Table: Comparison of serologic features between NA and other regions and in different age groups.

Region/Age Group		NA	LA	WE	EE	AF	AS	18-29	30-39	40-49	50-59	≥60	Total
N		164	395	27	202	58	159	237	271	259	167	71	1005
Age	Mean	44.5	37.9	39.7	42.3	40.6	36.8	24.4	34.4	44.5	53.5	63.9	39.9
	Med	45.5	36	36	43	49.5	39.5	25	34	44	53	63	39
	p	*C	<0.001	*ns*	*ns*	<0.05	<0.05			-			-
C3	Mean	1250	1053	956	1044	1193	880	950	1011	1121	1158	1189	1062
	Med	1200	850	920	1040	1170	840	940	1000	1100	1130	1190	1050
	p	*C	<0.001	<0.001	<0.001	*ns*	<0.001			#<0.001			-
C4	Mean	244	180	160	171	216	163	160	173	207	210	218	189
	Med	233.5	176	165	170	200	160	156	167	190	210	210	180
	p	*C	<0.001	<0.001	<0.001	*ns*	<0.001			#<0.001			-
Low C3/C4	N	25	137	13	80	10	91	116	116	70	44	10	356
	%	15.2	34.7	48.1	39.6	17.2	57.2	48.9	42.8	27.0	26.3	14.1	35.4
	p	**C	<0.001	<0.001	<0.001	*ns*	<0.001			**<0.001			-
DNA	N	44	161	9	80	17	89	144	115	72	44	16	391
	%	26.8	40.8	33.3	39.6	29.3	56.0	60.8	42.4	27.8	26.3	22.5	38.9
	p	**C	<0.01	*ns*	<0.05	*ns*	<0.001			**<0.001			-
ENA	N	83	277	18	131	40	112	175	187	157	100	42	661
	%	50.6	70.1	66.7	64.9	69.0	70.4	73.8	69.0	60.6	59.9	59.2	65.8
	p	**C	<0.001	<0.05	<0.001	<0.001	<0.001			**<0.01			-
ANA≥	N	21	222	8	68	30	63	140	149	111	82	28	510
1:640	%	12.8	56.2	29.6	33.7	51.7	39.6	59.1	55.0	42.9	49.1	39.4	50.7
	p	**C	<0.001	*ns*	<0.001	<0.001	<0.001			**<0.001			-

Asian patients were the youngest, had the lowest complement levels and the highest rate of ENA & DNA consistent with high disease activity. Low complement, but not DNA, was relatively common in Europe. LA patients, like Asians, had high rates of serologic activity but less incidence of low C3/C4, suggesting that this population may have intrinsic disease severity without being as acutely active.

*Mann-Whitney Rank Sum **Chi-square #One-way ANOVA on ranks; Med-median **p**-p value C-comparator *ns*-not significant; Data not corrected for multiple comparisons

Conclusion: SLE patients entering studies from North America are strikingly less likely to have markers of active disease than other regions, raising concerns for their suitability for trials. This appears to be associated, at least in part, with age, although more aggressive treatments cannot be ruled out.

Asian subjects have the greatest prevalence of autoantibodies and low complement. Latin American patients have high prevalence of ANA≥1:640 and other autoantibodies, but less evidence of low complements.

These findings may help to explain regional differences in treatment/placebo responses and emphasize the importance of geographical stratification and improved methods to screen out patients unsuitable for SLE trials.

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Disclosure of Interests: Ewa Olech Grant/research support from: Bristol Myers Squibb, Eduard van Rijen: None declared, Ali Ashrafzadeh Employee of: Employee of IQVIA, Alexander Kant: None declared, Joan T Merrill Grant/research support from: Genentech, UCB, GSK, EMD Serono, Pfizer, Celgene, Exagen, Bristol Myers Squibb, Medimmune/Astra Zeneca, Lilly, Amgen, Xencor, Neovacs, Consultant for: Genentech, UCB, GSK, EMD Serono, Pfizer, ReMeGen, Celgene, Exagen, Bristol Myers Squibb, Medimmune/Astra Zeneca, Lilly, Immupharma, Amgen, Janssen, Sanofi, Neovacs, Anthera, Speakers bureau: UCB, GSK, EMD Serono, Bristol Myers Squibb, Medimmune/Astra Zeneca, Janssen

DOI: 10.1136/annrheumdis-2019-eular.6332

OP0252

NEUROPATHIES IN SYSTEMIC LUPUS ERYTHEMATOSUS: RESULTS FROM AN INTERNATIONAL, INCEPTION COHORT STUDY

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Background: Central nervous system (CNS) involvement accounts for over 90% of neuropsychiatric (NP) events compared to involvement of the peripheral nervous system (PNS) which accounts for most of the other events. Although there is a large body of work on CNS disease in SLE patients, involvement of the PNS is less well established.

Objectives: In a multi-ethnic/racial, prospective SLE inception cohort, to determine the clinical characteristics, associations and outcomes in different types of peripheral nervous system (PNS) disease.

