pregnancy and 9 in post-partum. The frequency of NL was estimated at 9.8% [95% CI 6.3–14.9] (CHB=6.2% [IC95% 3.5–10.7]). Table 1 describes the maternal and fetal characteristics of NL cases. The most frequent manifestations were skin (n=7) and cardiac involvement (n=12). In 1 case, there was a history of NL in a previous pregnancy. Of the patients with CHB, 5 required a pacemaker.

Conclusions In conclusion, the frequency of NL in our multi-centric cohort is greater than other international cohorts. Differences could be related to genetic/environmental factors as well as methodological limitations and selection bias.

Funding Source(s): None

272 FLUCTUATION, INVISIBILITY, FATIGUE THE BARRIERS TO MAINTAINING EMPLOYMENT IN SLE: RESULTS OF AN ON-LINE SURVEY

¹Sara Booth*, ²Elizabeth Walker, ²Elizabeth Price. ¹University of Cambridge; ²Faculty of Health Sciences Hull University

10.1136/lupus-2019-lsm.272

Background It is well-documented that systemic lupus erythematosus (SLE) is associated with high levels of workplace disability and unemployment. The objective of this study was to understand reasons for this and to describe the barriers and facilitators to employment identified by people with SLE to develop appropriate solutions. Unemployment, as well as unsuitable work, has adverse health outcomes.

Methods Adults with SLE completed a UK-specific online survey, through the LUPUS UK website, designed to find out more about the difficulties and successes that people with SLE have in maintaining employment. The survey was predominantly qualitative, to understand participants employment experiences to generate possible solutions.

Results 393 people gave detailed responses to the survey within eight weeks. Every respondent reported a detrimental effect of SLE on their ability to work. 40.45% had left employment because of it. The themes of concern to respondents were unambiguous (i) the difficulties of working (and career damage) with SLE (ii) long-term fear and anxiety overshadowing work/family life (iii) the greater potential to remain in some/employment when modifications of work pattern and support from management and colleagues were available. Anti-disability discrimination was reported as partially helpful but incomplete, omitting many features of lupus disability. SLE-related fatigue, its invisibility and fluctuating nature were felt to be the main barriers to maintaining employment. Many respondents could work only part time, anxiety was high regarding future ability to continue working and financial strains. Many had taken substantial pay reductions and refused offered promotions to preserve their health. Distress due to loss of work and the benefits it brings were reported by every respondent who had left work. Loss of work and the demeaning impact of a widespread lack of understanding of the reasons for workplace disability had a detrimental effect on individuals mental health.

Conclusions SLE presents specific difficulties for maintaining employment fatigue, fluctuation and invisibility not addressed by current anti-discrimination legislation or currently-available reasonable adjustments. This study demonstrates that (i) employment is an important area of concern for people with SLE (ii) SLE has significant detrimental effects on individuals'

ability to participate and progress in employment (iii) legislators and employers need information about SLE as invisibility and fluctuation cause hidden problems (ii) more data is needed to inform workplace adjustments if individual distress and societal loss of skills are to be addressed.

Funding Source(s): No external funding required

273 SAFETY OF RESEARCH CORES OBTAINED FROM CLINICALLY INDICATED BIOPSIES IN THE ACCELERATING MEDICINES PARTNERSHIP NETWORK

¹Jill Buyon*, ¹Michael Belmont, ¹Peter Izmirly, ¹Nicole Bornkamp, ¹Catherine Trad, ¹Rohit Bhan, ¹Kimberly Robins, ¹Robert Clancy, ²Chaim Putterman, ¹Ming Wu, AMP Network. ¹NYU School of Medicine; ²Albert Einstein College of Medicine and Montefiore Medical Center

10.1136/lupus-2019-lsm.273

Background The Accelerating Medicines Partnership (AMP) is a public-private network comprising the National Institutes of Health, medical centers, biopharmaceutical companies and non-profit organizations. The Networks overarching mission is to develop SLE diagnostics and treatments via transcriptomic analysis of cells isolated from renal biopsies. This study addresses the safety of the research component of clinically indicated percutaneous kidney biopsies in anticipation of generalizing these results for real world clinical practice. We focused on one site (NYU METRO) for uniformity of data collection in which all biopsies were done by interventional radiology using an 18 gauge needle.

