Table 1. SLE Medications during 1 year of follow-up period		
	Systemic Lupus Erythematosus (N=30,086)	Lupus Nephritis (N=1,259)
SLE Medications, N (%)		
Corticosteroids ^a	17533 (58.3%)	834 (66.2%)
Number of prescriptions, Mean (SD)	4.5 (5.0)	6.5 (6.0)
Hydroxychloroquine	13061 (43.4%)	513 (40.7%)
Number of prescriptions, Mean (SD)	5.8 (3.6)	6.2 (3.7)
Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) ^b	11342 (37.7%)	271 (21.5%)
Number of prescriptions, Mean (SD)	3.6 (4.0)	3.0 (3.9)
Angiotensin Converting Enzyme Inhibitor (ACE) ^c	3827 (12.7%)	409 (32.5%)
Number of prescriptions, Mean (SD)	5.4 (3.7)	5.4 (3.7)
Angiotensin II Receptor Blockers (ARB) ^d	3376 (11.2%)	318 (25.3%)
Number of prescriptions, Mean (SD)	5.8 (3.7)	5.6 (4.0)
Methotrexate	2884 (9.6%)	62 (4.9%)
Number of prescriptions, Mean (SD)	5.5 (4.1)	4.9 (3.3)
Immunosuppressant ^e	1239 (4.1%)	83 (6.6%)
Number of prescriptions, Mean (SD)	4.8 (3.8)	4.1 (2.9)
Cyclosporine	1090 (3.6%)	40 (3.2%)
Number of prescriptions, Mean (SD)	2.7 (2.6)	3.8 (3.9)
Mycophenolate Mofetil	985 (3.3%)	397 (31.5%)
Number of prescriptions, Mean (SD)	5.2 (3.7)	6.0 (4.0)
Leflunomide	523 (1.7%)	15 (1.2%)
Number of prescriptions, Mean (SD)	4.3 (3.3)	4.7 (4.0)
Belimumab	306 (1.0%)	17 (1.4%)
Number of medical/prescription claims, Mean (SD)	8.8 (6.5)	8.3 (6.7)
Rituximab	275 (0.9%)	26 (2.1%)
Number of medical/prescription claims, Mean (SD)	4.2 (4.0)	4.0 (4.5)
Cyclophosphamide	98 (0.3%)	67 (5.3%)
Number of prescriptions, Mean (SD)	5.0 (5.0)	4.4 (2.7)
SD: Standard Deviation		
^a Corticosteroids: Prednisone, Betamethasone, Budesonide, Cortisone, Desoxycorticosterone, Dexamethasone, Fludrocortisone, Hydrocortisone, Methylprednisolone, Paramethasone, Prednisolone, Triamcinolone		
^b NSAIDs: Diclofenac, Bromfenac, Choline and Magnesium salicylate, Methanamine and sodium salicylate, Fenoprofen, Flurbiprofen, Ketoprofen, Naproxen, Oxaprozin, Sulindac, Piroxicam, Etodolac, Meloxicam, Nabumetone, Celecoxib/Celebrex, Indomethacin, Mefenamic acid, Meclofenamate, Diflunisal, Tolmetin, Salsalate, Aspirin, Ibuprofen, Ketorolac		
^c ACE: Captopril, Enalapril/ Enalaprilat, Fosinopril, Lisinopril, Moexipril, Perindopril, Quinapril, Ramipril, Trandolapril, Benazepril		
^d ARB: Candesartan, Eprosartan, Irbesartan, Losartan, Olmesartan, Telmisartan, Valsartan, Azilsartan		
^e Immunosuppressant: Azathioprine, 6 mercaptopurine		

Conclusion: Our findings indicate a nominal use of biologics (2%) among SLE and LN patients. Corticosteroids and hydroxychloroquine were the most commonly used SLE treatments. These data reveal an unmet need for availability of advanced therapy to treat SLE and LN. Future studies are warranted to understand the underlying causes.