Methods: Patients were evaluated annually for 19 NP events including seven types of PNS disease. Standardized case definitions and attribution models for each type of PNS event were used. SLE disease activity (SLEDAI-2K), organ damage (SLICC/ACR damage index), autoantibodies, patient (SF-36) and physician (Likert score) assessment of outcome were measured. Time to event and linear regressions were used as appropriate.

Results: Of 1,827 SLE patients, 88.8% were female, 48.8% Caucasian. The mean±SD age was 35.1±13.3 years, disease duration at enrollment 5.6±4.2 months and follow-up 7.6±4.6 years. There were 161 PNS events in 139/1,827 (7.6%) patients. The predominant events were peripheral neuropathy [66/161 (41.0%)], mononeuropathy [44/161 (27.3%)] and cranial neuropathy [39/161 (24.2%)] and the majority were attributed to SLE. Multivariate Cox regressions suggested longer time to resolution in patients with prior history of neuropathy, older age at SLE diagnosis, higher SLEDAI-2K scores, and for peripheral neuropathy versus other neuropathies. Neuropathy was associated with significantly lower SF-36 physical and mental component summary scores versus patients without NP events. By physician assessment, the majority of neuropathies

resolved or improved over time and this was associated with improvements in SF-36 summary scores for peripheral neuropathy and mononeuropathy.
Conclusion: PNS disease is an important component of total NPSLE and has a significant negative impact on health related quality of life. The outcome is favourable for most patients, but several factors associated with longer time to resolution were identified.
Disclosure of Interests: John Hanly Consultant for: Eli Lilly Canada, Qiuju Li: None declared, Li Su: None declared, Murray B Urowitz Grant/research support from: GSK, Consultant for: BMS, Celgene, GSK, Lilly, UCB, Caroline Gordon Grant/research support from: Sandwell and West Birmingham Hospitals NHS Trust have received funding from UCB to support research work done by my research group that was unrelated to any pharmaceutical product or clinical trial., Consultant for: I have provided consultancy advice and taken part in scientific advisory boards on the design and analysis of clinical trials and the management of lupus for GSK, EMD Serono and UCB. I have taken part in adjudication and safety monitoring committees for BMS., Speakers bureau: I have been paid by UCB for speaking at meetings., Sang-Cheol Bae: None declared, Juanita Romero-Diaz: None declared, Jorge Sanchez-Guerrero: None declared, Sasha Bernatsky: None declared, Ann E Clarke: None declared, Daniel J Wallace: None declared, David Isenberg: None declared, Anisur Rahman: None declared, Joan T Merrill Grant/research support from: Genentech, UCB, GSK, EMD Serono, Pfizer, Celgene, Exagen, Bristol Myers Squibb, Medimmune/Astra Zeneca, Lilly, Amgen, Xencor, Neovacs, Consultant for: Genentech, UCB, GSK, EMD Serono, Pfizer, RemeGen, Celgene, Exagen, Bristol Myers Squibb, Medimmune/Astra Zeneca, Lilly, Immupharma, Amgen, Janssen, Sanofi, Neovacs, Anthera, Speakers bureau: UCB, GSK, EMD Serono, Bristol Myers Squibb, Medimmune/Astra Zeneca, Janssen, Paul Fortin: None declared, Dafna D Gladman Grant/research support from: AbbVie, Amgen, Celgene, Lilly, Novartis, Pfizer, and UCB, Consultant for: AbbVie, Amgen, BMS, Celgene, Galapagos, Gilead, Janssen, Lilly, Novartis, Pfizer, and UCB, Ian N. Bruce Grant/research support from: Genzyme Sanofi, GlaxoSmithKline, Consultant for: AstraZeneca, Eli Lilly, GlaxoSmithKline, ILTOO Pharma, MedImmune, Merck Serono, Speakers bureau: GlaxoSmithKline, UCB Pharma, Michelle A Petri Shareholder of: Pfizer, Merck, Grant/research support from: AstraZeneca, Exagen, Consultant for: Eli Lilly, GSK, Merck EMD Serono, Janssen, Amgen, Novartis,
Quintiles, Exagen, Inova Diagnostics, AstraZeneca, Blackrock,
Glenmark, UCB, and the Annenberg Center for Health Sciences, Ellen M Ginzler: None declared, M.A. Dooley: None declared, Kristjan Steinsson: None declared, Rosalind Ramsey-Goldman: None declared, Asad A Zoma: None declared, Susan Manzi: None declared, Ola Nived: None declared, Andreas Jonsen: None declared, Munther Khamashta: None declared, Graciela S Alarcon: None declared, Ronald F van Vollenhoven: None declared, Elisabet Svenungsson: None declared, Cynthia Aranow: None declared, Meggan Mackay: None declared, Guillermo Ruiz-Irastorza: None declared, Manuel Ramos-Casals: None declared, S. Sam Lim: None declared, Murat Inanc: None declared, Kenneth C Kalunian: None declared, Soren Jacobsen: None declared, Christine Peschken Consultant for: AstraZeneca, Diane L Kamen: None declared, Anca Askanase: None declared, Chris Theriault: None declared, Vernon Farewell: None declared
DOI: 10.1136/annrheumdis-2019-eular.1820