Methods Patients undergoing kidney biopsies to evaluate proteinuria exceeding 500 mg/day (based on uPCR) were consented to donate research tissue which was acquired via an extra pass or the use of a piece of a core with sufficient glomeruli available for both clinical evaluation and research. Adverse events (AE) within 30 days of biopsy were reported.

Results 98 patients with sufficient research kidney tissue have enrolled through the three Phases of AMP (0=technical, 1=technical translational, 2=ongoing full follow-up): 10 males, 88 females; 68 Non-Hispanic (69.4%), 30 Hispanic (30.6%); 19 Asian (19.4%), 32 Black (32.7%), 46 White (46.9%), 1 other (1.0%). Biopsy classes varied: 5 non-LN (5.1%), 1 Class I (1.0%), 5 Class II (5.1%), 21 Class III (21.4%), 16 Class IV (16.3%), 15 Class V (15.3%), 20 Class III/V (20.4%), 11 Class IV/V (11.2%), 3 Class VI (3.1%), 1 not yet determined. Research biopsy core lengths ranged from 4–19 mm. Eleven patients had an AE (research biopsy core lengths 5–13 mm); 8 were hematomas (only 6 had an extra pass specific for research). Of the 8 patients, 5 were hospitalized, 4 for the hematoma with 1 receiving a transfusion. Neither number of passes nor research core length predicted hematoma. All hematomas resolved within one week. The remaining 3 AEs were unrelated to the biopsy: 1 cardiac event-related death, 1 UTI, 1 fall. This site-specific frequency is similar to that being observed in the overall multisite ongoing Phase 2 AMP Network.

Conclusions Albeit this detailed report is limited to one site, it is consistent with the Network experience. These data support the feasibility and safety of obtaining a research core to bring personalized medicine to the management of LN.

Funding Source(s): This work was supported by the Accelerating Medicines Partnership (AMP) in Rheumatoid Arthritis and Lupus Network. AMP is a public-private partnership (AbbVie, Arthritis Foundation, Bristol-Myers Squibb, Foundation for the

NIH, Lupus Foundation of America, Lupus Research Alliance, Merck Sharp and Dohme, NIAID, NIAMS, Pfizer, Rheumatology Research Foundation, Sanofi, and Takeda Pharmaceuticals) created to develop new ways of identifying and validating promising biological targets for diagnostics and drug development. Funding was provided through grants from the National Institutes of Health (UH2-AR067676, UH2-AR067677, UH2-AR067679, UH2-AR067681, UH2-AR067685, UH2-AR067688, UH2-AR067689, UH2-AR067690, UH2-AR067691, UH2-AR067694, UM2-AR067678).

274 LOW ATTENUATION NON-CALCIFIED CORONARY PLAQUES AND POSITIVE REMODELING INDEX: MARKERS OF VULNERABLE CORONARY PLAQUES IN SYSTEMIC LUPUS

¹George Stojan*, ²Jessica Li, ³Laurence Magder, ⁴Matthew Budoff, ²Michelle Petri. ¹Johns Hopkins University; ²Johns Hopkins University School of Medicine; ³University of Maryland; ⁴David Geffen School of Medicine at UCLA

10.1136/lupus-2019-lsm.274

Background Positive remodeling index (RI) and presence of low attenuation noncalcified plaque (LANCP) are characteristic vessel changes in unstable coronary plaques. We sought to characterize LANCP and positive RI in patients with SLE.

Methods A total of 72 patients who met the ACR or SLICC classification criteria for SLE had CT angiogram studies, 30 of which had follow up CT angiograms. A total of 100 healthy controls who had two CT angiograms were included in the study. Each noncalcified plaque (NCP) detected within the vessel wall was evaluated for minimum CT density and vascular remodeling index. A LANCP was defined as an NCP with a density <30 Hounsfield units. Lesions with remodeling 0% were considered to have positive RI. T-test was used to evaluate baseline characteristics between lupus patients and controls. Paired t-test or Wilcoxon signed ranks test was used to compare LANCP volume and RI between baseline and follow-up. Fishers exact test was used to evaluate the association between change in LANCP, RI, demographic and clinical variables.