Disclosure of Interests: Lin Xie Grant/research support from: Janssen Research & Development, LLC, Furaha Kariburyo Grant/research support from: Janssen Research & Development, LLC, Janvi Sah Grant/research support from: Janssen Research & Development, LLC, Jennifer H. Lofland Employee of: Janssen Global Commercial Strategic Organization, Nan Li Shareholder of: J&J, Employee of: Janssen Scientific Affairs, LLC

DOI: 10.1136/annrheumdis-2019-eular.543

FRI0202 SHORT AND LONG-TERM FOLLOW-UP OF APREMILAST THERAPY IN REFRACTORY SKIN LUPUS LESIONS

José Luis Martín-Varillas¹, Belén Atienza-Mateo¹, J. Loricera¹, Susana Armesto¹, Eduardo Cuende², Juanjo J. Alegre-Sancho³, Clara Moriano⁴, Vanesa Calvo-Río¹, Monica Calderón-Goercke¹, D. Prieto-Peña¹, Lara Sánchez Bilbao¹, Iñigo González-Mazón¹, C. González-Vela¹, J. Luis Hernández¹, Santos Castañeda⁵, Miguel A. González-Gay¹, Ricardo Blanco¹. ¹H.U.M Valdecilla, Santander, Spain; ²H. U. Príncipe de Asturias, Madrid, Spain; ³H. Dr. Peset, Valencia, Spain; ⁴H. de León, León, Spain; ⁵H. La Princesa, Madrid, Spain

Background: Treatment of skin lupus lesions (SLL) was based on topical therapy (corticosteroids, calcineurin inhibitors), systemic corticosteroids, antimalarials and immunomodulatory drugs including thalidomide. However, there are refractory patients to conventional treatment. Apremilast, an inhibitor of phosphodiesterase-4 (PDE-4), may be useful in these cases.

Objectives: Our objective was to assess the efficacy and safety of apremilast.

Methods: We set up an observational study of 8 patients with diagnosis of refractory SLL and treatment with apremilast at a standard dose of 30 mg/ 12 hours. The outcome was the presence of improvement and the appearance of side effects.

Results: 8 patients (7 female/1 male) with mean age of 39.9±10.6 years with SLL were studied. Patients were diagnosed as follows: discoid lupus (n=5) and systemic lupus erythematosus (SLE) (n=3). Patients with SLE

were classified as lupus panniculitis (n= 1), polycyclic ring lupus (n=1) and psoriasiform lupus (n=1). All skin lesions were confirmed by biopsy (table).

Before apremilast, all patients had received conventional therapy without improvement: topical corticosteroids (n=8), topical tacrolimus (n=4), oral corticosteroids (n=5), antimalarials (n=8), thalidomide (n=1), belimumab (n=3) and rituximab (n=2).

The time between SLL diagnosis and apremilast beginning was 145.1 ±79.4 months. After a mean follow-up of 14.4±4.8 months, all patients presented improvement of skin lesions (4 of them with complete response). Due to the appearance of gastrointestinal symptoms (diarrhoea, vomiting) it was necessary to reduce the dose of apremilast to 30 mg/ day in one patient and finally, it was discontinued due to no improvement with antiemetic and probiotic treatment.

Conclusion: Apremilast seems useful and relatively safe in patients with refractory SLL to conventional treatment.

Table.

Patient	Age/Sex	Skin Lupus Lesions (SLL)	Previous treatment	Months from diagnosis to apremilast onset	Apremilast onset		Follow-up		
					Antimalarial antibody	Combined treatment	Months from apremilast onset	Side effects	Discontinued
1	47 / Female	Polycyclic ring lupus	Prednisone Antimalarials Thalidomide Belimumab, RTX	300	ANA 1/280	Prednisone	12	Diarrhoea	No
2	46 / Female	Lupus panniculitis	Prednisone Antimalarials	156	ANA 1/280	Prednisone Antimalarials	17	No	No
3	37 / Male	Discoid lupus	Prednisone Antimalarials	ND	ANA (-)	Prednisone Antimalarials	16	Diarrhoea Vomiting	Yes
4	38 / Female	Discoid lupus	Prednisone Antimalarials	72	ANA (-)	Prednisone Antimalarials	18	No	No
5	38 / Female	Discoid lupus	Prednisone Antimalarials	120	ANA (-)	Prednisone Antimalarials	20	No	No
6	24 / Female	Psoriasiform lupus	Prednisone Antimalarials Tacrolimus Belimumab, RTX	92	ANA 1/160	Prednisone Antimalarials	15	No	No
7	34 / Female	Discoid lupus	Prednisone Antimalarials	89	ANA 1/320	Prednisone Antimalarials	5	No	No
8	42 / Female	Discoid lupus	Prednisone Antimalarials Tacrolimus Belimumab	187	ANA (-)	Prednisone Antimalarials Tacrolimus	5	No	No

