levels as a quantitative variable ($p < 0.001$) and remained significant after adjustments (age, coexistence of an inflammatory disease) ($p = 0.003$).

Conclusions: DD plasma levels are associated with macrovascular involvement and can be helpful in predicting medium-term mortality in our SSC patients. Levels of plasma DD can be modified by systemic inflammation.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7504

SAT0496 INCIDENCE, CARDIOVASCULAR EVENTS AND MORTALITY OF ADULT INFLAMMATORY MYOPATHIES IN SOUTH KOREA: A NATIONWIDE POPULATION-BASED STUDY

K.H. Jung¹, H.J. Kim², W. Park¹, S.R. Kwon¹, H.S. Ahn². ¹Rheumatology, INHA University, Incheon; ²Preventive medicine, Korea University, Seoul, Korea, Republic Of

Background: The inflammatory myopathies (IMs), including dermatomyositis (DM) and polymyositis (PM), are rare autoimmune diseases characterised by progressive proximal muscle weakness, elevated muscle enzyme and various organ involvement. Studies on epidemiology and mortality of IMs at the national level are rare.

Objectives: We conducted a nationwide population study of incidence, cardiovascular events (especially acute myocardial infarction, ischaemic stroke, haemorrhagic stroke) and survival of IMs in South Korea over the course of 11 years.

Methods: We used data from the Rare Intractable Disease (RID) registry and Health Insurance Review and Assessment (HIRA) service, which include information on all IMs patients diagnosed based on uniform criteria between 2005 and 2015. Survival data from Statistics Korea linked to HIRA-RID database were used in our survival analysis.

Results: In this study, total incident cases between 2005 and 2015 were 3014 (1,860 DM patients, 1,154 PM patients) and the mean annual incidence rate was $7.16/10^6/\text{year}$ (DM was $4.42/10^6/\text{year}$, PM was $2.74/10^6/\text{year}$). The female to male ratio of DM was 2.2:1 and that of PM was 1.9:1. Cardiovascular events occurred in 155 patients during the study period. Of the patients with DM, 25 were diagnosed with AMI (SIR 1.3, 95% CI 0.9–1.9), 39 with ischaemic stroke (SIR 1.4, 95% CI 1.0–1.9), 18 with haemorrhagic stroke (SIR 1.3, 95% CI 0.8–2.0). The results of PM were similar with those of DM. Of 155 patients, 63 (40.6%) died and had a high mortality rate. 640 of 3014 patients with IMs died during the study period; 290 and 350 were male and female, respectively. The survival curve for IMs is shown in Fig.1. The DM patients showed a 5 year survival rate (YSR) of 76.8%, and a 10-YSR of 68.9%, and the PM patients showed a 5-YSR of 79.3% and a 10-YSR of 68.3%.

Abstract SAT0496 – Figure 1. Survival curves of dermatomyositis and polymyositis

Conclusions: This is the first study of incidence and mortality of IMs over 3000 cases by the national registry in South Korea. In this nationwide population-based study of IMs, we found still high mortality and low survival and increased cardiovascular events related mortality compared than general population.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5564

SAT0497 FOLLOW-UP OF DISEASE ACTIVITY IN HUNGARIAN PATIENTS WITH IDIOPATHIC INFLAMMATORY MYOPATHY

L. Bodoki¹, M. Nagy-Vincze², Z. Griger², Z. Szekanez¹, K. Dankó². ¹University Of Debrecen, Faculty Of Medicine, Department Of Internal Medicine, Department Of Rheumatology; ²University Of Debrecen, Faculty Of Medicine, Department Of Internal Medicine, Department Of Clinical Immunology, Debrecen, Hungary

Background: Assessing disease activity in patients with myositis is an important goal. A method called Disease Activity Core Set Measures was established by International Myositis Assessment and Clinical Studies Group (IMACS) for evaluating activity of myositis. This assesses the manifestations of myositis which are thought to be reversible that result directly from the inflammatory process.