OP0253

WORLDWIDE TRENDS IN MORTALITY OF SYSTEMIC LUPUS ERYTHEMATOSUS BETWEEN 2000 AND 2015: ANALYSIS OF THE WORLD HEALTH ORGANIZATION DATABASE

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Background: Although diagnosis, treatment and prevention strategies of Systemic Lupus Erythematosus (SLE) have further improved during the last two decades, the net benefit in term of global SLE-related mortality remains unknown.
Objectives: To describe the worldwide trends in SLE mortality between 2000 and 2015 using data of 125 countries from the World Health Organization (WHO) mortality database. To modelize SLE-related deaths taking into account temporal changes, geographical localization and country wealth.
Methods: We analyzed the WHO mortality database containing cause-specific mortality of participating countries. SLE-related deaths were identified using the international classification of disease 10 (ICD-10, code M32). In all countries which provided data between 2000 and 2015, sex-specific mortality rate was calculated for each year using the WHO reference population database. To have a better understanding of mortality fluctuations, countries were grouped geographically by continents and their nominal gross domestic product (GDP) per capita were retrieved from the United Nation database. A mixed regression model for repeated measures was used to take into account the time factor, GDP per capita and continent in SLE-related death.
Results: Between 2000 and 2015, a total of 97,008 SLE-related deaths occurred in 125 countries, which accounted for 0.021% of all deaths during the same period. World-wide, the overall mortality rate attributed to SLE remained stable (p=0.86) over the study years. However, we detected significant differences between continents (p=0.0006) with the mortality rate of Africa being significantly higher than that of Europe (p=0.004). There was a significant interaction between the continents and the study years (p=0.01) revealing a strong increase in the mortality rate attributed to SLE in Africa. We found a very strong association between SLE-attributed mortality and the GDP per capita (p<0.0001).
Conclusion: We observed drastic differences in the evolution of SLE-related mortality due to country geographic localization, wealth and ethnic factors. SLE-related remained stable as a whole but strongly increased in the African continent.
Disclosure of Interests: Marc SCHERLINGER: None declared, Jean Sibilia: None declared, Hervé Devilliers: None declared, Laurent Arnaud Consultant for: Alexion, Amgen, AstraZeneca, GSK, Janssen-Cilag, LFB, Lilly, Menarini France, Novartis, Pfizer, Roche-Chugaï, and UCB., Paid instructor for: Alexion, Amgen, AstraZeneca, GSK, Janssen-Cilag, LFB, Lilly, Menarini France, Novartis, Pfizer, Roche-Chugaï, and UCB., Speakers bureau: Alexion, Amgen, AstraZeneca, GSK, Janssen-Cilag, LFB, Lilly, Menarini France, Novartis, Pfizer, Roche-Chugaï, and UCB.
DOI: 10.1136/annrheumdis-2019-eular.3721

FRIDAY, 14 JUNE 2019

Tackling the challenges of autoimmune/autoinflammatory conditions in children and young people

OP0254

CANAKINUMAB IMPROVES PATIENT-REPORTED OUTCOMES IN PATIENTS WITH RECURRENT FEVER SYNDROMES: RESULTS FROM A PHASE 3 TRIAL (CLUSTER)

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Background: Recurrent fever syndromes have a significant impact on health-related quality of life (HRQoL).[1] Canakinumab (CAN) has demonstrated efficacy and safety in patients with colchicine-resistant familial Mediterranean fever (crFMF), hyper-immunoglobulin D syndrome/mevalonate kinase deficiency (HIDS/MKD) and tumour necrosis factor receptor-associated periodic syndrome (TRAPS) in the pivotal, Phase 3, CLUSTER trial (NCT02059291),[2] but there are limited published data on the impact of CAN on the HRQoL, work/school and social life of these patients.
Objectives: To evaluate effect of CAN on HRQoL, work/school and social life of patients in the 3 disease cohorts (crFMF, HIDS/MKD, and TRAPS) in a double blinded randomised study.
Methods: The detailed study design was reported previously.[2] The HRQoL of patients treated with CAN was assessed at Baseline (BL), Week 17 (Wk17) and Week 41 (Wk41) in patients who fully responded (absence of flares), either to 150 mg q4w CAN, or to 300 mg q4w CAN after up dosing. Methods used were the Child Health Questionnaire (CHQ)-PF50 physical (PhS) and psychosocial (PsS) summary scores (children >5–<18 years), Short-Form health survey (SF-12) physical component summary (PCS) and mental component summary (MCS; adults ≥18 years) scores. An increase from baseline of 2, 5, and 8 points in the CHQ-PF50 physical and psychological component summary scores corresponds to a small, moderate and large treatment effect, respectively. Functional impairment related to work/school, social life and family life/home responsibilities was assessed by Sheehan Disability Scale (SDS). A score of 5 or higher in SDS is associated with significant impairment.
Results: Patients showed a high impairment of HRQoL at baseline in all 3 cohorts (crFMF n=31, HIDS/MKD n=37 and TRAPS n=22). At Wk17, a moderate to large