Disclosure of Interests: José Luis Martín-Varillas: None declared, Belén Atienza-Mateo: None declared, J. Loricera: None declared, Susana Armesto: None declared, Eduardo Cuende: None declared, Juanjo J Alegre-Sancho: None declared, Clara Moriano: None declared, Vanesa Calvo-Río: None declared, Monica Calderón-Goercke: None declared, D. Prieto-Peña: None declared, Lara Sánchez Bilbao: None declared, Iñigo González-Mazón: None declared, C. González-Vela: None declared, J. Luis Hernández: None declared, Santos Castañeda Consultant for: Amgen, BMS, Pfizer, Lilly, MSD, Roche, Sanofi, UCB, Miguel A González-Gay Grant/research support from: Prof. MA Gonzalez-Gay received grants/research supports from Abbvie, MSD, Jansen and Roche., Speakers bureau: Consultation fees/participation in company sponsored speaker's bureau from Pfizer, Lilly, Sob, Celgene, Novartis, Roche and Sanofi., Ricardo Blanco Grant/research support from: Abbvie, MSD, and Roche, Consultant for: Abbvie, Pfizer, Roche, Bristol-Myers, Janssen, Speakers bureau: Abbvie, Pfizer, Roche, Bristol-Myers, Janssen

DOI: 10.1136/annrheumdis-2019-eular.6978

FRI0203 CONCORDANCE OF DORIS REMISSION CRITERIA WITH THE TREATING PHYSICIAN'S (DORIS-)INDEPENDENT REMISSION JUDGMENT IN A SLE-COHORT AT A TERTIARY CENTER

Johanna Mücke, Christina Duesing, Gamal Chehab, Matthias Schneider. *Policlinic for Rheumatology and Hiller Research Centre for Rheumatology, Heinrich-Heine-University Duesseldorf, Duesseldorf, Germany*

Background: The definition of an accurate target for a treat to target (T2T) approach in SLE has been challenging over the past years. Recently four definitions of remission were presented by the international DORIS task force. ¹

Objectives: Aim of this study was to evaluate the frequency of remission in our outpatient SLE cohort and to assess feasibility and concordance of the remission definitions with the treating physician's opinion regarding the patient's state.

Methods: In this monocentric cross-sectional study patients with SLE according to the 1997 American College of Rheumatology (ACR) criteria were enrolled and assessed between September 2016 and December 2017. DORIS remission definitions were applied and demographic and laboratory data as well as disease activity (SLEDAI), steroid dosage and physician global assessment were evaluated. After the clinical consultation, the treating physicians answered the question if his/her patient was in remission.

Results: A total of 233 patients were included (87.6% female). 88 (37.8%) patients fulfilled any of the four DORIS remission definitions, while 129 patients were in remission according to their physician's judgement. Of the 88 in DORIS remission, 17 were in complete remission, 20 in clinical remission, 16 in complete remission on treatment (ROT) and 35 in clinical ROT. In most cases the treating physician agreed on their patient being in remission (94.1% for complete remission, 90.0% for clinical remission, 81.3% for complete ROT, 88.6% for clinical ROT). A total of 145 patients were not in any DORIS remission. We observed discordance in the assessment of remission in 58 patients (24.9%), 10/88 being not in remission according to their treating physician despite fulfilling the DORIS remission definition and 48/145 were considered in remission though not in DORIS remission. Reasons for failing DORIS remission in the patients with attested physician's remission were an elevated cSLE-DAL Score (n=22), elevated (n=24) or missing (n=1) physician global assessment, and prednisolone dosage >5 mg (n=9).