Objectives: In this prospective study authors aimed to monitoring disease activity in Hungarian myositis patients treated at the Autoimmune Outpatient Clinic, Department of Clinical Immunology, University of Debrecen. First, disease activity data of poly (PM) – and dermatomyositis (DM) patients were compared. Secondly, by patients with active disease, the correlations between the components of Disease Activity Core Set Measures were studied.

Methods: During the three-year follow-up period, at every single visit, authors evaluated disease activity using factors of Disease Activity Core Set Measures and patients filled Health Assessment Questionnaire (HAQ). Only those patients who appeared at least three times during the follow-up period were selected. Statistical analysis was made using SPSS 17.0 statistical software.

Results: Collection of data from 219 patients (age: 44.93 years, female: male ratio 2.98:1) happened in a total of 1101 outpatient visits. The 107 PM patients had statistically significant higher physician and patient visual analogue (VAS) and myositis disease activity assessment tools scores than the 61 DM patients, with the exception of cardiovascular disease activity. Activity of skin lesions was significant higher in DM patients. By the 44 patients, who had an active disease, the MMT scores gave significant negative correlations with HAQ scores ($R = -0.536$ and $p < 0.001$) and CK levels ($R = -0.387$ and $p < 0.001$). The physician and patient VAS gave strong negative correlations with MMT scores ($R = -0.714$ and $p < 0.001$ and $R = -0.730$ and $p < 0.001$, respectively) and positive correlations with HAQ scores and CK levels (physician VAS vs. HAQ $R = 0.691$ and $p < 0.001$; patient VAS vs. HAQ $R = 0.629$ and $p < 0.001$; physician VAS vs. CK $R = 0.622$ and $p < 0.001$; patient VAS vs. CK $R = 0.615$ and $p < 0.001$).

Conclusions: As far as we know, this is the first study which compares the activities of PM and DM patients based on the IMACS system. According to our data, we can conclude that PM patients had more severe muscle symptoms and extra-muscular manifestations. Secondly, as seen in other previous studies, calculations in patients with active myositis showed a clear correlation between the most important components of Disease Activity Core Set Measures.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.2220

SAT0498 ABNORMAL ELECTROCARDIOGRAPHIC FINDINGS IN A SCANDINAVIAN COHORT OF PATIENTS WITH IDIOPATHIC INFLAMMATORY MYOPATHIES

S.S. Korsholm¹, M. Dastmalchi², A.C. Diederichsen³, D.C. Andersson⁴, I. E. Lundberg⁵, N. Witting⁶, M.E. Krogager⁵, T. Friis⁶, S. Jacobsen⁷, J.B. Knudsen¹, L.P. Diederichsen¹. ¹Department of Rheumatology, Odense University Hospital, Odense C, Denmark; ²Department of Rheumatology, Karolinska University Hospital, Stockholm, Sweden; ³Department of Cardiology, Odense University Hospital, Odense C, Denmark; ⁴Dept. of Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden; ⁵Department of Neurology, Copenhagen University Hospital; ⁶Dept. of Autoimmunology and Biomarkers, Statens Serum Institut; ⁷Department of Rheumatology, Copenhagen University Hospital, Copenhagen, Denmark

Background: Idiopathic inflammatory myopathies (IIMs) are characterised by progressive muscle weakness and muscle fatigue. IIMs frequently appear with other organ involvement, e.g. the heart. Cardiac affection is often subclinical but associated with poor prognosis which makes early detection critical.

Presence of autoantibodies is common in IIMs and autoantibodies are important biomarkers to confirm the diagnosis of IIMs. Autoantibodies may even predict organ involvement, e.g. the common myositis specific autoantibody anti-Jo1, which is a marker of lung involvement. So far, an autoantibody predicting cardiac involvement has yet to be identified.

Objectives: The aim of this study was to identify and estimate presence of cardiac involvement detected by electrocardiography (ECG) and to evaluate possible associations between ECG changes and autoantibodies in a Scandinavian cohort of patients with IIMs.

Methods: In a Scandinavian cross-sectional study, 241 patients with polymyositis (PM), dermatomyositis (DM), or inclusion body myositis (IBM) and 48 healthy controls (HCs) were investigated by ECG, basic cardiovascular assessments, and