Results Lupus patients had a significantly higher burden of LANCP compared to healthy controls in all age subgroups except in those >60 years of age. LANCP volume was associated with age ($p<0.01$) and body mass index ($p<0.01$). No significant differences were observed between RI in lupus and controls at baseline. Despite a significant progression of the total noncalcified plaque burden in lupus compared to controls ($p<0.0001$), the LANCP in lupus patients regressed ($p<0.001$). No demographic or clinical differences were observed between lupus patients whose LANCP progressed and those whose LANCP regressed. Lupus patients who were not treated with statins had a more significant regression of their LANCP burden ($p<0.01$) compared to controls who were on statins, while lupus patients who were taking statins had a significant progression ($p<0.01$).

Conclusions Lupus patients have a significantly higher burden of LANCP compared to healthy controls in all age subgroups except in those >60 years of age. The LANCP burden regresses more rapidly over time in lupus compared to controls. Surprisingly, the most significant LANCP plaque volume regression was seen in lupus patients who were never treated with statins, while the most significant progression was observed in those taking statins. Positive RI was ubiquitous, with no evidence of progression or differences compared to

controls. These characteristic vessel changes may identify SLE patients at need for more frequent noninvasive cardiac monitoring.

Funding Source(s): The Hopkins Lupus Cohort was funded by AR 69572.

275 GENOME-EXPOSOME INTERACTIONS IN SYSTEMIC LUPUS ERYTHEMATOSUS

¹Soren Jacobsen*, ²Theis Lange, ³Christoffer Collins, ⁴Constance Jensina Ulf-Møller, ⁴Henrik Christian Bidstrup Leffers. ¹Lupus and Vasculitis Clinic, Rheumatology, Copenhagen University Hospital, Rigshospitalet; ²Center for Statistical Science, Peking University, Beijing, China; ³Department of Rheumatology, MedStar Washington Hospital Center, Washington DC, USA; ⁴Lupus and Vasculitis Clinic, Rheumatology, Copenhagen University Hospital, Rigshospitalet

10.1136/lupus-2019-lsm.275

Background Systemic lupus erythematosus (SLE) is a systemic inflammatory autoimmune disease characterized by a broad spectrum of clinical and serological manifestations. This may reflect a complex and multifactorial etiology involving several identified genetic and environmental factors, though not explaining the full risk of SLE. Established SLE risk genotypes are either very rare or with modest effect sizes and twin studies indicate that other factors besides genetics must be operative in SLE etiology. The exposome comprises the cumulative environmental influences on an individual and associated biological responses through the lifespan. It has been demonstrated that exposure to silica, smoking and exogenous hormones candidate as environmental risk factors in SLE, while alcohol consumption seems to be protective.

Methods A systematic search on published studies that have investigated interactions between genetic and environmental risk factors resulted in five studies based on three different populations. Available measures of interaction were extracted.

Results Very few ($n=5$) studies have investigated potential gene-environment interactions to determine if some of the unexplained SLE risk is attributable hereto. Even less ($n=2$) have focused on interactions between specific risk genotypes and environmental exposures relevant to SLE pathogenesis. Cohort and case-control studies may provide data to suggest such biological interactions and various statistical measures of interaction can indicate the magnitude of such. However, such studies do often have very large sample-size requirements and it is suggested that the rarity of SLE to some extent can be compensated by increasing the ratio of controls.

Conclusions This review summarizes the current body of knowledge on gene-environment interactions in SLE. We argue for the prioritization of studies that comprise the increasing details available of the genome and exposome relevant to SLE as they have the potential to disclose new aspects of SLE pathogenesis including phenotype heterogeneity.

Funding Source(s): Gigtforeningen

276 BASELINE RENAL AUTOPHAGY-RELATED PROTEIN P62 EXPRESSION LEVEL PREDICTS 24-WEEK TREATMENT EFFECTIVENESS IN LUPUS NEPHRITIS

¹Qiong Fu*, ¹Shuhui Sun, ¹Jie Chen, ²Chunde Bao. ¹Shanghai Jiaotong University; ²Renji Hospital, School of Medicine, Shanghai Jiao Tong University, China

10.1136/lupus-2019-lsm.276