Conclusion: DORIS remission proved an achievable target in our outpatient clinic. Still we found discordance regarding DORIS remission and the treating physician's judgement with a greater number of patients considered in remission by their physicians. Main reasons were a cSLE-DAL>0 and physician global assessment >0.5. Further analyses are needed to better characterize cases of disagreement and to address the question, if the rather strict DORIS criteria are needed to improve long-term outcome.

REFERENCE:

- [1] van Vollenhoven, Ronald; Voskuyl, Alexandre; Bertsias, George; Aranow, Cynthia; Aringer, Martin; Arnaud, Laurent, et al. (2017): A framework for remission in SLE: consensus findings from a large international task force on definitions of remission in SLE (DORIS). In: *Annals of the rheumatic diseases* 76 (3), S. 554–561. DOI: 10.1136/annrheumdis-2016-209519

Disclosure of Interests: Johanna Mucke: None declared, Christina Duesing: None declared, Gamal Chehab Grant/research support from: GlaxoSmithKline and UCB Pharma for performing the LuLa-study., Matthias Schneider Grant/research support from: GlaxoSmithKline and UCB Pharma for performing the LuLa-study., Speakers bureau: Chugai

DOI: 10.1136/annrheumdis-2019-eular.3628

FRI0204

SAFETY, TOLERABILITY, PHARMACOKINETIC AND PHARMACODYNAMIC EFFECT OF BIIB059, A MONOCLONAL ANTIBODY TARGETING BDCA2 FOLLOWING ADMINISTRATION OF SUBCUTANEOUS SINGLE DOSES IN JAPANESE HEALTHY VOLUNTEERS

Cristina Musselli, Francois Gaudreault, Himanshu Naik, Hua Carroll, Ankur Sharma, Xiaobi Huang, Nathalie Franchimont. *BIOGEN, Cambridge, United States of America*

Background: BDCA2 is a plasmacytoid dendritic cell (pDC)-specific receptor that, when ligated inhibits the production of inflammatory mediators and Type I Interferon (INF), a major player in Systemic Lupus Erythematosus's (SLE) pathogenesis. Hence, targeting BDCA2 with BIIB059 represents an attractive therapeutic strategy. BIIB059 was previously tested in a Phase 1 study in non-Japanese healthy volunteers (HV) (NCT02106897) and is currently in phase 2 development for the treatment of SLE and Cutaneous Lupus Erythematosus (CLE) (NCT02847598)*

Objectives: This phase 1 study evaluated the safety, tolerability, pharmacokinetics (PK) and pharmacodynamic (PD) of BIIB059 in Japanese HV (NCT03224793)

Methods: A total of 32 HV from Japanese descend were enrolled into 4 cohorts (6 BIIB059: 2 Placebo) to receive a single subcutaneous (SC) injection of 20-, 50-, 150- or 450 mg of BIIB059 or placebo. Blood samples were obtained to characterize PK and PD profiles and establish PK-PD relationships for BIIB059. Safety and tolerability data were monitored and reviewed by the Safety Surveillance Team.

Results: BIIB059 was generally well tolerated; no SAEs were observed. Adverse events were reported by 9 subjects (37.5%) and none (0.0%) in the BIIB059- and placebo-treated subjects, respectively. Overall, 95.8% and 4.2% subjects reported AEs that were mild or moderate in severity, respectively. Three subjects (12.5%) experienced AEs considered related to study drug and mild in severity. All AEs resolved without treatment. There were no clinically significant findings on laboratory or physical examination. Following single SC BIIB059 administration, C_{max} and AUC (0-inf) increased in a dose-proportional manner. Mean t_{1/2} ranged from 10 to 27 days. Eleven subjects (45.8%) treated with BIIB059 tested

positive for anti-BIIB059 antibodies at ≥ 1 postdose timepoint (ADA). There was no apparent relationship between incidence of ADA and dose, no apparent effect on drug exposure and no association with clinically relevant observations. Following BIIB059 administration, BDCA2 expression on pDCs sharply decreased with levels returning towards baseline in a dose-dependent manner as serum concentrations of BIIB059 decreased. Circulating pDC numbers were highly variable in individuals at baseline and overtime. pDCs transiently decreased following administration of BIIB059 and to a lesser extent placebo, and returned towards baseline levels at later timepoints. No consistent dose- or time-dependent effect on pDC numbers was observed in the BIIB059-treatment groups.

Conclusion:

- BIIB059 was well tolerated.
- BIIB059 exposure increased with dose in a dose-proportional manner.
- BDCA2 expression on pDCs decreased rapidly and sharply and returned to baseline levels in a dose-dependent manner.

Disclosures: CM, FG, HN, HC, AS, XH and NF are employees and shareholders of Biogen

REFERENCES:

- [1] *Martin D, et al. *Arthritis Rheumatol.* 2016; 68 (suppl10): poster 774; Naik H, et al. *Arthritis Rheumatol.* 2017; 69 (suppl 10): poster 2607; Furie R, et al. *J Clin Invest.* 2019 Jan 15. pii: 124466. doi:10.1172/JCI124466. [Epub ahead of print]

Acknowledgement: Catherine Barbey provided a thorough review

Disclosure of Interests: Cristina Musselli Shareholder of: I am a shareholder of BIOGEN stocks, Employee of: I am BIOGEN employee, Francois Gaudreault Shareholder of: Owner of BIOGEN shares/stocks, Employee of: BIOGEN employee, Himanshu Naik Shareholder of: Owns Biogen shares/stocks, Employee of: Biogen employee, Hua CARROLL Shareholder of: Owner of BIOGEN shares/stocks, Employee of: BIOGEN employee, ANKUR SHARMA Shareholder of: Owner of BIOGEN shares/stocks, Employee of: BIOGEN employee, XIAOBI HUANG Shareholder of: Owner of BIOGEN shares/stocks, Employee of: BIOGEN employee, NATHALIE FRANCHIMONT Shareholder of: owner of BIOGEN shares/stocks, Employee of: BIOGEN employee

DOI: 10.1136/annrheumdis-2019-eular.8393

FRI0205

ANTIMALARIAL AGENTS IMPROVE PHYSICAL FUNCTIONING IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

Ioannis Parodis^{1,2}, Sofia Soukka^{1,2}, Alvaro Gomez^{1,2}, Yvonne Enman^{1,2}, Petter Johansson^{1,2}, Sharzad Emami^{1,2}, Katerina Chatzidionysiou^{1,2}, ¹Karolinska Institutet, Division of Rheumatology, Department of Medicine, Stockholm, Sweden; ²Karolinska University Hospital, Rheumatology, Stockholm, Sweden

Background: Patients with systemic lupus erythematosus (SLE) suffer an impaired health-related quality of life (HRQoL), and the majority of them experience fatigue as a major problem. Traditionally, treatment of SLE has been symptomatic, and antimalarial agents (AMA) are considered a cornerstone of SLE treatment. In previous literature, results regarding the effect of antimalarial agents on HRQoL have been conflicting.

Objectives: In this study, we aimed at investigating the potential influence of AMA on SLE patients' self-perception of HRQoL aspects.

Methods: We utilised pooled baseline data from the BLISS-52 and BLISS-76 clinical trials of belimumab (n=1684). Access to data was granted by GlaxoSmithKline. The patients' HRQoL and fatigue were self-reported using the Medical Outcomes Study (MOS) short form 36 (SF-36) health survey, the functional assessment of chronic illness therapy (FACIT)-Fatigue scale and the three-level EuroQoL-5 Dimension (EQ-5D) questionnaire. Minimal clinically important difference (MCID) was set to ≥ 5.0 points for SF-36 subscales, ≥ 2.5 points for SF-36 component summary scores, and ≥ 4 points for FACIT-Fatigue scores. High disease activity was defined as a SELENA-SLEDAI score ≥ 10 . Organ damage was assessed using the SLICC/ACR Damage Index (SDI). The non-parametric Mann-Whitney U test was used for comparisons between AMA users and non-users. Linear regression models were next used in order to adjust for possible confounding factors; these included age, sex, ethnic origin, SLE disease activity, SLE duration, organ damage, corticosteroid use and use of other immunosuppressive agents.

Results: Results are presented as mean values $\pm$ standard deviation. Patients receiving AMA (n=1098) performed better than patients who did not receive AMA (n=586) with regard to SF-36 physical component summary (PCS) scores (39.6 $\pm$ 9.5 versus 38.1 $\pm$ 9.9; $P=0.001$), physical